The Effects of Group Coaching on the Homework Completion of Secondary Students with Homework Problems

by

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Abstract

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Homework is a staple in American education that accounts for a large percentage of the total time American students spend on academic task. Research on the effectiveness of homework provides ample evidence that homework has a positive effect on learning and academic performance, particularly for middle and high school students. Unfortunately, the rate of consistent homework completion, for students with and without disabilities, is dismally low. The current body of research on homework interventions suggests that self-management interventions may be the best type of intervention to help all students with homework difficulties.

This study utilized a between groups design to examine the differential effectiveness of coaching, a self-management intervention, as compared with the local treatment-as-usual (homework center) on improving the homework completion of 50 middle school students (grades 6 to 8) with and without disabilities who were having substantial difficulty with homework. This study also examined the feasibility of implementing coaching in a group, rather than an individual format, as well as the impact of increased homework completion on academic performance. One parent and one teacher rating scale, as well as actual homework completion rates, were used to measure

homework performance. A variety of methods were used to analyze the data, including descriptive analyses, MANOVA, and ANOVA.

Results indicated that both group coaching and homework center (treatment-as-usual) were effective in significantly decreasing homework problems; with no clear indication that one intervention was, overall, superior to the other. Each intervention was differentially effective as a function of disability status. For the non-disabled students, the rate of change or improvement was faster for the coaching intervention than for the homework center condition. For the disabled students, the rate of change or improvement was faster for the homework center condition. Despite significant reductions in homework problems, academic performance, as measured by GPA, did not change significantly.

Dedication

I dedicate this dissertation to my wife, Suzanne. It has been a long road, and you have supported, encouraged, and helped keep me motivated throughout this endeavor. You embraced my dream; and you believed in my ability to achieve that dream, even when I didn't. For always knowing the right thing to do or say, for your pride and confidence in me, and for all the times you played "single-mom", put your plans on hold, and took on additional responsibilities so that I could work on this project – THANK YOU; I could not have accomplished this without you.

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I received strong support from my colleagues and friends at the middle school where this project took place. To Linda Kalman, Matthew Festa, and Kathy Cuomo, thank you for your time and dedication to this project. Not only did you make the project possible by agreeing to serve as coaches and homework center supervisors, you were there to support and encourage me through the most difficult moments of the project. A special thank you to all the teachers who participated in the study. Thank you for all your support and, especially your time, which is so precious. Also, thank you for putting up with me nagging you for homework completion rates and rating scales.

Beyond the academic communities, I thank my family and friends who have been so patient and understanding while I made this journey. To my daughters, Maddie and Sydney, I thank you for helping me keep everything in perspective. Finally, a very

special thank you to my mother and father for all the years of advice, support, and encouragement. My mother, Dr. Constance Merriman, played a particularly important role in this dissertation. She was one of my most significant sources of motivation. She and I went through the journey that is completing your doctor dissertation around the same time. Whenever I felt unmotivated, I thought of my mom and how she put off her dreams in order to raise my four sisters and me, which always seemed to help re-energize me. Mom, you are an inspiration, and for that I am eternally grateful.

This has been an amazing and remarkable journey and one I could not have made without the encouragement and support of others. To all of you, I am deeply and eternally grateful.

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Chapter I

Introduction

Homework has a significant impact on students' educational trajectories. Most educators believe that homework can be an important supplement to in-school academic activities (Henderson, 1996). It is estimated that homework accounts for 20% of the total time American students spend on academic tasks (West Chester Institute for Human Services Research, 2002). Studies have demonstrated repeatedly the importance of academic engaged time for students in general and special education (e.g., Anderson, Evertson, & Brophy, 1979; Greenwood, 1991; Leinhardt, Zigmond, & Cooley, 1981; O'Melia & Rosenberg, 1994; Seifert & Beck, 1984). Greenwood (1991), and O'Melia and Rosenberg (1994) suggested that time actively engaged in the learning activity may be the single best indicator of achievement among students with educational disabilities.

In general, research has demonstrated a positive association between homework and academic performance, when performance is measured by amount of time spent doing homework and amount of work completed and when academic performance is assessed using standardized test scores and classroom grades (Cooper, 2001; Cooper, Lindsay, Nye, & Greathouse, 1998; Cooper, Robinson, & Patall, 2006). The extent of the relationship between homework and academic performance is moderated by grade level in that the relationship is generally stronger for students in the upper as compared to lower grades (Cooper, 1989; Cooper, et al., 2006).

Although homework completion is associated with increased achievement, many children experience homework problems. In general, the rate of consistent homework completion is dismally low by middle and high school students (Schellenberg, Skok, &

McLaughlin, 1991). Approximately 28% of average-achieving students and 56% of students with LD have problems completing their homework (Polloway, Epstein, & Foley, 1992). Children with attention and learning problems, including those with AD/HD, are particularly hampered by homework difficulties. Research has consistently shown that the majority of children with either LD or AD/HD display frequent and severe homework problems that are more severe than their non-disabled peers (Epstein, Polloway, Foley, & Patton, 1993; Lahey et al., 1994). The need to understand and address the homework difficulties of all children, especially those with attention and learning problems, is underscored by research demonstrating that homework problems are associated with numerous impairments in addition to academic underachievement, including parent-child conflict (Daniel-Crotty, 2000), family-school relationship problems (Olympia, Sheridan, & Jenson, 1994), anxiety, and depression (Karustis, Power, Rescorla, Eiraldi, & Gallagher, 2000).

Given the well-documented positive association between homework and academic performance (Cooper et al., 1998; Cooper, 2001; Cooper et al., 2006), and the fact that large numbers of students with and without disabilities struggle with homework (Epstein et al., 1993; Lahey et al., 1994; Polloway et al., 1992; Schellenberg et al., 1991), it seems essential that an intervention that can improve the homework performance of any student with homework problems be identified. Such an intervention would enable school districts to efficiently address the needs of its students. Because the connection between homework and academic performance is strongest in middle and high school Cooper et al., 2006), and because the homework difficulties of students tends to

exacerbate as they get older (Schellenberg et al., 1991), interventions targeted at the middle and high school level seem particularly important.

Research has identified a number of common difficulties associated with homework problems that cut across disability category. Students with AD/HD, LD, and those without documented disabilities tend to display a variety of problems that are likely to interfere with homework completion (Power, Werba, Watkins, Angelucci, & Eiraldi, 2006). These problems include academic skill deficits, poor communication and organizational skills, difficulty with tasks that demand voluntary, selective, and sustained attention, poor memory and poor self-monitoring. Research has shown that students with homework problems have a number of common characteristics that interfere with every step of homework completion, including understanding assignments, accurately recording them, remembering to take materials home, setting aside time to work, organizing necessary materials, following through and completion the work, putting it in a safe place, and then remembering to take it back to school. Recently, Power and colleagues (Power, et al., 2006) investigated patterns of homework problems, as assessed by parent reports on the Homework Problem Checklist (HPC), of children referred for evaluation and treatment of AD/HD and those in general education. Exploratory factor analysis identified two distinct homework problem factors for general education students: Inattention/Avoidance of Homework and Poor Productivity/Nonadherence with Homework Rules. Exploratory factor analysis of the clinic-referred sample revealed a factor structure that was highly similar to that of the general sample.

The current body of research on homework interventions suggests that self-management interventions may be the best type of intervention to help all students with

homework difficulties. Self-management interventions have been found to be effective in alleviating the homework problems of students with AD/HD (e.g., Gureasko-Moore, DuPaul, & White, 2006; Langberg, Epstein, Urbanowicz, Simon, & Graham, 2008; Merriman & Codding, 2008; Meyer & Kelley, 2007; Swartz, Prevatt, & Proctor, 2005) and those with LD (e.g., Hughes, Ruhl, Schumaker, & Deshler, 2002; Lenz, Ehren, & Smiley, 1991; Shimabukuro, Prater, Jenkins, & Edelen-Smith, 1999; Trammel, Schloss, & Alper, 1994). Further, self-management interventions do not necessarily require direct teacher or parent involvement. This is important for several reasons. First, direct parent and/or teacher involvement may not be possible for any number of reasons (i.e., resistance, time constraints, etc.). Second, parent involvement may actually have deleterious effects. Third, focusing on directly teaching students the skills needed to successfully complete homework promotes students' independence and feelings of self-control and self-efficacy, which, in turn, will improve the probability of maintenance and generalization.

A particularly promising, comprehensive approach to teaching self-management that may be useful for addressing several aspects of the homework problems for all secondary students is coaching (Dawson & Guare, 2000; DuPaul & Weydant, 2006; Merriman & Codding, 2008). Coaching, as described by Dawson and Guare, consists of goal setting, self-monitoring, performance feedback, and/or contingency management and may be particularly beneficial because students generate goals, create plans for achieving these goals, and monitor outcomes with the assistance of a coach. Accordingly, coaching is a systematic training process that provides the necessary support a student needs to set and accomplish long-term goals. As the student meets with success, the

support of the coach is systematically faded. With the support of the coach, the student anticipates potential obstacles to goal attainment, generates solutions to barriers, and identifies supports, at school and at home, that can the student can employ to help accomplish goals. Coach and student review progress toward long-term goals at each meeting to support the development of goal-directed persistence. They also identify at least one related short-term goal, which represents a smaller, obtainable, incremental step toward the long-term goals and helps to reinforce goal-oriented behavior (Swartz et al., 2005).

Coaching has been shown to be effective in improving the homework completion and accuracy of high school students with AD/HD (Merriman & Codding, 2008) and increasing study time, grades, and study habits for post-secondary student (Swartz et al., 2005). Although the impact of coaching on the homework difficulties of students with LD has not been explored, many of the components of coaching have been found to be effective in ameliorating the homework difficulties of students with LD.

Purpose of Present Study

The primary purpose of this dissertation was to further explore the effectiveness of the self-management intervention referred to as coaching (Dawson & Guare, 2000). This dissertation sought to provide further, more robust support for coaching by utilizing a between groups experimental design with two treatment groups to examine the effectiveness of coaching in alleviating the homework difficulties of middle school students with significant homework problems, regardless of disability category. Further, this dissertation examined the feasibility of executing the coaching intervention in a group, rather than individual format. This study employed coaching as a group

intervention to address one of the major limitations of coaching: the substantial time commitment required of the coach (50 to 75 minutes weekly prior to fading the intervention). Due to coaching time required when implementing the intervention individually, a school professional's caseload typically would not permit him or her to implement the intervention with more than a few students.

This dissertation attempted to answer five primary questions. First, is treatment-as-usual (homework center) an effective treatment for improving the homework completion of middle school students identified as having significant homework problems? Second, is group coaching an effective treatment for improving the homework completion of middle school students identified as having significant homework problems? Third, is group coaching more effective than treatment-as-usual in improving the homework completion of middle school students identified as having significant homework problems? Fourth, is treatment-as-usual and group coaching differentially effective for students with disabilities, and those with no documented disabilities? Fifth, if treatment-as-usual and/or group coaching is shown to be successful in increasing homework completion, what effect will this increase have on students' academic performance?

CHAPTER II

Literature Review and Rationale

This chapter reviews research examining the importance of homework and its relationship to academic performance. A review of the existing literature on the homework difficulties typically seen in students diagnosed with Attention-Deficit/Hyperactivity Disorder (AD/HD) and learning disabilities (LD) follows. The remaining portion of the chapter will examine the effectiveness of homework interventions in general and those specific to students with AD/HD and with LD. This is followed by a discussion of the need for a general homework intervention and a description of one such potential intervention, Coaching.

The Importance of Homework

Homework is an important aspect of most school-aged children's daily routine. According to the National Assessment of Educational Progress (Campbell, Voelkl, & Donahue, 1997), over two-thirds of all 9-year-olds and three-quarters of all 13- and 17-year-olds reported doing some homework every day. Sixteen percent of 9-year-olds reported doing more than 1 hour of homework each day. This figure jumped to 37% for 13-year-olds and 39% for 17-year-olds. More recent surveys also support the extensive use of homework (e.g., Gill & Schlossman, 2003; Hofferth & Sandberg, 2000; Loupe, 1999). However, the amount of time students report doing homework varies from study to study, depending on how the question is asked. The amount of homework completed by the youngest students, age 6 to 8, increased from 52 minutes weekly in 1981 to 128 minutes weekly in 1997 (Hofferth & Sandberg, 2000). Some school districts even assign

pre-kindergartners and kindergartners at least 30 minutes of homework each night (Loupe, 1999).

Homework likely has a significant impact on students' educational trajectories. Most educators believe that homework can be an important supplement to in-school academic activities (Henderson, 1996). It is estimated that homework accounts for 20% of the total time American students spend on academic tasks (West Chester Institute for Human Services Research, 2002). Studies have demonstrated repeatedly the importance of academic engaged time for students in general and special education (e.g., Anderson et al., 1979; Greenwood, 1991; Leinhardt et al., 1981; O'Melia & Rosenberg, 1994; Seifert & Beck, 1984). Greenwood (1991), and O'Melia and Rosenberg (1994) suggested that time actively engaged in the learning activity may be the single best indicator of achievement among student with educational disabilities.

Homework and Academic Performance

Although some educators have disputed the importance of homework (e.g., Barber, 1986; Farrow, Tymms, & Henderson, 1999; Palardy, 1995), there is a consensus among researchers that homework can have many beneficial effects. Homework provides students with opportunities to practice and master lessons learned in school. Homework also can be used to engage students in projects that guide them in the application of concepts learned in the classroom (Keith & Keith, 2006) and can provide a context to develop work habits and study skills (Cooper, 2001; Keith & DeGraff, 1997). Lastly, homework provides parents and teachers ongoing, natural ways to communicate with each other about a student's education (Olympia, Sheridan, Jenson, & Andrews, 1994), which is in turn related to student outcomes (see Christenson & Sheridan, 2001).

