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Homework Interventions

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Abstract

"Homework, defined as tasks assigned to students by teachers that are intended to be completed during nonschool hours" (Cooper, 1989, p. 7), is a common technique used to help students build upon skills that were taught in the classroom. Interventions directed towards homework are strategies used to help students complete their homework and complete it accurately. By completing their homework, students will gain more time to practice the skills taught in the classroom and theoretically extend their knowledge of educational materials. This article further discusses the history, characteristics, attitudes, and future research considerations of homework and homework interventions.

"Homework is intended to establish effective study habits and skills; to help children plan and be proactive; to aid in developing time management, self-control, and discipline; to extend the learning environment from the classroom to other out-of-school settings; and to demonstrate responsible behaviors" (Sheridan, 2009, p. 334). Homework has can also be used to "build student responsibility, fulfill administrative directives, provide parents with information about the curriculum, and to punish students" (Cosden, Morrison, Albanese, & Macias, 2001 p. 211).

While the face validity of homework seems promising, homework can be detrimental to student's who fail to master behavioral and environmental routines that create conditions and patterns conducive for optimal performance. While some students may gain greater information and develop performance skills through homework, some students may lose motivation and fall behind their peers through their lack of performance on homework assignments. Because of the possible detrimental consequences to students who do not complete their homework, or fail to complete it accurately, intervention procedures need to be implemented for the students who struggle to provide a better opportunity to succeed.

Homework Controversy

Homework may be common in the lives of students today but throughout history, homework has been, and remains, a controversial issue. In the early 1900's, many viewed homework as a waste of time for students (Bryan & Sullivan-Burstein, 1998). Throughout the century, homework was a debated topic due to a lack of research on its effectiveness and when it should be used. More recent research has

shown homework to be an effective teaching method under certain circumstances (Axelrod, Zhe, Haugen, & Klein, 2009; Cosden, Morrison, Albanese, & Macias, 2001; Cooper, Lindsay, Nye, & Greathouse, 1998).

A predominant reason for teachers to assign homework is to promote greater achievement and better attainment of classroom material for students (Rhoades & Kratochwill, 1998; Trautwein, Niggli, Schnyder, & Ludtke, 2009). Recent studies have shown that homework and achievement is moderated by grade level (Cooper, Lindsay, Nye, & Greathouse, 1998; Axelrod, Zhe, Haugen, & Klein, 2009; Olympia, Sheridan, Jenson, & Andrews, 1994). More specifically, homework is more effective at promoting achievement at secondary grade levels when compared to elementary levels. This is not to say that homework at the elementary level is not effective. Cosden et al. (2001) reported that homework might serve many functions at the elementary level including promoting greater study habits and establishing a connection between the home and the school.

How students go about their homework is also a controversial issue. Chen and Stevenson (1989) reported compared to two Chinese cities and one Japanese city to American students. They found in elementary school, American students receive the least amount of homework, as well as the least amount of family help. Family support may serve a variety of functions in homework and can either be positive or negative influence for the student. Miller and Kelley (1991) research on parental involvement in the homework process found that parental support can be positive, particularly when parents are taught to provide accurate and constructive feedback and to interact in a reinforcing manner during homework sessions.

Parental support can be harmful if parents do not have the time or skills required to help their student with their homework; the student may experience frustration and a reduction in the amount of external rewards for completing their homework.

Hill and Tyson (2009) found the effectiveness of parental influence on homework is also moderated by the student's grade level. They argue while direct homework strategies, such as school-based involvement and direct homework assistance, may be useful at younger ages, these direct strategies may be needed less in older students. They go on to express that at older ages, indirect parental involvement that creates an understanding about the purposes, goals, and meanings of academic performance; communicates expectations about involvement; and provides strategies that students can effectively use have the strongest positive relation with achievement. Other factors that affect homework are the "home environment; the influence of parents, siblings and friends; and the existence of other activities that compete for attention and time of the children" (Rowell & Hong, 2002, p. 286).

Research has shown that homework completion is not the only important factor with homework; a reasonable level of accuracy is needed to promote greater achievement in homework and in the classroom (Miller & Kelley, 1991). Moreover, students who spend large amounts of time on homework are not necessarily benefitting from the extended amount of time they put into completing it (Rowell & Hong, 2002). Due to the many factors that affect a student's homework abilities, and the positive outcomes proper homework completion can have on a student's

achievement, adequate homework interventions may be needed for students who struggle to complete their homework, or to complete their homework accurately.

Characteristics of Homework Interventions

Interventions are any type of research-validated procedures that are designed to change a behavior by teaching a new skill or by manipulating the antecedents or consequences of the behavior (Jenson, 2010). Homework interventions intend to change behaviors relating homework. Prominent reasons for applying homework interventions are due to a student's subpar level of completion of homework or the lack of accuracy with homework. Interventions may be applied to help students learn to complete their homework in more productive ways or to manipulate what comes before/after the student engages in the homework behavior. According to Gureaski-Moore, Dupaul, and White (2007), there are three primary categories which homework interventions can be placed: Parental Management, School-Based Management, and Self-Management.

Parental Management

Parental management interventions, or strategies directed towards parents to help their student's homework behaviors is moderated by grade level (Hill & Tyson, 2009). This indicates that interventions directed towards the parents of the student's who are struggling with homework should take into account the student's grade level; different interventions will be effective at different grades. Miller and Kelley (1991) also found parental support to be positive when it is correctly

provided to the student. Their research stressed the importance of providing "accurate and constructive feedback and to the student and to also interact in a reinforcing manner during the homework sessions" (p. 181). This can be difficult with parents who lack the skills and/or resources to adequately provide support to their student. This research also suggests that staff implementing homework interventions consider the student's home situation before being implemented.

Academic socialization, or parental involvement in education process, is more positively correlated to achievement than home- or school-based involvement (Hill & Tyson, 2009). Academic socialization may entail communicating parental expectations for education and its value and utility, linking school work to current events, fostering educational and occupational aspirations, discussing learning strategies with students, or making preparations and plans for the future. By promoting these strategies, parents can instill a sense of internal motivation in their student to better succeed in the classroom.

School-Based Management

School-based management interventions are any techniques implemented to alter the school environment to provide for better achievement for a student. School personnel look for fast-acting interventions for students that are effective at improving the student's ability to complete their homework. Therefore, school-based management interventions should be effective, not time consuming, and economically friendly to have a greater chance of being implemented in the school (Axelrod, Zhe, Haugen, & Klein, 2009). Because parents should be inundated into all

decisions regarding homework intervention for their students, staff and parents have the challenge of sharing information about the student and of developing strategies to be used at school and at home to attain a better link between what the child likes/needs to do to succeed (Rowell & Hong, 2002). For students with persistent homework difficulties and negative attitudes toward homework, an individual or small-group counseling intervention approach may be helpful.

Self-Management

The final category of homework interventions is self-management. Self-management strategies include "monitoring one's own behavior; evaluating one's own behavior relative to an objective standard; and rewarding one's own behavior contingent on behavior reaching a specific goal" (Gureasko-Moore, DuPaul, & White, 2007, p. 648). Axelrod et al. (2009) studied the effects of a home-based intervention directed to the on-task behavior and homework completion rates of adolescents with attention and behavior problems. They used a self-monitoring strategy: a multistep process of observing and then recording one's own behavior. They found after having the student self-monitor in 3- or 10-minute intervals, the student's percentage of incomplete homework assignments decreased.

Olympia et al. (1994) incorporated a cooperative learning process with self-management techniques to improve homework completion and accuracy. They found using four different types of self-management strategies (self-monitoring, self-instruction, self-evaluation, and self-reinforcement) and incorporating those

into a team format where each student was assigned a specific role on a team, improvements in homework completion were made.