In general, research has demonstrated a positive association between homework and academic performance, when performance is measured by amount of time spent doing homework and amount of work completed and when academic performance is assessed using standardized test scores and classroom grades (Cooper, 2001; Cooper et al., 1998; Cooper, et al., 2006). The extent of the relationship between homework and academic performance is moderated by grade level in that the relationship is generally stronger for students in the upper as compared to lower grades (Cooper, 1989; Cooper, et al., 2006).

Two major meta-analyses of the homework literature exist (Cooper, 1989; Cooper, et al., 2006). Cooper (1989) conducted the first of these and reviewed nearly 120 empirical studies of homework's effects and the ingredients of successful homework assignments. Cooper used quantitative synthesis techniques to summarize the literature. Cooper's review included three types of studies that help answer the general question of whether homework improves students' achievement. The first type of study compared achievement of students who where given homework assignments to the achievement of students not given homework. Cooper identified 20 studies conducted between 1962 and 1986. Of the 20 studies, 14 produced effects favoring homework while 6 favored no homework. The most interesting finding was the influence of grade level on homework's relationship with achievement. These studies revealed that the average high school student in a class doing homework outperformed 69% of the students in a no-homework class, as measured by standardized tests or grades. In junior high school, the average homework effect was half this magnitude. In elementary school, homework had no association with achievement gains.

The next type of study that Cooper (1989) reviewed compared homework with in-class supervised study. Overall, homework proved superior to in-class study. However, there was a strong grade-level effect. The superiority of homework waned for students in lower grade levels, and in elementary school, in-class study proved superior.

Lastly, Cooper identified 50 studies that correlated the amount of time students spent on homework with a measure of achievement. Many of these correlations came from statewide surveys or national assessments. Of the 50 studies, 43 indicated that students who did more homework had better achievement outcomes, while 7 indicated negative outcomes. Once again, a strong grade-level interaction was present. For students in elementary school, the average correlation between amount of homework and achievement was zero ($r = 0$); for students in middle grades it was nearly zero ($r = .07$); and for high school students it was higher ($r = .25$).

With regard to the optimal amount of homework, Cooper's meta-analysis found that for high school students the positive relation between time on homework and achievement did not appear until they reported at least 1 hour of homework per night. After 1 hour, the linear relation continued to climb unabated to the highest measured interval (more than 2 hours per night). For junior high students the positive relation appeared for even small amounts of time on homework (less than 1 hour per night) but disappeared after students reported doing between 1 and 2 hours per night. Cooper identified only one studied for grades one through six, but the lack of a simple linear relationship at these grade levels led Cooper to suggest that the line would be flat.

Cooper et al. (2006) completed the second major meta-analysis that was a follow-up to Cooper's (1989) meta-analysis. This analysis looked at research conducted on

homework from 1987 through 2003. Cooper and colleagues categorized the studies in their research synthesis into three basic design types. The first category contained studies that employed exogenous manipulation of homework, which meant that the presence or absence of homework assignments was manipulated expressly for purposes of the study. The second type of design included studies that took naturalistic, cross-sectional measures of the amount of time students spent on homework without any intervention on the part of the researchers. The amount of time spent on homework was then related to an achievement-related measure. This type of design also included an attempt to statistically equate students on other variables that might be confounded with homework. The third type of design involved the calculation of a simple bivariate correlation between the time the student spent on homework and a measure of achievement. In these studies, there was no attempt to equate students on other variables that might be confounded with time spent on homework.

The studies identified that attempted to establish a causal link between homework and academic achievement were, according to Cooper and colleagues, all flawed in some way that compromised their ability to draw strong causal conclusions. However, the findings from the studies that employed exogenous manipulation of homework were quite consistent and encouraging. All revealed a positive relationship between homework and achievement that was robust against conservative re-analyses. The standardized mean difference on unit tests between students who did and did not do homework varied from d = .39 to d = .97. The weighted mean d-index was .60 under both fixed and random-error assumptions and was significantly different from zero when the student was the unit of analysis. When the effect size was substituted as the unit of analysis by adjusting for

within-class dependency, the weighted mean *d*-index was .63 and was statistically significant, up to an assumed intraclass correlation of .35. Furthermore, Cooper and colleagues could not reject the hypothesis that all the effect sizes from these studies were testing the same underlying population value. This was true whether fixed- or random-error assumptions were used. Similarly, the range of estimated regression coefficients derived from studies using multiple regression, path analysis, or structural equation modeling were nearly all positive and significant and the regression coefficients appeared quite similar across subject areas.

Cooper and colleagues identified 69 correlations between homework and achievement reported in 32 studies. Fifty of these correlations were positive and 19 were negative. The mean weighted correlation was $r = .24$ using a fixed-error model, and $r = .16$ using a random-error model, and both were significantly different from zero.

Moderator analyses revealed that time on homework was positively associated with both class grades and standardized test scores, and with reading-only, math-only, and multiple-subject outcomes. Two other moderator variables (the grade level of the student and whether the student or parent reported about homework) were also examined. With regard to grade level, there was strong evidence that homework and achievement were positively related for secondary school students. A significant, though small, negative relationship was found for elementary school students, using fixed-error assumptions, but a nonsignificant positive relationship was found using random-error assumptions. Furthermore, with both error models, the difference between the mean correlations involving elementary versus secondary students was significant. With regard to differences among respondents, analyses using both error models suggested that

student reports about homework were significantly positively related to achievement, while parent reports produced a significant, near-zero correlation using a fixed-error model. Correlations involving the two types of respondents differed significantly. Because all parent reports came from parents of elementary school students, a re-analysis of the grade-level effect was conducted excluding parent reports. This analysis still showed a higher correlation for secondary than for elementary school students under fixed-error assumptions but no difference under random-error assumptions. Cooper and colleagues also found that the correlation between time spent on homework and achievement was significantly higher when elementary school students made the report than when parents of elementary school students made the report.

Overall, the meta-analyses conducted by Cooper and colleagues (1989; 2006) found that there is ample evidence that homework has a positive effect on middle and high school students' learning, whether learning is measured by achievement test scores or students' grades. There is less research, and less consistency in research findings, that has examined the effects of homework for elementary children. For students in grades 7-12, homework completion not only strongly contributes to academic achievement; it is superior to in-class study (Cooper et al., 2006). However, the optimal amount of homework differs for students in middle versus high school. For high school students, the positive effects of homework don't begin to appear until students complete at least 1 hour of homework per night. After 1 hour, time spent on homework is positively correlated with achievement with no apparent upper limit. For middle school students, even small amounts of time on homework (less than 1 hour per night) are associated with increased academic achievement. However, the positive correlation is not seen once students begin

spending a lot of time doing homework (between 1 and 2 hours per night; Cooper et al., 2006).

Although homework completion is associated with increased achievement, many children experience homework problems. In general, the rate of consistent homework completion is dismally low by middle and high school students (Schellenberg et al., 1991). Approximately 28% of average-achieving students and 56% of students with LD have problems completing their homework (Polloway et al., 1992). Children with attention and learning problems, including those with AD/HD, are particularly hampered by homework difficulties. Research has consistently shown that the majority of children with either LD or AD/HD display frequent and severe homework problems that are more severe than their non-disabled peers (Epstein et al., 1993; Lahey et al., 1994). The need to understand and address the homework difficulties of all children, especially those with attention and learning problems, is underscored by research demonstrating that homework problems are associated with numerous impairments in addition to academic underachievement, including parent-child conflict (Daniel-Crotty, 2000), family-school relationship problems (Olympia et al., 1994), anxiety, and depression (Karustis et al., 2000).

Homework Problems Associated with AD/HD

Attention Deficit/Hyperactivity Disorder (AD/HD) is a chronic disorder that is thought to affect 3% to 7% of school-age children (American Psychiatric Association [APA], 2000). Children with AD/HD typically exhibit problems maintaining attention, sustaining effort, modulating motor activity, and organizing and finishing tasks (APA, 2000). Traditionally, attention deficit hyperactivity disorder (AD/HD) comprised three

primary symptoms or cardinal features, which include inattention, hyperactivity, and impulsivity (Douglas, 1972). These behavioral difficulties typically arise during early childhood and are relatively persistent over development (Barkley, 2006). The current clinical view of AD/HD offered in the text revision of the fourth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (*DSM-IV-TR;* APA, 2000) reduces the major impairments to two, with hyperactivity and impulsivity combined to form a single impairment. The *DSM-IV* proposed three subtypes of the disorder: predominantly inattentive, predominantly hyperactive-impulsive, and combined types.

The current clinical view of ADHD (that of *DSM-IV-TR*) is limited in that it is only descriptive of two behavioral deficits, inattention and hyperactivity-impulsivity, and cannot readily account for the many cognitive and behavioral deficits associated with this disorder (Barkley, 1998). To intervene successfully one must have an understanding of what is causing the problem. Until recently, AD/HD has lacked a reasonably credible scientific theory to explain its basic nature and associated symptoms. However, neuropsychological, neuroimaging, and genetic studies have greatly expanded our understanding of the disorder and have enabled researchers to develop credible theories about the origins of AD/HD. The most widely regarded is that of Barkley (1997a, 1997b), who has proposed a comprehensive and compelling theoretical model of AD/HD that highlights reduced behavioral inhibition, not inattention, as the core deficit of AD/HD. Barkley's theory of AD/HD grew of his "hybrid neuropsychological model of executive (self-regulatory) functions" (Barkley, 1997b, p. 72). According to Barkley's model, impaired inhibitory mechanisms interfere with efficient operation of four critical executive functions including: working memory (nonverbal); self-regulation of affect-

regulation-arousal; internalization of speech (verbal working memory); and reconstitution or behavioral analysis and synthesis. Barkley contends that inefficiency at this executive level leads to manifest problems of inattention, socially inappropriate behavior, disorganized behavior, as well as the other observable symptoms of AD/HD.

The cornerstone of Barkley's model is behavioral inhibition, which begins to emerge in the 5-to-12-month age range (Barkley, 1998). This first executive function has three properties that allow us to delay or stop a behavior: (1) the ability to delay or prevent the response leading to an immediate consequence so that some later occurring consequence may impact behavior; (2) the ability to stop ongoing behaviors when they prove unsuccessful; and (3) the ability to manage distractions or interruptions that could interfere with the work of other executive skills. Taken as a whole, behavioral inhibition allows us to think before we act and to decide when and if to respond. Behavioral inhibition precedes the other executive functions and protects them from interference. For the infant, inhibition is the first step towards self-control as it affords the infant the power to respond or not to respond to a person or event. Without inhibition, our ability to use planning and goal directed persistence would be quite difficult (Barkley, 1997b).

While behavioral inhibition affords some control over what to respond to, the infant remains stuck in the present without some type of memory. This sets the stage for the next executive skill in Barkley's model, nonverbal working memory (Barkley, 1998). Development of this skill begins in the 5-to-12-month age range and involves the ability to hold information "on-line" in the mind. This gives the infant the capacity to move beyond "right now" and "right here." Nonverbal working memory becomes the foundation for our ability to make decisions and control behavior even though a person or

activity is not present in the here and now. With increased information and experience, the ability to employ hindsight and forethought to mentally manipulate events, and to imitate more complex behavior develops (Barkley, 1997b).

The third skill in Barkley's model is self-regulation of affect-motivation-arousal. This earliest manifestation of this skill comes in the 5-month range and becomes more evident when locomotion develops. This skill involves a number of sub-skills including regulation of emotional and motivational states, regulation of arousal, and the capacity for social perspective taking. This skill gives emotional and motivational value to the mental representations formed in working memory. As representational experiences grow and acquire emotional value, and as hindsight and forethought expand across time, choices multiply and control by the immediate environment lessens. As this occurs longer-term goals become increasingly more powerful factors in initiating or inhibiting behavior (Barkley, 1997b).

Internalization of speech (verbal working memory) is the next executive skill to develop, according to Barkley (1997b). The capacity to set and maintain longer-term goals is significantly enhanced by the acquisition and development of language. With the acquisition of language the child is provided with a powerful tool for control of the environment. Language also provides the adult with an increasingly powerful means of regulating the child's behavior. This management of behavior by the language of other people gradually shifts in part to self-management. Initially, self-management is accomplished by adopting the words of adults and publicly saying them to oneself, this self-speech is evident in the 3-to-5-year-old. Speech becomes increasingly more private and covert until it is largely internalized by age 9 to 12 years. Internalization of speech

not only affords basic self-control, it facilitates the development of rules, problem-solving strategies, self-monitoring, self-instruction, and metacognition (Barkley, 1997b).

The final element to develop in the Barkley model is reconstitution, defined as the "analysis and synthesis of behavior" (1997a, p. 185). The early stages of this more sophisticated executive skill are believed to emerge at about 6 years of age. Reconstitution enables the individual to divide more complex behavioral sequences into component units (analysis) and recombine them in novel ways (synthesis) to solve new problems or reach new goals. Reconstitution represents cognitive and behavioral flexibility, fluency, and creativity and provides an opportunity for the child to find a good fit between a problem or a goal and a behavioral strategy (Barkley, 1997b).

How does Barkley's model of executive functions apply to AD/HD? According to Barkley, the impairment in behavioral inhibition occurring in AD/HD disrupts the efficient execution of these executive functions, thereby delimiting the capacity for self-regulation. Individuals with AD/HD have no difficulty sustaining attention on tasks that are novel and intrinsically interesting, and for which external consequences (i.e., rewards and punishments) are imposed. Rather, individuals with AD/HD are impaired in what Barkley refers to as "goal-directed persistence." According to Barkley, difficulties arise when there is conflict between immediate and longer-term delayed consequences for a behavior. Individuals with AD/HD find it very difficult to give up an immediate reward to gain some longer-term reward or to avoid some later negative outcome. As such, student's with AD/HD find it difficult to create and hold a mental image of a goal (nonverbal working memory), devise a plan to follow (self-directed speech), cope with the negative feelings associated with self-deprivation (self-regulation of affect), motivate

themselves to carry out the plan (self-regulation of motivation), and experiment with diverse strategies for achieving their goal (reconstitution).