There have also been numerous studies evaluating the effectiveness of self-management strategies with disabled students (Bryan & Sullivan-Burstein, 1998; Langberg, Epstein, Urbanowicz, Simon, & Graham, 2008; Merriman & Codding, 2008). These will be discussed in greater detail later.

Students and Homework Interventions

There are no defined assessment guidelines of students who are in need of homework interventions. Some students may be more susceptible to homework problems due to their disability, a lack of skills in academic areas, a lack of motivation, or a lack of adequate study habit skills; to name a few (Langberg, Epstein, Urbanowicz, Simon, & Graham, 2008; Cosden, Morrison, Albanese, & Macias, 2001; Rowell & Hong, 2002; Lynch, Theodore, Bray, & Kehle, 2009). These factors should be evaluated when assessing the necessity of a homework intervention, as they can be valuable indicators of what may be the most effective homework intervention for that particular student (Anesko, Schoiock, Ramirez, & Levine, 1987).

Defining when a student needs a homework intervention may also be at the discretion of the teachers and parents of the student. There are no required guidelines for monitoring the progress of students' homework achievement but such a strategy can be useful in determining the necessity of an intervention. Assessment tools such as the Homework Problem Checklist may also be useful in

determining if a student is struggling with homework and if an intervention may be warranted (Anesko, Schoiock, Ramirez, & Levine, 1987).

There have been no research studies to date on the prevalence rates of homework interventions in schools. The lack of research in this area can be partially attributed to the lack of adequate information of what characterizes a homework intervention. It may also be attributed to the lack of monitoring of homework interventions. With more adequate progress monitoring of students who are at-risk for homework difficulties and students who are in need of homework interventions, research can become clearer on the prevalence and need for homework interventions within schools. What research has shown is that students of all different ethnicities, religions, socioeconomic statuses and gender are susceptible to homework difficulties and it will become increasingly important to provide adequate support to students in need (Hill & Tyson, 2009).

Research on Homework Interventions

Grade Level

Meta-analytic research suggests a larger positive association between homework completion and achievement for secondary students in comparison to younger students (Cooper, Robinson, & Patall, 2006). This indicates although interventions can be important at younger ages, a student's ability to complete their homework will be more associated with their achievement at secondary grade levels. Research has shown that interventions at younger ages should be tailored to aspects other than content material (Cosden, Morrison, Albanese, & Macias, 2001).

Study skills and self-monitoring interventions have been shown to be effective ways

of intervening with younger aged students who are struggling with homework.

These techniques help improve skills directly and indirectly related to homework

such as organizational and classroom preparation skills (Axelrod, Zhe, Haugen, &

Klein, 2009; Gureasko-Moore, DuPaul, & White, 2007). Cosden et al. (2001) also

suggests it may be more important to provide emotional, social, and behavioral

support at younger ages because these supports may enhance future academic

functioning.

Attention- Deficit/Hyperactivity Disorder

Attention-deficit/hyperactivity disorder (ADHD) students have "difficulty

with attention, persistence, and organization. Behavioral problems, including lack of

self-control and emotional/behavioral regulation, often interfere with children's

abilities to benefit from academic instruction and productivity" (Sheridan, 2009, p.

334), resulting in a student struggling to complete homework. She states there are

two types of homework problems ADHD students experience: inattention/

avoidance of homework and poor productivity/nonadherence with homework rules

(referring to issues with inputs and outputs required for accurate homework

performance). Diagnosing the problem area is important to provide adequate

assistance to the struggling student.

If a student is experiencing homework problems due to their inattention/

avoidance of homework, it will be important to build the student's motivation to

complete their homework (Cosden, Morrison, Albanese, & Macias, 2001). A student with ADHD may also experience poor productivity/nonadherence with homework rules. Langberg et al. (2008) states that self-management strategies, such as skills training interventions, "seem particularly appropriate for students with ADHD, because these students may have significant impairments in organization and homework management that may contribute to the observed difficulties in academic achievement" (p. 408).