Research has shown that children with AD/HD are traditionally academic underachievers (DuPaul & Stoner, 2003). As many as 30% of children with AD/HD do not achieve academically at the level predicted by their age or IQ (Frick & Lahey, 1991; Kamphaus & Frick, 1996), and children with AD/HD perform lower academically when compared to both same-age peers and same grade-level peers (Barry, Lyman, & Klinger, 2002). The academic problems of children with AD/HD are related to multiple variables, but lack of homework completion is one that appears particularly important (Power, Karustis, & Habboushe, 2001). This is a critical variable as studies regarding the effectiveness of homework generally support the notion that homework has positive effects on academic grades and test scores (Cooper, 1989; Keith et al., 1993; Trautwein, Koller, Schmitz, & Baumert, 2002).

Adolescents with AD/HD have considerable problems related to homework completion (Barkley, 2003; DuPaul & Stoner, 2003; Robin, 1998). Adolescents with AD/HD often come unprepared for class, fail to write down assignments, and rush through work, which results in careless mistakes. Further, they often fail to begin tasks in a timely manner, make prompt decisions, maintain effort, remember responsibilities, organize materials, and manage time effectively. In addition to problems with homework completion, students with AD/HD often struggle to apply and effectively review material they have learned. They find it difficult to understand material covered and often do not allow sufficient time for test preparation (Robin, 1998). These difficulties become increasingly problematic as they reach middle school, when they are expected to become

more independent learners (Cooper, 1989; Cooper & Valentine, 2001; Robin, 1998; Smith, 1989).

Students with AD/HD are less actively engaged in academic instruction than their classmates without AD/HD. Students with AD/HD typically display significantly lower rates of on-task behavior and engaged time during instruction and classroom work than their peers (Abikoff, Gittelman-Klein, & Klein, 1977). The academic disengagement of children with AD/HD places them at a considerable disadvantage academically as a substantial amount of research has demonstrated the strong relationship between level of academic engaged time and academic achievement (see Shapiro, 1996). Notably, children with AD/HD have been rated as having lower self-expectations, being less persistent and more easily discouraged when engaging in academic tasks, preferring easy work, being less motivated to complete assignments, and being less likely to enjoy learning than typical peers (Carlson, Booth, Shin, & Canu, 2002). Because students with AD/HD have difficulty sustaining attention, especially during repetitive tasks, they need more instruction and practice than their peers to keep pace in the classroom (Zentall, 1993). Thus, to improve the academic functioning of students with AD/HD, it is necessary to not only improve their on-task behavior and engagement in academic work, but to also provide them with more opportunities to learn and practice academic skills (Mercugliano, Power, & Blum, 1999). Homework provides students innumerable opportunities to learn and practice academic skills. Assisting students to take advantage of these opportunities by becoming more actively engaged in their work can be a very useful learning strategy (Power et al., 2001).

Unfortunately, because children with AD/HD often encounter substantial problems in the completion of their homework, they miss needed opportunities to practice academic skills (Karustis et al., 2000; Lahey et al., 1994). Although it is clear that a majority of children with AD/HD display more frequent and severe homework problems than their peers (Epstein et al., 1993; Lahey et al., 1994), surprisingly little research has investigated the homework difficulties of children with AD/HD and how to address them.

Homework Problems Associated with Learning Disabilities (LD)

Various definitions of LD exist. A fundamental historical assumption underlying the construct of LD is that the academic difficulties manifested by individuals with LD are unexpected, given other factors such as relatively robust intellectual capabilities, opportunities to learn, and freedom from extreme social disadvantage or emotional disturbance (Lyon & Cutting, 1998). Two of the most commonly cited and utilized definitions of LD include the definition set forth by *DSM-IV-TR* (APA, 2000), and the definition contained in the Individuals with Disabilities Education Act (IDEA). The *DSM-IV-TR* uses the term "Learning Disorder" (formerly Academic Skills Disorders). Based on *DSM-IV-TR*, learning disorders are diagnosed when the individual's achievement on individually administered, standardized tests of academic achievement are substantially below that expected given age, schooling, and level of intelligence. The learning problems must significantly interfere with academic achievement or activities of daily living that require reading, math, or writing skills. A variety of statistical approached have been used to establish that a discrepancy is significant, however, substantially below is typically defined as a discrepancy of more than 2 standard

deviations between achievement and IQ (Lyon & Cutting, 1998). The *DSM-IV-TR* approach to LD results in the delineation of four specific categories. These include (1) Reading Disorder, (2) Mathematic Disorder, (3) Disorder of Written Expression, and (4) Learning Disorder Not Otherwise Specified. The last category might include problems in all three areas that together substantially interfere with academic achievement even though scores on tests measuring each individual skill are not substantially below that expected given chronological age, measured intelligence, and age-appropriate education.

While the *DSM-IV-TR* (APA, 2000) definition is used clinically, researchers studying homework have consistently used school-identified samples of students with LD. Until the recent passage of the Individuals with Disabilities Education Improvement Act of 2004 (IDEIA; P.L. 108-446), school districts were required by federal law to use an IQ-Achievement discrepancy definition of LD that specifies that students (a) score within the normal range of intelligence but (b) show significant underachievement in one or more of the areas of mathematics, reading, and written or oral language that is not primarily due to emotional disturbance, economic disadvantage, or lack of educational opportunity (Klotz & Nealis, 2005). In 2001, almost 3 million students ages 6 to 21 years were identified as learning disabled under IDEA. This represents an increase of 18.4% from 1993 to 2001 (U.S. Department of Education, 2005). Students with specific LD accounted for almost half (49.2%) of all students served under IDEA in 2001 (U.S. Department of Education, 2005).

Identifying a student as having a learning disability as defined by IDEA is contingent on that child being referred to the Committee on Special Education (CSE). Various child factors appear to play an important role in teachers' and parents' decision

to initiate a referral. Children referred to special education show unexpectedly low academic progress and demonstrate maladaptive classroom behaviors (Cooper & Speece, 1987; McKinney & Speece, 1983). Referred students are likely to be off-task, disorganized, and have deficits in verbal expressive language. These behaviors, when exhibited in the home setting, are likely to interfere with homework completion. As such, children who are referred and subsequently labeled "learning disabled" have both educational and behavioral deficits that make them vulnerable to having difficulties successfully completing both classwork and homework (Bryan, Burstein, & Bryan, 2001). Presumably, there are numerous students who, when evaluated, would meet their district's discrepancy criteria but are never referred to special education because they do not also show low academic progress nor demonstrate maladaptive classroom behaviors.

Research has consistently shown that students with LD are more likely to have homework problems than their classmates (Bryan & Nelson, 1994; Bryan, Nelson, & Mathur, 1995; Epstein, et al., 1993). Based on the reported incidence of homework problems, Pollaway, Epstien, and Foley (1992) estimated that more than a million students with LD have problems completing homework. Similar to students with AD/HD, homework for student with LD is particularly important to their academic success. Given that homework assignments account for 20% of a student's total academic engaged time (Cooper & Nye, 1994) and the connection between academic engaged time and academic achievement (Greenwood, 1991; O'Melia & Rosenberg, 1994), students with LD who spend less time on homework are likely to show lower academic achievement than their classmates.

Research on parents' and teachers' perceptions of the homework problems experienced by students with LD have identified characteristics of students with LD that interfere with every step of homework completion, including understanding assignments, accurately recording them, remembering to take materials home, setting aside time to work, organizing necessary materials, following through and completion the work, putting it in a safe place, and then remembering to take it back to school (Bryan et al., 1995; Epstein et al., 1993). Parents routinely describe students with LD as more likely to procrastinate. Students with LD need to be reminded to do homework, need to have someone in the room with them, and are more likely to daydream and be easily distracted (Polloway et al., 1992).

Difficulties with reading decoding, comprehension, spelling, writing, and math – hallmarks of students with LD – may make it difficult for students with LD to independently complete grade-level assignments at home (Bryan et al., 2001). Language deficits may affect students' ability to comprehend assignments, accurately record them, or communicate them to parents (Bryan et al., 2001). Organizational problems may affect recording and remembering assignments, keeping them in an assigned place, and returning them to class. Sustained attention – staying on-task and working independently – is required to successfully complete homework (Bryan et al., 1995; Epstein et al., 1993). Students who are easily distracted may find temptations at home to avoid homework completion.

Students with LD are frequently given homework assignments that involve doing incomplete classwork (Polloway et al., 1992). These students may fail to complete these assignments at home for the same reasons they fail to complete them in school. They may

spend an inordinate amount of time completing assignments at home that they found too difficult or boring. Parents have described how they struggle to motivate their children to get started and keep working on homework (Epstein et al., 1993). Students with LD may spend 2 hours or more completing homework while their typical siblings complete homework in 15 minutes (Baumgartner, Bryan, Donahue, & Nelson, 1993).

The homework difficulties of students with LD tend to exacerbate, as they get older. By the time they reach high school, students with LD spend less time on homework than academically achieving classmates (Deslandes, Royer, Potvin, & Leclerc, 1999), have developed lower expectations for success, and have less confidence than their achieving classmates in their ability to succeed as a function of hard work and ability (Pearl, Bryan, & Donahue, 1980). Several decades of research have shown that student expectations for academic success and attributions about the causes of achievement remain the most robust predictors of academic achievement gains (Patrikakou, 1996).

While research has yet to link specific characteristics of students to specific types of homework problems, research has shown that students with LD are at-risk for a variety of problems that are likely to interfere with homework completion. These risks include academic skill deficits, poor communication and organizational skills, difficulty with tasks that demand voluntary, selective, and sustained attention (Brown & Wynne, 1984; Epstein et al., 1993), poor memory (Swanson, 1994) and poor self-monitoring (Schumaker & Deshler, 1988).

Students' experiences and perceptions of homework also appear to play a major role in the homework difficulties of students with LD. Learning cannot occur without

student cooperation, which only occurs when students value schoolwork, find it meaningful, and are motivated to succeed in school. The perceptions of students with LD have been found to be negative and divergent from those of students without LD. Nicholls, McKenzie, and Shufro (1994) interviewed first- to fourth-grade students with and without LD about how they think about and value homework and other out-of-school projects. Students without LD described schoolwork and homework as fulfilling and as largely continuous with their personal lives. On the other hand, students with LD described almost all learning as an imposition.

Bryan and colleagues (Bryan & Nelson, 1994; Bryan et al., 1995) surveyed primary, elementary, and middle school students in general education, resource rooms, and self-contained special education classrooms about their experiences doing homework, their opinions about the factors that make homework difficult, and their concerns about equity and fairness. Unlike achieving classmates, students with LD reported that homework was too difficult, their work was not good, they did not do or finish their homework, and they wanted someone to help them finish their work. When special education setting was taken into account, students in resource room programs expressed the highest incidence of negative feelings and opinions about homework.

Sawyer, Nelson, Jayanthi, Bursuck, and Epstein (1996) conducted a survey that found that high school students with LD recognized that homework is hard when students lack understanding, have a poor attitude, and do not try hard. They considered teachers to be part of the problem. Students surveyed reported that teachers make homework more difficult when they use inconsistent language, explain homework too quickly or not at all,

do not answer questions, do not specify when homework is due, and when they give several assignments at once.

Students have consistently identified fairness and equity in making and grading homework assignments as key issues. Students with and without LD believe that homework assignments should be uniform (Klingner & Vaughn, 1999; Vaughn, Schumm, Klingner, & Saumell, 1995). Middle school students rated giving different, fewer, or shorter assignments – techniques that teachers often use to help student with disabilities – as the least popular adaptation that teachers can make (Nelson, Epstein, Bursuck, Jayanthi, & Sawyer, 1998). One possible explanation is that students with LD in general education classrooms may want the same homework assignments as their typical peers because students often do homework cooperatively with classmates (Vaughn, Schumm, & Kouzekanani, 1993). Opportunities for peer interactions are reduced when students with disabilities do not have the same assignments as classmates. Students with disabilities reported that they wanted to be involved in the same activities, read the same books, and be part of the same groups as their classmates (Klinger & Vaughn, 1999). Vaughn et al. (1993) stressed the importance of including all students, and giving all students a chance to learn even a part of what others in class are learning (Klinger & Vaughn, 1999). In general, students with LD want to "fit in," and fear being left behind, excluded, or singled out.

With regard to fairness and equity in grading homework assignments, students also considered these as important factors but did not generally agree on this issue. Klinger and Vaughn (1999) found students with disabilities wanted to be judged with the same grading criteria. In contrast, Bryan and Nelson (1994) found students with LD

believed it is fair to give students higher grades if they show improvement, believing that hard work should be rewarded with good grades, irrespective of accuracy. Students without disabilities were opposed to grading students with a different scale (Nelson et al., 1998). Taken as a whole, the research shows that students agree that giving the same assignments to all student is fair, but students disagree in their opinions about whether homework should be graded using uniform standards.

Parent factors are a third variable that impact the homework success of students with LD. Parent factors can be further broken down into three subcategories: parents' involvement, parents' beliefs and self-efficacy, and parents' beliefs about homework. In general, parent involvement has been positively associated with children's academic performance and positive attitudes toward school (Epstein, 1984, 1990, 1991; Leung, 1993; Phillips, 1992). Student achievement has been found to be higher when parents monitor children's homework, participate in school activities, and support the work and values of school (Epstein, 1984); however, the effects of various types of parent involvement may differ by student age and disability status. Attending PTA meetings and school activities, volunteering for school events and projects, attending classes, and speaking to the school counselor appear to be related to younger children's achievement (Epstein, 1984). At the high school level, parent involvement in learning activities at home (e.g., assisting with homework, parent-adolescent discussions about school, parental praise and encouragement) positively impacts academic achievement (Deslandes et al., 1999). For older students, nurturing educational aspirations and providing support for autonomy appear to be key elements of parental involvement for older students (Singh et al., 1995).

Research has also demonstrated that student' perceptions of parental expectations influence school achievement for both general and special education students (Patrikakou, 1996). Parental effects on student achievement may be indirect (Patrikakou, 1996) as parental support of autonomy and adult involvement mediates intrinsic motivation and adjustment of students in special education programs (Deci, Hodges, Pierson, & Tomassone, 1992; Singh et al., 1995).

Parents of children with LD tend to differ from parents of higher achieving students on factors that may influence parent involvement in homework. Parents of elementary school students with LD are more likely to be working outside the home, and less likely to be involved in school-based activities (Bryan & Nelson, 1994). High school students with LD are more likely than student without disabilities to come from families with more children and are less likely to have both parents at home, or parents who attended college (Deslandes et al., 1999). In general, parents of students with LD report being less involved than parents of general education students in supervision of their adolescents, attending school events, and in learning activities at home (Bryan et al., 2001).

A second correlate of parent involvement in homework is parents' personal beliefs about the causes of school achievement and their ability to help their child (Hoover-Dempsey & Sandler, 1995, 1997). Levin and colleagues (1997) found that mothers provided more help if they drew personal gratification from helping, and if they believed that helping was advantageous to their children. Mothers who did not spend as much time helping their child with homework did not believe their help promoted their children's learning, or they expressed concern over its causing disputes between them

and their children. Mothers helping struggling students expressed more disappointment, frustration, and fatigue from efforts to help their children than other mothers. Struggling students may need help, but giving them help may increase their parent's feelings of frustration and helplessness. At the high school level, families of low achieving students tended to disengage, and continue to be involved only if they perceived their involvement as effective in helping their adolescents succeed in school (Lee, 1994).

Parents of general and special education students have voiced concern that parental help may actually cultivate unwanted tendencies such as dependency or helplessness in the child (Levin et al., 1997). In addition, if helping with homework increases tension between parents and children and causes frustration and disappointment, it may actually be counterproductive to the child's functioning in school and general well being (Smilansky, Fisher, & Sheftaya, 1986).

Parents' negative attitudes and low expectations for their children combined with doubts about their own self-efficacy in helping their children as well as exasperating and unpleasant interactions around homework reduce the likelihood that homework contributes in positive ways to family life (Jayanthi, Nelson, Sawyer, Bursuck, & Epstein, 1995; Polloway, Epstein, Bursuck, Jayanthi, & Cumblad, 1994).

A third factor influencing parental involvement is parents' beliefs about homework's importance. Bryan and Nelson (1994) found that when compared to parents of achieving students, parents of student with disabilities were more likely to believe assignments should be individualized and graded on effort. Further, parents of student with disabilities were less likely to believe their children like homework, that homework helps learning, and were more likely to indicate that their children find homework too

hard, frustrating, and overwhelming. Fifty percent of parents of students with LD stated that their child is overwhelmed by their homework assignments (Bryan & Nelson, 1994). Parents believed homework is an added burden due to the fact that their children have organizational and motivational issues. Parents of children with disabilities also reported that their children are less likely to discuss school with them.

Parental support for homework was also influenced by experiences with their children's school and alignment between parents and teachers' beliefs and expectations regarding homework. Home and school consistency in expectations and beliefs should promote positive home-school relationships that contribute to the resolution of homework problems. Parents and teachers tended to agree that homework trains students to develop personal responsibility and management skills. However, they differed in their perceptions and beliefs about the purpose of homework, the difficulty of homework assignments, teachers' grading practices, and parents' roles in homework (Epstein et al., 1993).

Teachers identify the purpose of homework as providing students with the opportunity to complete unfinished work, and to practice and reinforce classwork. Teachers also believe homework informs parents about classwork (Bryan & Nelson, 1994; Polloway et al., 1994). Parents, however, tend to view homework as punishment (Baumgartner et al., 1993). While teachers tend to believe students are comfortable with the amount and difficulty of homework, parents describe children with disabilities as overwhelmed with homework assignments, and indicate that teachers underestimate how long it takes students to complete homework assignments (Bryan & Nelson, 1994).

Parents believe teachers expect accurate and complete assignments while teachers indicate that they take into account the child's effort in completing the assignments and are lenient in judging performance (Bryan & Nelson, 1994). Similar to students, parents are more likely than teachers to believe that all students should be given the same assignments. In contrast, teachers indicate more willingness to take individual ability and needs into account. Teachers' expectations of parents include giving children encouragement, letting children due their homework on their own, and signing assignments. On the contrary, parents believe that teachers want them to help children do homework and ensure it is done correctly. Parents' expectations of teachers include grading homework based on correctness, completeness, and quality. Teachers indicate that homework should be graded based on effort (Bryan & Nelson, 1994).

These discrepancies between parent and teacher perceptions of homework suggest that parent-teacher communication regarding homework is lacking. Buck et al. (1996), Epstein et al. (1997), and Jayanthi et al. (1995) surveyed parents, special educators, and general educators of students with disabilities about home-school communication problems. Teachers and parents tended to blame each other for (a) not initiating and maintaining communication about homework; (b) not following through with previously agreed on methods of communication and homework-related tasks; and (c) not providing clear messages. Teachers and parents also ascribed communication problems to a lack of time and opportunity, lack of knowledge and understanding by one or more parties, differing attitudes and abilities toward improving student performance on homework, and different expectations about the importance of homework.

In summary, one can derive several important conclusions from the extensive body of literature that has examined the relationships between homework and student's with LD. Similar to students with AD/HD, students with LD experience significant and pervasive homework completion difficulties. The negative outcomes associated with lack of homework completion for students with LD are also similar to those of AD/HD students. For both learning disabled and AD/HD students, homework is particularly important to academic success. This is because not only do both groups require additional practice and instruction to master academic skills, homework assignments account for 20% of a student's total academic engaged time (Cooper & Nye, 1994). The connection between academic engaged time and academic achievement is well established with increased academic engaged time directly correlating with increased academic achievement (Greenwood, 1991; O'Melia & Rosenberg, 1994).

Many of the same factors that are believed to be driving the homework difficulties seen in students with AD/HD, have also been identified as key contributors to the homework difficulties of students with LD. Students with LD, like students with AD/HD, routinely exhibit academic skill deficits, poor communication and organizational skills, difficulty with tasks that demand voluntary, selective, and sustained attention (Brown & Wynne, 1984; Epstein et al., 1993), poor memory (Swanson, 1994), and poor self-monitoring (Schumaker & Deshler, 1988). One could argue that students with LD demonstrate similar executive dysfunction as student with AD/HD and that difficulty with goal-directed persistence are also, at least partially, impacting the homework completion of students with LD. In fact, Zera and colleagues (Zera, 2001; Zera & Lucian, 2001) have recently argued that attention, working memory, and executive functioning

needs to be more completely addressed when diagnosing and treating students with LD as these cognitive capabilities play an integral role in learning and learning disorders.

Interventions to Improve Homework Performance

Given the established relationship between homework and academic achievement and the fact that many students struggle to complete homework consistently, the need for interventions designed to ameliorate student's homework difficulties is apparent. Not surprisingly, many homework interventions do exist. Some of these interventions are designed for specific populations of students (i.e., AD/HD students, and/or students with LD), while other have been posited as more general homework interventions. Despite varying population focuses, in general, the majority of homework interventions can be divided into those focused on antecedents and those pertaining to consequences of homework.

The antecedents of homework represent a broad range of variables and situations that set the stage for doing homework. One critical school-based factor than can affect homework performance is the assignment itself. Homework that has a specific purpose, is closely related to classroom instruction, and generates a product appears to be the most beneficial for students (Keith & DeGraff, 1997). Students should be able to complete assignments designed to practice skills learned in the classroom with high rates of accuracy. Gickling and Thompson (1985) recommended that students should be able to complete assignments designed to practice skills at an accuracy level of 90% or higher. Practice assignments should also be limited in length, and the teacher should attempt to vary the types of assignments given (Keith & DeGraff, 1997). Furthermore, for homework to be effective, teachers must clearly state assignments and make provisions

for the students to make thorough, accurate notes of work assigned (Anesko & Levine, 1987).

Parents also have a very important role in the antecedents of homework as they play a key role in creating an environment that is suitable for doing homework. An important strategy is to establish a regular time for homework that takes into account fluctuations in the child's ability to pay attention and the parents' ability to carefully monitor behavior during after-school hours (Olympia, Jenson, Clark, & Sheridan, 1992). Another key component is to establish a place for homework that minimizes distractions, such as television, and promotes attention to task (Olympia et al., 1992). Finally, it is important for parents to offer instructions in a clear, concise manner (Power et al., 2001).

The consequences of homework are the various ways that parents, teachers, peers, siblings, and the students themselves respond to the behaviors emitted during homework. Teacher-, student-, and parent-mediated approached to homework have received the most research attention, therefore, each will be described in more detail.

Teacher-Mediated Interventions

Research has shown that motivational approaches improve homework completion in both residential and school-based research projects (Harris & Sherman, 1974; Phillips, 1968). A common element of these programs is the role of the classroom teacher in treatment implementation. Teacher-mediated interventions include methods of individual and group reinforcement, response cost, and home notes.

Contingent reinforcement. Studies have found individual positive reinforcement programs to generate and maintain increased rates of homework completion. For example, Malyn (1985) used a "spinner" and magic ink system to increase homework

compliance for students with behavior disorders placed in a residential setting. Teachers checked each student's math homework at the beginning of the school day. If the student had completed the assignment and 80% of the problems were correct, the student was allowed to touch a developing pen to one of 100 reinforcement boxes on a poster board. If the pen revealed a randomly placed reinforcement star, the student was then allowed a "spin" on the reinforcement wheel. Using this schedule of variable reinforcement, Malyn (1985) demonstrated significant initial increases and maintenance effects in homework performance.

Research has also demonstrated positive effects of providing response-contingent feedback on both individual and group performance (Elliot & Shapiro, 1990). Public posting of academic performance has produced improvements in student performance and increased math and composition skills with both elementary and secondary level students (Van Houten, Hill, & Parsons, 1975; Van Houten & Lai Fatt, 1981; Van Houten & Thompson, 1976). Providing students with simple feedback alone, in some cases, was sufficient to alter academic deficits (Elliot & Shapiro, 1990).

Homework studies have also used group contingencies. Group contingencies can be typified in one of three ways: (a) dependent, where group attainment of the reward depends on the performance of a "target" student who is expected to meet a selected criterion; (b) independent, where each student's participation in a group reward is dependent on his or her own performance; and (c) interdependent, where group attainment of a reward is dependent on the performance of the group as a whole against a pre-selected criterion (Litlow & Pumroy, 1975).

Many advantages to using group contingencies to increase homework compliance exist. Teacher time required to chart behaviors and distribute rewards is significantly reduced, and peers can act as behavior change agents (Elliot & Shapiro, 1990; Pigott, Fantuzzo, Heggie, & Clement, 1984). However, studies have also identified several disadvantages of group contingencies. For example, students can be affected by the poor performance of a single student, groups may lose motivation once they perceive that they have lost reinforcement for a specific day (Crouch, Gresham, & Wright, 1985), and students may experience negative peer pressure effects (Shores, Apolloni, & Norman, 1976).

Response cost systems. The literature also describes response cost programs that penalize students for lack of homework completion. For example, the loss of free time after school has been used as a negative reinforcer. Lieberman (1983) described a system in which students earned the right to do homework at home. Teachers permitted students to take their assigned work home for completion, but students who repeatedly failed to return homework were placed on probation for five days. During these five consecutive days, students were required to report to the "homework room" after school to complete their assignments. A follow-up period then ensued in which homework completion alternated between home and school for five days. Lack of homework completion resulted in an additional five days of in-school probation. This system appears promising, given close collaboration between parents and teachers. However, there is no empirical evidence regarding its effectiveness (Lieberman, 1983).

Home notes. Results of several studies have shown that home notes improve homework completion (Dougherty & Dougherty, 1977; Kelley, 1990; Lordeman &

Winett, 1980). Home notes are completed by the classroom teacher and include items such as assigned academic tasks, grades given on assignments and tests, homework items that have been turned in, and those that have been missed. A primary strength of home notes is that they build a communication link between parents and teachers. Additionally, parents can enhance the effectiveness of home notes by setting up a home-based incentive system that provides contingencies based on performance reported in the note. Lordeman and Winett (1980) found that junior high school students increased overall homework submission by 20% by using a home note system. The note used (a) informed the parent of the rate of submission of homework reading assignments, and (b) provided qualitative feedback statement about their child's work.

Parent-Mediated Interventions

An abundance of research has demonstrated the impact that parents can have on the attention and behavior of children (Kazdin, 1997). Parent training has repeatedly been demonstrated to be a very effective method for helping parents to change their behavior and to achieve desired, targeted goals for their child (Forehand & McMahon, 1981). One of the hallmarks of parenting programs is training parents to selectively attend to and reinforce responsible, productive child behaviors and to ignore and refrain from reinforcing non-adaptive, unproductive behavior (McMahon, Forehand, & Greist, 1981). Other critical components include training parents to effectively deliver requests for compliance and provide specific labels when issuing verbal praise (Forehand & Scarboro, 1975). Enhanced reinforcement programs that involve the provision of tokens and concrete reinforcers for the attainment of targeted goals have been shown to be effective in improving behavior and performance (Anesko & O'Leary, 1982). Procedures that vary

reinforcers and involve the element of uncertainty, such as the "mystery motivator" technique, have been demonstrated to be very effective in improving homework performance (Moore, Waguespack, Wickstrom, Witt, & Gaydos, 1994).