Failing to accurately record homework assignments and a lack of organization of school materials, may contribute to the academic difficulties many students with ADHD experience (Langberg, Epstein, Urbanowicz, Simon, & Graham, 2008). Other self-management strategies such as coaching (goal setting, self-monitoring, performance feedback, and/or contingency management with the assistance of a coach) have also been shown to be effective in improving students' completion and accuracy in mathematics homework (Merriman & Codding, 2008).

Learning Disability

Many students with learning disabilities have problems completing homework assignments. Many have "difficulty with tasks that demand voluntary, selective, and sustained attention, problems in self-monitoring and developing learning strategies, and a tendency to have an external locus of control" (Bryan & Sullivan-Burstein, 1998, p. 263-4). Lynch et al. (2009) reported, coupled with attention problems, learning disabled students experience academic deficits,

disorganization and need to be prompted more times to start/complete homework assignments, placing these students at a greater risk for homework problems.

Bryan and Sullivan-Burstein's (1998) two-year study used selected reinforcement, real-life assignments (homework directed to make a link between school and ordinary activities in their home lives), and a self-recording/graphing system to find evidence-based interventions that can be directed to improve homework completion and accuracy in students with a learning disability. They found that overall, disabled students in the intervention group completed more homework than their disabled peers in a control group. The real-life plus reinforcement condition had the most significant effects when compared to baseline in homework completion and test performance. They also found a self-recording system had a positive effect while the self-graphing system had an additive effect for the recording system.

Group Contingencies

Group contingencies can be valuable reinforcing or punishing intervention techniques. They can conserve both time and resources by applying teaching techniques to many students simultaneously. Stage and Quiroz's (1997) meta-analysis found group contingencies to be the most effective interventions at decreasing disruptive behaviors in a public education setting. Because of its value, it has been applied to students with homework difficulties (Lynch, Theodore, Bray, & Kehle, 2009; Olympia, Sheridan, Jenson, & Andrews, 1994). There are three types of

group contingencies: independent contingencies are when the criteria, behaviors, and rewards are the same for the class but reinforcement is based upon individual performance of students; interdependent contingencies require the entire class to meet a criterion, resulting in all students receiving the reinforcement; and dependent contingencies are when the entire class is rewarded based on the performance of one or a few of students (Lynch, Theodore, Bray, & Kehle, 2009).

Along with randomization, Lynch et al. (2009) studied the effects of group contingencies on 5th grade students in a self-contained special education classroom. They found all group contingencies (independent, interdependent, and dependent) were successful in improving homework completion and accuracy rates; no group contingency procedure was superior to one another for increasing homework completion. With regard to homework accuracy, the interdependent group contingency resulted in slightly better results than the independent and dependent contingencies.

After School Assistance

For many students, extracurricular activities are a way of remaining connected to friends at school in a structured environment. "Participation in structured extracurricular activities, including athletics, drama, hobby clubs, youth groups, student government, church activities, or academic-vocational clubs, in contrast, have been positively associated with academic and social-emotional functioning for high school students (Cosden, Morrison, Albanese, & Macias, 2001, p. 212). Research on such programs that offer academic support have also shown

positive, yet interesting, results in reading, language arts, and mathematics subject areas.

Cosden et al. (2001) studied after school academic support programs. Their research reported, along with the academic benefits of completing homework, there are also qualitative outcomes beneficial to students who complete homework. These include a greater sense of esteem and confidence in academic abilities. They also found the development of personal responsibility, the reinforcement of school attachment and belonging, improvement of study skills and cognitive strategies, and motivation to complete homework are mediating factors that are related to homework completion and may be improved in an after school assistance program.

Cosden et al. (2001) dealt with students who were considered "at-risk" based on their family's income level. Their research indicated after school programs offering homework assistance served as protective factors for low-income students who participated. The low-income students in the intervention group showed an arrested negative trajectory of school performance; the control at-risk students showed a decrease in school performance. Interestingly, the research also reported that middle-class students participating in the intervention group showed a decrease in school performance. This was theorized to have occurred because the after school program prevented the middle-class children from participating in other after school enrichment activities that are often unavailable for low-income children. Overall, after school academic assistance programs may provide a safety

net for students who have little structure or supervision but may produce iatrogenic effects for students who are not in need of such a program.

Attitudes Towards Homework

It should be no surprise teachers' viewpoints on homework can heavily influence the amount of homework assigned to a student. Cooper et al. (1998) studied teachers and students' attitudes towards homework. Their research showed a negative correlation between the amount of homework a teacher reported they assigned and the attitude towards homework expressed by the student. Their study also found, as students grow older, their own attitudes about homework play an increasingly important role in how much homework they complete and in their class grades. Moreover, at lower grades, more homework assigned by teachers may cause poorer attitudes in student. This indicates if students do not form positive attitudes about homework at younger ages, the students' achievement levels may suffer later in their education.

As indicated earlier, students' attitudes towards homework is an important factor in the homework they complete. Rowell and Hong's (2002) homework model broke down students' individual differences in completing homework into two categories: motivation and preference. Motivation is the "strength of motives that explain the initial activation of the process of doing required homework assignments and the strength of the learner's motivation to perform homework." Preference "involves the degree to which the learner will proceed and continue homework efforts until finished" (p. 287). When students have motivation to

complete homework, and apply their own preferences to the homework process, they are more likely to agree with the use of homework as a teaching technique. During a student's education experience, it is important for teachers, parents, and the students themselves to both, build motivation in the student to complete homework, and to recognize the student's learning preferences.

Considerations of Future Research

There is much research to be done with homework interventions and ways of making existing interventions more effective for students. An area that can receive future research consideration is the prevalence rate of homework interventions in schools. Determining the amount of students currently receiving interventions for homework struggles can help determine issues such as delineating funding and time resources to students in need. It is also important for professionals to monitor the progress of students currently receiving homework interventions to more accurately detect if specific interventions are being effective.

It is also important to create measures that better detect students in need of homework interventions. Such measures as the Homework Problem Checklist have been used in the past to determine if students are at-risk for homework problems but there has yet to be firm guidelines established to determine when a student should be receiving homework interventions. By setting such guidelines, more effective procedures, along with better research, can take place.

Future research in providing interventions to differing ethnic populations should also be completed to determine any differences in the way different ethnic populations view and perform homework. This also can be completed for different socioeconomic statuses and detecting any differences in homework between public, charter, and private schools.

Conclusions

There has been a plethora of research completed on homework interventions. Much research has given credibility to homework's effectiveness in improving a student's achievement at upper grade levels while homework can serve differing functions at younger grade levels such as developing study skills and promoting communication between a student's home and school. Homework can also serve other functions such as building a relationship between a students' interests and what is learned at school, expanding a student's creativity, while also being used as a punishing technique for inappropriate behaviors.

Research on attitudes of homework have shown that students who build motivation and apply their own preferences to complete homework generally agree with the use of homework as a learning technique and are better at completing their homework. This makes these students less susceptible for developing future homework difficulties and achievement problems.

Homework interventions have shown promise in effectively improving students' abilities to complete homework. Such interventions as group contingencies, self-management, and after school assistance programs can help

certain groups of students with their homework problems. Interventions have also been shown to be effective with students who are more susceptible for developing homework problems due to a psychological disorder such as attention-deficit/hyperactivity disorder or a learning disorder.

As the body of research grows on effective interventions for homework problems, it will be important for this research to be practiced. Factors such as time, cost, and effectiveness of an intervention should be considered when putting research-validated interventions into practice, as these are important characteristic evaluated by teachers and parents. With homework becoming more prominent in students' lives, interventions tailored to a student's individual needs will become increasingly important to assist any students struggling to complete their homework.

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