Many parent-training programs have been developed to improve the homework performance of children. Examples of these programs include *Winning the Homework War* (Anesko & Levine, 1987), *Homework Without Tears* (Canter & Hausner, 1987), and *Sanity Savers for Parents: Tips for Tackling Homework* (Olympia, Jenson, & Hepworth-Neville, 1996). Most of these programs present useful interventions that involve modifying both the antecedents and the consequences of homework behavior. Although many of these programs are based on sound principles of instruction and incorporate components that have been empirically demonstrated to be effective, they have some limitations, particularly for the treatment of children with AD/HD and LD. First, most of these programs focus solely on the training of parents and do not incorporate the child and teachers into the treatment in a meaningful way. Offering a more comprehensive program that involves the child and teachers in the planning and implementation of interventions can be extremely useful and may augment the benefits of parent-training programs (Weiner, Sheridan, & Jenson, 1998). Second, these programs were designed for students with homework problems but not specifically for children with AD/HD or LD. The short attention span, lack of persistence, and disorganization typical of children with AD/HD, and present in many students with LD, very often result in homework problems that are significant and contribute to substantial academic impairment and highly conflictual parent-child interactions (DuPaul & Stoner, 2003). Third, most parent training programs fail to closely monitor the integrity with which parents implement the

interventions. Fourth, there is very little empirical support for the effectiveness of these programs (Olympia et al., 1994). Most of these programs have not been systematically evaluated using multimethod assessment measurement procedures.

A particularly promising approach to the behavioral treatment of homework problems is goal setting with contingency contracting (Kahle & Kelley, 1994; Miller & Kelley, 1994). This strategy consists of training parent and child to (a) establish realistic goals for homework completion, accuracy, and duration; (b) evaluate performance in relation to established goals; and (c) administer positive reinforcers, using a menu of reinforcers negotiated by the parent and child, contingent on the child's attainment of goals. Kahle and Kelley (1994) demonstrated the superior of this strategy to a standard parent training intervention for improving parent-ratings of homework performance, as well as children's actual performance on homework assignments. These results strongly suggest that goal setting with contingency contracting should be a major component of a comprehensive homework intervention program.

Student-Mediated Interventions

Despite the well-documented effectiveness of using external agents (e.g., parents and teachers) to carry out behavioral change programs, there are multiple drawbacks to these procedures. These include loss of actual teaching time, difficulties in observing and providing consequences to behavior consistently across subjects and settings, lack of generalization of skills, and the association of parents and teacher with the administration of negative contingencies (Kazdin, 1975). Behavioral techniques that minimize the role of external agents and assign greater control of contingencies to individuals and groups of students provide a means to overcome these disadvantages.

Self-Management. Self-management encompasses several techniques that can be divided into two general types: verbally mediated strategies, which involve overt and covert rehearsal, and contingency management procedures. Collectively these include self-instruction, self-assessment (i.e., monitoring, evaluating, and recording), self-determination of reinforcers, and self-administration of reinforcers (Bornstein & Quevillon, 1976). A central tenet of self-management is that the control of the contingency rests with the individual.

The literature contains several descriptions of intervention procedures based on self-management (e.g., Karoly & Kanfer, 1982; Meichenbaum & Goodman, 1971; Roberts & Dick, 1982; Smith, Young, Nelson, & West, 1992; Shapiro, 1986). Homer (1987) developed a four-stage, problem-solving model used with parents to improve homework performance (i.e., establish a notebook system; design a daily schedule; use verbal problem solving; and fade out prompts). Unfortunately, Homer provided no evaluation data of these procedures. Fish and Mendola (1986) used similar verbal self-instructional techniques with three children to improve homework completion in math, reading, and language arts. These techniques were effective in producing significant increases in homework completion across students, with excellent follow-up results (i.e., approximate average increase of 40%). Although these authors provided data on homework completion, they did not present accuracy data for the assignments.

The "Homework Teams" homework program (Olympia, Andrews, Valum, & Jenson, 1991) is a peer-mediated, student driven homework program that utilizes positive peer influences to reinforce homework completion. Various options allow teachers to tailor the basic model to specific circumstances, student characteristics, and problem

situations. The program provides students with daily feedback and maximizes opportunities for reinforcement. Because homework that conforms to proven teaching methods shows the greatest relationship to achievement gains (Olympia et al., 1994), the "Homework Teams" teacher manual provides a review of good homework practices, and presents several key aspects of effective homework practices.

Program outcomes have been reported for two populations: normal but underachieving sixth grade students and self-contained, elementary students with behavior disorders (Olympia, Jenson, & Sheridan, 1992). Results indicated that students can reliably implement program procedures and are motivated to complete homework accurately. Significant gains were seen on curriculum-based measures and standardized tests of math achievement as a function of the program. Furthermore, parents reported fewer homework avoidance tendencies and increased motivation to complete work independently and accurately.

Evaluation of self-management outcomes indicates that they foster independent growth and development in children's academic and social skills (Fish & Mendola, 1986). Self-management procedures also promote behavioral generalization across time and settings (Holman & Baer, 1979). The natural progression of homework from supervised study to independent practice appears uniquely suited to self-management interventions (Olympia et al., 1994).

There are also clear limitations to the self-management literature. Self-management interventions are often poorly defined and the specific terminology has become idiosyncratic and misapplied (Olympia et al., 1994). Specific and clearly articulated guidelines that outline the steps by which to train self-management skills to

students are lacking. Furthermore, there is significant variability in true adherence to procedures (Fantuzzo, Rohrbeck, & Azar, 1986). Despite these limitations, self-management approaches show great promise for ameliorating multiple academic problems, including homework compliance (Cooper, 1989). They are potentially superior to teacher- and parent-mediated interventions as they drastically limit the role of external agents. Self-management approaches address many of the limitations of parent- and teacher-mediated interventions (i.e., loss of teaching time, difficulties in observing and providing consequences to behavior consistently across subjects and settings, lack of generalization of skills, the association of parents and teacher with the administration of negative contingencies).

Having reviewed a multitude of general homework interventions, we now turn our attention to homework interventions designed for specific populations of students. Many of the types of interventions reviewed above have been adapted for specific populations of students and subsequently evaluated. First, homework interventions designed specifically for students with AD/HD are considered. This is followed by a review of homework interventions designed to specifically address the homework difficulties of students with LD.

Homework Interventions for Students with AD/HD

Unfortunately, there is limited research on interventions designed to specifically address the homework problems of students with AD/HD. However, one type of intervention – self-management – has shown considerable promise for addressing the homework problems of students with AD/HD. In self-management interventions, students learn to self-evaluate, monitor, and reinforce academic skills. Although the

research supporting the use of self-management interventions to address the homework problems of students with AD/HD is preliminary, the findings are promising and suggest that self-management interventions are particularly appropriate for students with AD/HD. At the secondary level, various authors commonly recommend self-management interventions for students with AD/HD (Barkley, 1997; DuPaul & Weyandt, 2006), as these strategies may be more feasible than teacher- or parent-mediated interventions. Notable limitations of the studies evaluating self-management interventions impact on homework include small sample sizes and the fact that only one study (Merriman & Codding, 2008) has examined homework accuracy directly. DuPaul and Stoner (2003) suggested that both homework completion, defined as the percentage of items attempted, and the accuracy with which student complete those items are important variables to examine when addressing the homework challenges of students with AD/HD. This is supported by research illustrating that interventions targeting homework completion have resulted in corresponding increases in homework accuracy (Cancio, West, & Young, 2004; Miller & Kelley, 1994; Olympia, Sheridan, Jensen & Andrews, 1994).

Gureasko-Moore et al. (2006) examined the efficacy of a self-management intervention for improving the organizational skills of three adolescents with AD/HD. Using a multiple baseline design, the authors demonstrated that all three participants improved their classroom preparatory skills, including coming to class on time, with pencils, paper, and homework.

Meyer and Kelley (2007) demonstrated that self-monitoring, a component of self-management, was as effective as parent monitoring for improving homework behavior. Meyer and Kelley examined a treatment strategy that tackled several aspects of

homework challenges, such as organizing materials and initiating assignments. The researchers compared the effects of self- and parent-monitoring on homework performance and study skills with middle school students identified as having AD/HD. Compared to wait-list controls, students who either self-monitored or whose parents served as external monitors demonstrated improvements on assignment submission as well as survey ratings of homework problems and classroom performance. Effects were maintained one month following treatment termination.

Langberg et al. (2008) examined the effectiveness of an 8-week organization and homework management intervention for children with AD/HD. The manualized intervention curriculum included three specific components: (a) physical organization of materials (book bag, binder, and locker), (b) accurate recording of homework and tests in a planner, and (c) long-term planning for tests and projects. Participants in grades 4-7 were randomly assigned to treatment or wait-list control. The intervention was delivered through a 2-day-per-week after-school program that lasted 8 weeks. Measures of physical organization and homework recording demonstrated that children in the intervention group improved their organization skills during the 8-week intervention and that these gains were largely maintained at 8-week follow-up. These organizational skills gains translated into significantly improved parent ratings of academic functioning. Although teacher ratings of academic performance did not differ significantly across groups, children in the intervention group made small gains. In addition to improvements in parent ratings of homework problems, the intervention resulted in gains of class grades as participants showed a small but significant increase in overall GPA.

Self-management interventions have also been evaluated as part of a multimodal package of psychosocial interventions. The Challenging Horizons Program (CHP) consists of multiple skills-focused interventions, including organization, note-taking, and study-skills interventions. The CHP interventions have been evaluated as delivered through an after-school program (Evans, Langberg, Raggi, Allen, & Buvinger, 2005; Langberg et al., 2006) as well as through teacher consultation (Evans, Serpell, Schultz, & Pastor, 2007). Participation in CHP is associated with improved academic performance as measured by parent and teacher ratings of academic functioning and improvements in school grades (Evans et al., 2007; Langberg et al., 2006).

Homework Interventions for Students with LD

Various parent-, teacher, and student-mediated interventions have also been used to improve the homework performance of students with LD. All three types of interventions have shown promise for ameliorating the homework difficulties of students with LD. However, similar to general and AD/HD specific homework interventions, self-management interventions show particular promise for addressing the homework difficulties of students with LD as they are as effective as parent- and teacher-mediated interventions but lack many of the limitations inherent in interventions that rely on external agents.

Rosenberg (1989) examined the effectiveness of supplemental homework assignments on the acquisition of basic skills by students diagnosed with LD. Experiment 1 found that homework was effective for students with LD only when (a) rate of homework completion equaled or exceeded 70%, (b) the percentage correct on homework assignments averaged 70% or above, and (c) a student demonstrated at least

moderate acquisition of the material during checks of performance. Experiment 2 formally tested the effectiveness of homework assignments structured specifically to address these identified factors. In order to maximize the probability of correct homework being returned regularly, the homework assignments included several distinct features. One, each student's assignment (spelling word list) was personalized. Two, the cooperation of parents was directly solicited. Daily homework assignments were divided into two components: an orally administered test that the parent administered and an independent practice component. Rosenberg asked parents to (a) administer the daily practice test and (b) sign all written homework assignments. Parent signatures indicated that they administered the practice test and that the child independently completed the independent practice component. Third, Rosenberg established a classroom-based token program that rewarded students for completion of their homework assignments and compliance to the rules of the homework procedure (i.e., obtaining parent signature). These procedures were successful as they resulted in all four of the subjects completing high quality homework at high rates. All subjects returned more than two-thirds of their assignments. Average rates of correct performance ranged from 83% to 99%. Three of four students showed improvements on daily test performance.

Sah and Borland (1989) trained parents of students who were both learning disabled and gifted to use homework completion timetables (e.g., homework is to be done from 4:45 to 5:50 pm) and noncoercive behavioral discipline techniques to increase homework completion. From baseline to study end, students showed improved grades and behavior, but no decrease in the number of incomplete homework assignments.

Callahan, Rademacher, and Hildreth (1998) trained parents of 6th- and 7th-grade at-risk youth to monitor and check homework, use materials provided, and role-play homework situations. Students were trained to (a) self-monitor, (b) self-record, (c) self-reinforce, and (d) self-instruct and set goals. Students whose parents implemented the program strategies accurately and consistently showed increased homework completion, homework quality, and scores on a standardized math test than students whose parents did not follow through.

O'Melia and Rosenberg (1994) examined the effects of Cooperative Homework Teams (CHT) on the rate of mathematics homework completion, percentage correct on homework, and a norm-referenced global measure of mathematics achievement. Participants, 171 middle school students with LD or emotional disturbance, were randomly assigned to either CHT or a control condition. Results found significant differences between treatment and control conditions on rate of homework completion and percentage correct on homework with the treatment group completing more homework more accurately than the control condition. However, the significant effects of CHT on the direct measures of homework did not result in advances in achievement. Post-hoc analyses indicated that grade level was a mediating factor as CHT was less effective for 6th than for 7th and 8th graders. No significant effects were noted for either type of disability or level of special education service.

Four studies have focused directly on teaching students with LD skills targeted at improving their homework performance. In the first, Lenz et al. (1991) explored the impact of a goal-attainment intervention related to the completion of project-type assignments on six 12-24 year old students with LD. They employed a multiple-baseline

across subjects design with one replication. They taught students to use a Student Management Guide, which functions as a memory and cueing technique to prompt students to implement two components of the goal-attainment strategy: goal setting and goal actualization. In the goal-setting component, students learned to identify assignment variables, generate and evaluate options for completing the assignment, and create a goal statement related to the assignment. The goal actualization component involved listing the steps necessary to complete the assignment, incorporating the identified assignment variables in the implementation plan, and using self-monitoring to evaluate and self-reinforcement to acknowledge completion of each step in the plan. Training in the goal-attainment procedures was effective in increasing the number of projects successfully completed and the quality of goal setting and goal actualization responses.

In a later study, Trammel et al. (1994) utilized self-monitoring procedures to increase the number of daily homework assignments completed by 8 students (6 male, 2 female) with LD who ranged in age from 13 to 16 and attended grades 7 through 10. The experimental procedure involved the use of a sheet listing all daily assignments given by regular classroom teachers. Students were required to pick up a blank sheet each Friday for the coming week. The students carried the assignment sheet to every class and wrote the following days' assignments on the sheet. The student brought the sheet, textbooks, and materials to the resource room during his or her next assigned hour. The second phase involved students graphing their homework completion data. After three days of graphing, they were required to set a goal for the next three days. A multiple-baseline across subjects demonstrated a clear relationship between the introduction of self-

monitoring of assignments and an increase in assignments completed. Goal setting and self-graphing of data appeared to increase this effect.

A similar study by Shimabukuro et al. (1999) investigated the effects of self-monitoring of academic productivity and accuracy on the academic performance and on-task behavior of 3 male students (1 6th grader, 2 7th graders) with both LD and ADHD. The authors taught students to self-monitor and self-graph their academic performance for reading comprehension, mathematics, and written expression. The teachers observed and recorded on-task behaviors. A single group, multiple baseline design across the three academic areas assessed effectiveness of the intervention. All three students made gains in academic productivity and accuracy, and their on-task behaviors improved across all academic areas.

The most recent study, conducted by Hughes et al. (2002), used a multiple-probe across-students design to evaluate the effects of teaching students with LD an assignment completion strategy called the PROJECT strategy. Participants were 9 middle-school students between the ages of 12 and 15 who were classified as having a learning disability. These students participated in mainstream academic classes for at least three periods per day. Students learned the PROJECT strategy. The strategy steps focused on the complete sequence of overt and cognitive behaviors involved in assignments completion such as, recording assignments quickly and accurately, analyzing assignments in terms of amount of time/effort needed, devising a plan for assignment completion based on this analysis, working on the assignment, and turning it in. Additionally, the strategy also included metacognitive behaviors such as self-monitoring, self-instruction, and self-evaluation. The first letters of the major steps formed the first-letter mnemonic

device “PROJECT,” which students used to remember the names of the steps so that they could instruct themselves on what to do next. Results of the study indicated that middle school students with LD can learn, apply, and maintain their use of a comprehensive strategy designed for independently recording and completing assignments in such a way that their rate of assignment completion in general education classes increases and the number of requirements met increases. Better quarterly grades and higher teacher ratings for a majority of students were associated with these improvements. Further, for the large majority of students, these changes occurred after relatively little instructional time (approximately 7 hours spread over 4 weeks). Higher levels of performance were maintained after instruction was discontinued. These positive findings are similar to the positive results seen in other studies that focused on improving the homework performance of students with LD via instruction in organizational/self-management skills (e.g., Lenz et al., 1991; Shimabukuro et al., 1999; Trammel et al., 1994). However, the Hughes et al. (2002) study demonstrated that students could independently perform strategy steps to record and complete assignments with no prompting from parents and teachers and without the implementation of artificially contrived contingencies.

Need for a General Homework Intervention

Given the well-documented positive association between homework and academic performance (Cooper et al., 1998; Cooper, 2001; Cooper et al., 2006), and the fact that large numbers of students with and without disabilities struggle with homework (Epstein et al., 1993; Lahey et al., 1994; Polloway et al., 1992; Schellenberg et al., 1991), it seems essential that an intervention that can improve the homework performance of any student with homework problems be identified. Such an intervention would enable

school districts to efficiently address the needs of its students. Because the connection between homework and academic performance is strongest in middle and high school Cooper et al., 2006), and because the homework difficulties of students tends to exacerbate as they get older (Schellenberg et al., 1991), interventions targeted at the middle and high school level seem particularly important.

Research reviewed above has identified a number of common difficulties associated with homework problems that cut across disability category. Students with AD/HD, LD, and those without documented disabilities tend to display a variety of problems that are likely to interfere with homework completion (Power et al., 2006). These problems include academic skill deficits, poor communication and organizational skills, difficulty with tasks that demand voluntary, selective, and sustained attention, poor memory and poor self-monitoring. Research reviewed previously has shown that students with homework problems have a number of common characteristics that interfere with every step of homework completion, including understanding assignments, accurately recording them, remembering to take materials home, setting aside time to work, organizing necessary materials, following through and completion the work, putting it in a safe place, and then remembering to take it back to school. Recently, Power and colleagues (Power et al., 2006) investigated patterns of homework problems, as assessed by parent reports on the Homework Problem Checklist (HPC), of children referred for evaluation and treatment of AD/HD and those in general education. Exploratory factor analysis identified two distinct homework problem factors for general education students: Inattention/Avoidance of Homework and Poor Productivity/Nonadherence with

Homework Rules. Exploratory factor analysis of the clinic-referred sample revealed a factor structure that was highly similar to that of the general sample.

The current body of research on homework interventions suggests that self-management interventions may be the best type of intervention to help all students with homework difficulties. Self-management interventions have been found to be effective in alleviating the homework problems of students with AD/HD (e.g., Gureasko-Moore et al., 2006; Langberg et al., 2008; Merriman & Codding, 2008; Meyer & Kelley, 2007; Swartz et al., 2005) and those with LD (e.g., Hughes et al., 2002; Lenz et al., 1991; Shimabukuro et al., 1999; Trammel et al., 1994). Further, self-management interventions do not necessarily require direct teacher or parent involvement. This is important for several reasons. First, direct parent and/or teacher involvement may not be possible for any number of reasons (i.e., resistance, time constraints, etc.). Second, parent involvement may actually have deleterious effects. Parents of general and special education students have voiced concern that parental help may actually cultivate unwanted tendencies such as dependency or helplessness in the child (Levin et al., 1997). In addition, if helping with homework increases tension between parents and children and causes frustration and disappointment, it may actually be counterproductive to the child's functioning in school and general well being (Smilansky et al., 1986). Parents' negative attitudes and low expectations for their children combined with doubts about their own self-efficacy in helping their children as well as exasperating and unpleasant interactions around homework reduce the likelihood that homework will contribute in positive ways to family life (Jayanthi et al., 1995; Polloway et al., 1994). Third, focusing on directly teaching students the skills needed to successfully complete homework promotes

students' independence and feelings of self-control and self-efficacy, which, in turn, will improve the probability of maintenance and generalization.

Coaching

A particularly promising, comprehensive approach to teaching self-management that may be useful for addressing several aspects of the homework problems for all secondary students is coaching (Dawson & Guare, 2000; DuPaul & Weydant, 2006; Merriman & Codding, 2008). Coaching, as described by Dawson and Guare, consists of goal setting, self-monitoring, performance feedback, and/or contingency management and may be particularly beneficial because students generate goals, create plans for achieving these goals, and monitor outcomes with the assistance of a coach. Accordingly, coaching is a systematic training process that provides the necessary support a student needs to set and accomplish long-term goals. As the student meets with success, the support of the coach is systematically faded. With the support of the coach, the student anticipates potential obstacles to goal attainment, generates solutions to barriers, and identifies supports, at school and at home, that can the student can employ to help accomplish goals. Coach and student review progress toward long-term goals at each meeting to support the development of goal-directed persistence. They also identify at least one related short-term goal, which represents a smaller, obtainable, incremental step toward the long-term goals and helps to reinforce goal-oriented behavior (Swartz et al., 2005).

The conceptual basis for coaching stems from the behavior analytic concept of correspondence training (Paniagua & Baer, 1982). Correspondence training is a method of reinforcing the *verbal statement of intent* to engage in a behavior and the *actual*

engagement in that behavior. Risley and Hart (1968) examined the potential of correspondence training and found that behavior could be changed indirectly by programming reinforcement contingently on the relationship between verbal statements of intent and actual behavior performance.

Each stage of the coaching model corresponds to an aspect of executive skills (Dawson & Guare, 2000). Each coaching session incorporates the strategy of correspondence training into each coaching session via a verbal and written commitment on the part of the student to carry out the objectives for that day. Coaching is intended as a systematic training process that initially provides a person with access to the executive skills that he or she needs to accomplish a goal. As the executive skills of the individual improve, the support of the coach is systematically reduced. Coaching operates simultaneously on three levels. The first involves the accomplishment of a task or set of tasks. The second continuously draws a relationship between the day-to-day tasks and the student's longer-term goals, which satisfies the individual's own sense of efficacy and accomplishment. The third level teaches, on a daily basis, a set of executive skills and over time gradually reduces the coach's role, which increases the student's active utilization of these skills. To promote generalization and transfer the coach encourages the development of new goals and student's use of executive skills to achieve these goals (Dawson & Guare, 2000).

The first step of the coaching process is to help the student formulate a goal that he or she would like to achieve. The identified goal can be a daily, weekly, or marking period goal. Once the goal is established, the coach facilitates a discussion of the potential obstacles that the student may encounter as well as the steps he needs to follow

in order to achieve the goal(s). Further, the coach helps the student identify supports, both within the school and at home, that the student can draw on to help him reach the goal(s). Even though this discussion takes place at the beginning of the coaching process, coach and student frequently refer to the goal throughout the process. This reference feature supports the development of goal-directed persistence, which hinges on keeping the long-term goal clearly in mind (Dawson & Guare, 2000).

The second step of the coaching process is for the coach and student to meet on a daily basis to make plans for what they will work on that day as an intermediate step in accomplishing the long-term goal. The daily coaching session is used to evaluate how successful they have been thus far. Typically, this involves the coach asking the student a series of questions designed to help the student formulate a plan for the day. The first part of the session is spent reviewing the plan formulated the day before and evaluating the student's success at following the plan. The second part of the daily session is spent formulating a new daily plan in depth, both to identify all the necessary steps as well as to anticipate problems the student may encounter (Dawson & Guare, 2000).

Once a routine is established, the daily contact ranges from 5 to 10 minutes. Over time daily coaching sessions are gradually faded, first by reducing coaching sessions to every other day, then once per week or every other week, and eventually faded out altogether. If the student experiences failure as a result of the fading of the coaching sessions, they are scheduled more frequently again (Dawson & Guare, 2000).

Two known studies have examined coaching using the traditional format of assigning an adult (rather than a peer) in the role of the coach. At the post-secondary level, Swartz et al. (2005) used this procedure with 1student with AD/HD who

subsequently exhibited increases in study time, grades, and self-reported study habits. The student's long-term goals included increasing scheduled study time and earning a grade of "B" in the health class she had been failing. Short-term objectives consisted of scheduling time daily for reading or studying, particularly for health class. Naturally occurring reinforcers, such as obtaining a desired grade point average, were identified in addition to those implemented by the coach (e.g., praise). Weekly meetings with the coach were arranged who also placed phone calls or sent e-mails to the student every other day. This procedure led the student to successfully accomplish her long-term goals but the authors noted a limitation that they did not fade the frequent contact with to the student. Therefore, it is unknown whether the student would be able to persist towards these goals in the future without this level of support.

Merriman and Codding (2008) utilized a multiple baseline across subjects design to examine the effects of coaching on the completion and accuracy of mathematics homework submitted by 3 high school students with AD/HD who were nominated by their resource room teachers as potentially benefiting from such an intervention. This study was the first author's pilot study for this dissertation. Results indicated that coaching improved the completion and accuracy of mathematics homework for all 3 participants. Improvements were maintained during fading and follow-up phases for 2 of the students (these phases were not implemented for the third student, as she did not meet her long-term goals). Also notable is that all 3 students rated the treatment package as highly acceptable. Compared to baseline performance, all 3 students improved their mean percentage of problems completed by 60, 66, and 88%. This represents considerable improvement as students were submitting an average of 29% or fewer homework

assignments with accuracy averaging at or below 11% prior to intervention implementation. By the end of the study 2 students were completing 80% or more of homework assignments with at least 80% accuracy, thereby reaching their long-term goals. Improvement for the third student required more sessions but by the last six days of the intervention she was completing at least 80% of assignments with 80% or better accuracy.

Although this intervention (Merriman & Codding, 2008) initially required the coach to meet with each student between 50 and 75 minutes weekly, as student performance improved, meetings with the coach were successfully reduced. That is, despite fading the frequency of meetings with 2 students, their percentages of homework completion and accuracy were maintained and even increased. This level of performance also continued after the intervention was terminated. These findings suggest that, although school professionals' involvement in coaching procedures may initially be time intensive, the efficiency of the intervention improves and student outcomes are likely to be maintained. This is an important extension of the preliminary research on coaching as it improves the practicality of this intervention.

Although the research on coaching suggests it is a promising intervention that may be useful for addressing several aspects of the homework problems for all secondary students, the present body of research is still preliminary and several notable questions still need to be addressed.

First, despite the success of the treatment package when administered individually, coaching is initially very time intensive. Consequently, a school professional's caseload typically would not permit him or her to implement the

intervention with more than a few students at once. For coaching to be used as a more broad-based intervention, this limitation would have to be addressed. In order to address the potential practical problems associated with this treatment package, there must be follow-up research to examine whether or not the intervention is successful when implemented in a group format. That is, students could be taught to set goals and self-monitor their performance via group rather than individual sessions. A second possible way to address the time-intensive nature of this intervention might be to explore the efficacy of training support personnel, such as teaching assistants or paraprofessionals who work with the students in the classroom daily, to implement the intervention.

Second, no study has researched the effectiveness of coaching when utilized with students with LD and general education students. Although it is hypothesized that coaching would be as effective for students with LD and students without documented disabilities, this hypothesis needs empirical validation.

Third, research on coaching thus far has employed single-case designs only. A study employing a treatment-control group design with random assignment of students to groups would significantly bolster the empirical support for coaching.

Summary and Rationale for Research

A review of the literature reveals that homework is a staple in American education that accounts for almost one-fourth of the total time American students spend on academic tasks (West Chester Institute for Human Services Research, 2002). Research on the effectiveness of homework provides ample evidence that homework has a positive effect on learning and academic performance, particularly for middle and high school students (Cooper, 1989; Cooper et al., 2006).

Unfortunately, the rate of consistent homework completion is dismally low in middle and high school students (Schellenberg et al., 1991) with approximately 28% of average-achieving students and 56% of students with LD experiencing problems completing their homework (Polloway et al., 1992). Children with attention and learning problems, including those with AD/HD, are particularly hampered by homework difficulties. Research has consistently shown that the majority of children with either LD or AD/HD display frequent and severe homework problems that are more severe than their non-disabled peers (Epstein et al., 1993; Lahey et al., 1994). The need to understand and address the homework difficulties of all children, especially those with attention and learning problems, is underscored by research demonstrating that homework problems are associated with numerous impairments in addition to academic underachievement, including parent-child conflict (Daniel-Crotty, 2000), family-school relationship problems (Olympia et al., 1994), anxiety, and depression (Karustis et al., 2000).

Research has identified a number of common difficulties associated with homework problems that cut across disability category. Students with AD/HD, LD, and those without documented disabilities tend to display a variety of problems that are likely to interfere with homework completion (Power et al., 2006). These problems include academic skill deficits, poor communication and organizational skills, difficulty with tasks that demand voluntary, selective, and sustained attention, poor memory and poor self-monitoring. Research has shown that students with homework problems have a number of common characteristics that interfere with every step of homework completion, including understanding assignments, accurately recording them, remembering to take materials home, setting aside time to work, organizing necessary

materials, following through and completion the work, putting it in a safe place, and then remembering to take it back to school.

Given the well-documented positive association between homework and academic performance and that fact that large numbers of students with and without disabilities struggle with homework, it appears essential to identify an intervention that can improve the homework performance of any student with homework problems. Because the connection between homework and academic performance is strongest in middle and high school and because the homework difficulties of students tends to exacerbate as they get older, interventions targeted at the middle and high school level seem particularly important.

The current body of research on homework interventions suggests that self-management interventions may be the best type of intervention to help all students with homework difficulties. Studies have demonstrated self-management interventions to be effective in alleviating the homework problems of students with AD/HD (e.g., Gureasko-Moore et al., 2006; Langberg et al., 2008; Merriman & Codding, 2008; Meyer & Kelley, 2007; Swartz et al., 2005) and those with LD (e.g., Hughes et al., 2002; Lenz et al., 1991; Shimabukuro et al., 1999; Trammel et al., 1994). Further, self-management interventions do not necessarily require direct teacher or parent involvement. This is important for several reasons. First, direct parent and/or teacher involvement may not be possible for any number of reasons (i.e., resistance, time constraints, etc.). Second, parent involvement may actually have deleterious effects. Third, focusing on directly teaching students the skills needed to successfully complete homework promotes students'

independence and feelings of self-control and self-efficacy, which, in turn, will improve the probability of maintenance and generalization.

A particularly promising, comprehensive approach to teaching self-management that may be useful for addressing several aspects of the homework problems for all secondary students is coaching (Dawson & Guare, 2000; DuPaul & Weydant, 2006). Coaching, as described by Dawson and Guare, consists of goal setting, self-monitoring, performance feedback, and/or contingency management and may be particularly beneficial because students generate goals, create plans for achieving these goals, and monitor outcomes with the assistance of a coach. Coaching has been shown to be effective in improving the homework completion and accuracy of high school students with AD/HD (Merriman & Codding, 2008) and increasing study time, grades, and study habits for post-secondary student (Swartz et al., 2005). Although the impact of coaching on the homework difficulties of students with LD has not been explored, many of the components of coaching have been found to be effective in ameliorating the homework difficulties of students with LD.

Hypotheses

The researcher designed this dissertation to further explore the effectiveness of the self-management intervention referred to as coaching (Dawson & Guare, 2000). This dissertation sought to provide further, more robust support for coaching by utilizing a between groups experimental design with two treatment groups to examine the effectiveness of coaching in alleviating the homework difficulties of middle school students with significant homework problems, regardless of disability category. Further, this dissertation examined the feasibility of executing the coaching intervention in a

group, rather than individual format. This study employed coaching as a group intervention to address one of the major limitations of coaching: the substantial time commitment required of the coach (50 and 75 minutes weekly prior to fading the intervention). Due to the coaching time required when implementing the intervention individually, a school professional's caseload typically would not permit him or her to implement the intervention with more than a few students.

This dissertation attempted to answer five primary questions. First, is treatment-as-usual (homework center) an effective treatment for improving the homework completion of middle school students identified as having significant homework problems? Second, is group coaching an effective treatment for improving the homework completion of middle school students identified as having significant homework problems? Third, is group coaching more effective than treatment-as-usual in improving the homework completion of middle school students identified as having significant homework problems? Fourth, is treatment-as-usual and group coaching differentially effective for students with disabilities, and those with no documented disabilities? Fifth, if treatment-as-usual and/or group coaching is shown to be successful in increasing homework completion, what effect will this increase have on students' academic performance? Based on the literature review, this dissertation investigated the following research hypotheses:

HO1: Participants with significant homework difficulties who receive treatment-as-usual (homework center) will significantly increase their homework completion.

HO2: Participants with significant homework difficulties who receive coaching will significantly increase their homework completion.

HO3: Participants with significant homework difficulties who receive group coaching will increase their homework completion over and above increases resulting from treatment-as-usual (homework center).

HO4: Treatment-as-usual will be differentially effective for students with disabilities, and those with no documented disabilities. Students without disabilities will benefit more from treatment-as-usual compared to students with documented disabilities.

HO5: Group coaching will not be differentially effective for students with disabilities, and those with no documented disabilities.

HO6: Homework completion improvements, whether achieved via treatment-as-usual or coaching, will lead to increased academic performance as measured by class grades.

CHAPTER III

Method

This chapter provides a description of the participants, recruitment procedures, setting, materials/measures, interventions, and procedures that formed the basis of this study.

Setting, Recruitment, and Participants

School. Participants were 57 middle school students (grades 6 to 8) with and without disabilities who were having substantial difficulty with homework. Participants were recruited from a public middle school located in a middle- to upper-middle class suburb of New York City that serves 1,275 students. Characteristics of the school were obtained from the "New York State District Report Card" from the New York State Education Department for the 2008-2009 school year. The student racial/ethnic origin is as follows: 88% White; 8.0% Hispanic or Latino; 2.0% Asian, or Native Hawaiian/Other Pacific Islander; 1.0% Black or African American; 1.0% Multiracial; and less than 1% American Indian or Alaskan Native. One percent of students attending the middle school are identified as Limited English Proficient, and 5% are eligible for free or reduced lunch.

Recruitment. The researcher's goal was to recruit 128 middle school age students (selected from grades 6 to 8) with a history of problematic homework completion to be the participants in this study. According to Cohen (1992), the study needed 128 participants to have a power of .80 with two groups assuming an alpha of .05. After obtaining consent from the district's board of education, special education department, and building principal, the researcher asked general and special education teachers to nominate students who were experiencing significant difficulties with homework

completion. “Significant difficulty” was defined for the teachers as a lack of homework completion that negatively impacted the student’s performance (i.e., grade) in one or more academic classes. The parameters and goals of the study, as well as the operational definition of significant homework difficulties, were presented to the entire middle school staff at the December faculty meeting. This meeting was chosen because it was the first scheduled faculty meeting that occurred after the completion of the first academic quarter. Teachers were asked to submit potential participants’ names via email or inter-office mail no later than December 23 (the last day of school before holiday recess). Two reminder emails were sent – one on each subsequent Friday following the initial staff presentation. Teachers had nominated a total of 126 students by the end of the two and a half week nomination period.

Parents of identified students were emailed the parental permission form and the consent form. Nine parents did not have an email address on file with the district. For these parents, the parental permission form and the consent form were mailed. The parental permission form (see Appendix A) outlined the parameters of the study, potential benefits and risks, time commitment on the part of the student, and indicated that participation was completely voluntary and could be discontinued at anytime. The consent form (see Appendix B) outlined what was expected of the parents should they choose to allow their children to participate in the study. In addition, the consent form also outlined the parameters of the study, potential benefits and risks, indicated the fact that participation was completely voluntary and could be discontinued at anytime. Interested parents were asked to sign and return both informed consent documents. Parents who did not respond after one week were emailed or mailed the informed consent

documents a second time. Parents who still had not responded after an additional week were emailed or mailed the informed consent documents a third time. After an additional week, the researcher telephoned potential participants' parents who had not responded. Fifty-seven parents (45% of those solicited) returned the informed consent documents by the end of the three-week recruitment period.

In addition to parent consent, the researcher asked participating students to provide assent (see Appendix C). After their parents provided consent, potential student participants met with the researcher at their school. The researcher divided the potential student participants into four smaller groups (three groups contained 14 potential student participants and one group contained 15 potential student participants). Each group met with the researcher separately in a classroom after school. During this meeting, the parameters of the study were orally described to the students, as was the fact that their participation was completely voluntary and refusal to participate in the study would in no way affect their grades or level of building and/or special education services. Following this oral description, each student read the assent form, and was given an opportunity to ask questions. All 57 potential student participants willingly signed the assent form.

Once the researcher received the signed parental permission form, consent form, and student assent form; the researcher distributed consent forms to the 46 teachers of the participating students. The teacher consent form (see Appendix D) outlined the parameters of the study, potential benefits and risks, time commitment on the part of the teacher, and indicated that participation by the teacher was completely voluntary and could be discontinued at anytime. All 46 teachers asked returned signed teacher consent forms.

Immediately after he received all consent documents for a student, the researcher asked teachers and parents to each complete a survey designed to measure perceptions of the frequency and intensity of homework problems (described below). These measures were used to further verify the presence of significant homework problems. Rating scales were either emailed or mailed to parents depending on parent preference. Teachers received rating forms via interoffice mail. To participate in the study, students had to receive a parent reported total score on Homework Problem Checklist (Anesko, Schoiock, Ramirez, & Levine, 1987) of 19 or greater. Anesko et al. specified 19 as the criterion for clinical status of homework problems. No students were excluded based on this criterion. The mean parent reported total score on the Homework Problem Checklist for the sample was 29.14 (*SD* = 9.19). Parents also completed a questionnaire (included with the rating scales) to provide demographic information concerning socioeconomic status, special education status, previous and current diagnoses, and history of previous and current homework interventions (see Appendix E).

Final sample. The final sample consisted of 57 middle school students (39 males and 18 females) in grades 6 to 8, with and without disabilities, who had substantial difficulty with homework. The racial/ethnic origin of student participants was as follows: 77% White (*n* = 44); 11.0% Hispanic or Latino (*n* = 6); 5.0% Black or African American (*n* = 3); 5.0% Multiracial (*n* = 3); and 2.0% Asian, or Native Hawaiian/Other Pacific Islander (*n* = 1).

Students without documented disabilities comprised 58% of the final sample (*n* = 33). The majority (*n* = 21, 88%) of students with documented disabilities were identified as having either a learning disability or ADHD. Fifty percent (*n* = 12) were classified by

the Committee on Special Education as Learning Disabled (LD). Thirty-eight percent (*n* = 9) were either classified by the Committee on Special Education as Other Health Impaired (OHI; *n* = 6) or identified under Section 504 (*n* = 3) due to a medical diagnosis of AD/HD. Two parent measures were used to verify the presence of AD/HD. To be eligible to participate in the study as a student with AD/HD, each student had to meet the AD/HD threshold on both measures (discussed below). All of the students identified as OHI or 504 met the threshold to participate in the study as a student with AD/HD. Six participants met criteria to participate as a student with AD/HD Combined Type and three participants met criteria to participate as a student with AD/HD Predominately Inattentive Type. The mean ADHD-RS Inattention domain percentile for participants identified as OHI or Section 504 was 92.78 (*SD* = 5.33), the mean BASC-PRS Attention Problems scale *T*-score was 67.11 (*SD* = 4.54), the mean ADHD-RS Hyperactivity-Impulsivity domain percentile was 70.11 (*SD* = 36.08), and the mean BASC-PRS Hyperactivity scale *T*-score was 61 (*SD* = 11.66).

Of the remaining 12% of participants identified as having a disability, 8% (*n* = 2) were classified by the Committee on Special Education having a Speech or Language Impairment (Sp/L), and 4% (*n* = 1) were identified by the Committee on Special Education as having an Emotional Disability (ED). The researcher also used the two parent measures to detect the presence of AD/HD related behaviors in participants who were not diagnosed with AD/HD. The investigator recorded the presence of these behaviors from parents' responses and used them to explore how treatment impacts them. Although only nine participants met criteria to participate as students with AD/HD, the sample as a whole demonstrated high levels of AD/HD related behaviors, particularly

inattention. The mean ADHD-RS Inattention domain percentile for those in the sample not identified as having AD/HD was 73.27 (*SD* = 21.48), the mean BASC-PRS Attention Problems scale *T*-score was 56.56 (*SD* = 10.00), the mean ADHD-RS Hyperactivity-Impulsivity domain percentile was 43.81 (*SD* = 31.79), and the mean BASC-PRS Hyperactivity scale *T*-score was 50.85 (*SD* = 10.47).

To summarize, the final sample included 33 students without documented disabilities for whom parents reported problems with inattention; 12 students with LD, 9 students with AD/HD, 2 students with Sp/L, and 1 student with ED.

Measures

Homework Problem Checklist (HPC; see Appendix F). The HPC (Anesko et al., 1987) is a 20-item checklist designed to measure parents' perceptions of the frequency and intensity of their children's homework problems. Anesko and colleagues created the HPC using data compiled from literature reviews as well as interviews with parents and professionals. Examples of statements include "produces messy or sloppy work," "procrastinates," "puts off doing homework." For each statement, respondents estimate the frequency of each problem's occurrence relative to the individual student according to the following scale: *never* (0), *at times* (1), *often* (2), and *very often* (3). Scores are then derived by summing the scores for the items. Sums range from 0 to 60, and higher scores represent more problematic homework behavior. Research has found the HPC to be internally consistent (.91) and to be sensitive to change produced by interventions (Foley & Epstein, 1991). The HPC is widely used in research to measure homework problems of students with AD/HD and LD. Parents completed the HPC at pre-treatment and post-treatment. The mean total HPC score was calculated at each of these

times for each group with 19 being the published criterion for clinical status (Anesko et al., 1987). Thus, all participants had scores of 19 or greater.

Academic Performance Rating Scale (APRS; see Appendix G). The APRS (DuPaul, Rapport, & Perriello, 1991) was designed to obtain teacher perceptions of specific aspects of a student's academic performance and abilities, as well as behavioral conduct in classroom settings. The APRS is a 19-item scale that includes items related to work performance in various subject areas (e.g., "Estimate the percentage of written math work completed relative to classmates."), academic success (e.g., "What is the quality of this child's reading skills?"), behavioral control in academic situations (e.g., "How often does the child begin written work prior to understanding the directions?"), and attention to assignments (e.g., "How often is the child able to pay attention without prompting him/her?"). Two additional items assess the frequency of staring episodes and social withdrawal. Teachers answer each item using a 1 (*never or poor*) to 6 (*very often or excellent*) Likert scale format. Seven items (nos. 12, 13, 15-19) are reverse keyed in scoring so that a higher total score corresponds with positive academic status.

The APRS consists of three components or subscales (i.e., Academic Success, Impulse Control, and Academic Productivity). The Academic Success subscale accounts for over half of the variance (DuPaul et al., 1991), which supports the construct validity of the APRS, as it was intended to assess teacher perceptions of the quality of students' academic skills. Although the Academic Productivity and Impulse Control subscales are highly correlated with the Academic Success subscale, both appear to provide unique information regarding factors associated with the process of achieving classroom success (e.g., work completion, following instructions, behavioral conduct).

DuPaul and colleagues (1991) found the APRS total and subscale scores to possess acceptable internal consistency, to be stable across a 2-week interval, and to evidence significant levels of criterion-related validity. APRS scores are highly correlated with criterion measures, such as academic efficiency, behavior ratings, and standardized academic achievement test scores. The APRS Total Score and two subscales have been found to have moderate validity coefficients and to share appreciable variance with several subtests of a norm-referenced achievement test and a measure of classwork accuracy. The internal consistency of the total APRS score for the current study ($\alpha = .88$) was "good" based on George and Mallery's (2003) rules of thumb for interpreting alpha coefficients. The total APRS score and all three subscales also were found to discriminate between children with and without classroom behavior problems. Teachers completed the APRS at pre-treatment and post-treatment. The mean total APRS was calculated at each of these times for each group.

ADHD Rating Scale - IV (ADHD-RS; see Appendix H). The ADHD-RS (DuPaul, Power, Anastopoulos, & Reid, 1998) includes a list of the nine inattention symptoms and the nine hyperactive-impulsivity symptoms of AD/HD. Parents indicate how frequently they observe their child engaging in such behavior on a Likert-type scale ranging from 0 to 3. Based on DSM-IV criteria, a child must display a significant number of symptoms in at least one of the two areas (inattention or hyperactivity-impulsivity) to be diagnosed with AD/HD. Available normative data for Likert scale ratings of each of the 18 DSM-IV (American Psychiatric Association, 1994) criteria for AD/HD provided percentiles for various total scores across both the Inattentive and Hyperactivity-Impulsivity domains (DuPaul et al., 1998). The researcher used these percentiles to

determine significant cut-off scores for AD/HD. All parents completed the ADHD-RS. To participate in the proposed study with a classification of AD/HD, each student had to rank at the 85th percentile or higher (i.e., one standard deviation or higher) on both the Inattention and the Hyperactivity-Impulsivity domains (AD/HD Combined Type) or on the Inattention domain alone (AD/HD Predominately Inattentive Type).

The Home Version of the scale (the version used in the study) has published alpha coefficients of: Total = .92, Inattention = .86, and Hyperactivity-Impulsivity = .88 (DuPaul et al., 1998). Alpha coefficients for the current study were comparable to published alpha coefficients, and were as follows: Total = .90, Inattention = .87, and Hyperactivity-Impulsivity = .85. The test-retest reliability Pearson product-moment correlations were: .85, .78, and .86 respectively. Additional interrater agreement between parents and teachers was moderate, with correlations as follows: Total score = .41, Inattention = .45, and Hyperactivity-Impulsivity = .40. To examine criterion validity issues, the authors compared the scores on the ADHD-RS with scores on the Conners' Rating Scales. The absolute values for the Pearson coefficients ranged from .22 to .88 (Lindskog, 2003).

Behavior Assessment System for Children – Parent Rating Scale (BASC-PRS). The BASC-PRS (Reynolds & Kamphaus, 1992) is a rating scale designed to broadly sample a child's behavior. Parents rate how often they observe their child engaging in various behaviors on a 4-point scale. The ratings result in 12 clinical and adaptive scales, including two scales that specifically measure AD/HD-like behaviors (Attention Problems scale and Hyperactivity scale), which are presented as *T*-scores. For clinical scales, any *T*-score of 60 or higher (i.e., at least one standard deviation above the

mean) is considered to be "at-risk." All parents completed the BASC-PRS. To participate in the proposed study with a classification of AD/HD, each student had to obtain a general norm group *T*-score at least one standard deviation above the mean (60 or higher; at-risk range) on both the Attention Problems scale and the Hyperactivity scale of the BASC – Parent Rating Scale (AD/HD – Combined Type) or on only the Attention Problems scale (AD/HD – Predominately Inattentive Type). This ensured that AD/HD symptomatology was at a specified threshold of severity.

Internal consistency reliability of the BASC is quite good (Reynolds & Kamphaus, 1992). The alpha coefficients vary somewhat based on the age of the child, but are typically in the mid .80's to .90's for adolescents. Alpha coefficients for the Attention Problems and Hyperactivity scales for the current study were comparable to published alpha coefficients, and were as follows: Attention Problems = .88 and Hyperactivity = .86.

Reliabilities are similar across genders. The internal consistency reliabilities for the clinical sample are similar to the general sample. The composites are more reliable than the scales, with almost all alpha coefficients falling in the low to mid .90's. One-month test-retest reliabilities are also quite high, in some cases exceeding the alpha estimates. The test-retest estimates are in the mid .80's to the mid .90's over a one-month period (Sandoval, 1998). Reynolds and Kamphaus used sophisticated modern techniques to construct the scales and study the relationship between scales. Confirmatory factor analytic techniques validated the authors' conceptualization of what is being measured. The manual reports correlational studies between the PRS and several other well-known parent report forms. The PRS correlates highly with the Child Behavior Checklist (.71 to

.84), and is moderately correlated with the Personality Inventory for Children – Revised and with the Conners' Parent Rating Scales (Sandoval, 1998).

Teacher reported homework completion. Classroom teachers recorded the number of homework assignments given and the number of assignments completed for each student every week during the 10-week intervention. The researcher calculated weekly homework completion percentages for each student by dividing the number of homework assignments completed by the total number of homework assignments, multiplied by 100. An assignment was deemed "complete" if the student had attempted at least 85% of total questions assigned. The homework coach and the student used each individual student's weekly homework completion data to help the student monitor progress toward his short- and long-term goals. For data analysis purposes, the researcher calculated the mean total homework grade for each group over two separate two-week periods, one a pre-treatment and one at post-treatment. He selected two-week periods to increase score stability. This permitted group comparisons at pre-treatment and post-treatment.

Student grade point average (GPA). Students' marking quarter GPA was obtained at pre-treatment and post-treatment via the school-generated report card.

Children's Intervention Rating Profile (CIRP; see Appendix I). The CIRP (Witt & Elliot, 1985) was used to assess participants' perceptions of the intervention. Students completed the CIRP after completion of the intervention. The CIRP is a 7-item, one-factor scale assessing the acceptability of the intervention with an average coefficient alpha of .86 (Turco & Elliott, 1986). The internal consistency for the current study (α = .73) was somewhat lower, but is still classified as "acceptable" according to George and

Mallery's (2003) rules of thumb for interpreting alpha coefficients. The items of the measure were modified slightly to reflect the intervention in the present study (see Appendix I).

Demographic questionnaire (see Appendix E). Parent or guardian of each participant completed a questionnaire (see Appendix E) designed to collect demographic information, socioeconomic status, special education status, previous and current diagnoses, and history of previous and current homework interventions.

Research Design and Procedures

The study used a between groups design with two treatment groups to compare the effects of treatment-as-usual (homework center) and group coaching. Students were randomly assigned to one of the two groups (see below). The study itself did not change dramatically even though the researcher was not able to recruit enough participants to reach the original recruitment goal. Because the study included fewer participants than originally intended, fewer sub-groups were necessary. Specifically, the original study design called for the treatment-as-usual group to be divided into two groups of approximately 30 participants each, and the coaching group was initially going to be sub-divided into four groups of approximately 15 participants each. As a result of enrolling fewer participants, the treatment-as-usual group was not subdivided, and the coaching group was sub-dived into three smaller groups rather than four (see below for details).

Pre-treatment. Prior to data collection and random assignment to treatments, the researcher explained the purpose of the study. He told student participants and their parents that the study would compare the effectiveness of the school's "typical" treatment for homework difficulties with an alternative intervention. After the researcher obtained

written consent and assent, parents completed the demographic questionnaire and the HPC. Teachers completed the APRS.

Following completion of the rating scales and the demographic socioeconomic survey, the researcher randomly assigned participants who met inclusion criteria to one of two groups – group coaching or homework center (treatment-as-usual) using a computerized randomized numbers table generator (http://www.stattrek.com). Twenty-nine participants were assigned to group coaching and 28 were assigned to homework center. To effect coaching procedures (see below) in an efficient manner, the investigator further subdivided the 29 student assigned to coaching into two groups of 10 participants each and one group of 9 participants. Both interventions (homework center and coaching) took place in classrooms within the middle school. Each group and subgroup met in different classrooms for a total of four classrooms. The homework center group occupied one classroom, and the coaching subgroups meet in the other three classrooms.

Following group assignment, both interventions lasted 10 weeks (the equivalent of one academic marking period). For 2 weeks prior to the beginning of the interventions, each student's English, Science, Social Studies, and Math teacher recorded the number of homework assignments given and the number of assignments completed. An assignment was deemed "complete" if the student attempted at least 85% of total questions assigned. The researcher calculated the mean total homework grade over that 2-week period for each group.

Homework center (treatment-as-usual). Participants in the treatment-as-usual group attended the "homework center" Monday through Thursday after school for 42-minutes for one marking period (10 weeks). The homework center is available to all

students, Monday through Thursday, and teachers typically suggest it to parents as an intervention when their child is experiencing homework difficulties.

Students reported immediately after school to a designated classroom in the middle school. Two teaching assistants already employed by the district were present and ensured that students worked quietly during the 42-minute session, but did not provide academic help to the students. The teaching assistants also recorded attendance information. Student's daily attendance was rewarded. Students were given one "raffle" ticket for each day they attended. At the end of each week, a drawing was held. The winning student got to choose a $15.00 gift card as a reward. Gift cards from various retailers were offered throughout the intervention. Essentially, the homework center provided a quiet, structured place to work on homework. The researcher verified student attendance daily by reviewing the attendance sign-in sheet maintained by the teaching assistants. Homework center attendance was cross-referenced with school attendance records. Students who were in attendance for the school day, but failed to stay after and attend the homework center were contacted the following day and reminded to attend the homework center daily. Participants' parents completed post-treatment HPC's; teachers completed post-treatment APRS's and provided homework completion data.

Group coaching. Participants in this group attended group coaching sessions Monday through Thursday after school for 42-minutes for one marking period (10 weeks). Participants were subdivided into three smaller groups in order to enable proper implementation of the treatment. Two groups consisted of 10 participants each and one group consisted of 9 participants. A different coach coached each subgroup, and subgroups meet in separate classrooms. The researcher coached one group, the school

psychology intern coached one group, and the school social worker coached one group. The researcher trained the school psychology intern and the school social worker in coaching. Training consisted of two 40-minute training sessions (see Appendix J).

The first group coaching session consisted of a general description of the treatment, an explanation of the importance of consistent homework completion, a detailed description of the coaching process, and an introduction to long- and short-term goal setting. Following this introduction, the coach discussed the results of the Homework Problem Checklist. Because all participants had met the clinical threshold (total score of 19 or greater), this discussion was general. The coach said, "Everyone's parents identified homework completion as problematic. For example, many of you procrastinate or put off doing homework and some don't complete homework at all." The coach then provided each student with his/her homework completion data from the prior 2 weeks and the *Long-Term Goals Planning Sheet* (see Appendix K). This sheet helped the student identify long-term goals and the potential obstacles that he might encounter as well as the steps he needed to follow in order to achieve the goal(s). Further, it helped the student identify supports, both within the school and at home, that the student could draw on to help him reach his goal(s). Coaches prompted students to complete this sheet as the initial session progressed.

With their pre-treatment level of homework completion in front of them, coaches then asked students to set a long-term goal for homework completion and several short-term objectives that built up to that goal. The coaches provided students with examples of both short- and long-term goals. They required students to set at least one short-term

objective. Coaches asked several students to share their long-term goal and short-term objective(s) with the group.

Once the goals were established, the coach asked students to think of potential obstacles that students may encounter as well as the steps they needed to follow in order to achieve the goal(s) they identified. Via group discussion, the coach helped students identify supports, both within the school and at home, that students could use to assist them with goal attainment.

During this first session, the coach taught students to complete the *Coach Monitoring Sheet* (see Appendix L). The *Coach Monitoring Sheet* helped students keep track of the "big picture" (i.e., upcoming tests and quizzes, long-term assignments, other responsibilities such as sports, clubs, and jobs). This sheet also helped students identify and document what they hoped to accomplish before the next coaching session (Today's Plans). This section included all academic tasks, including homework due the next day as well as beginning long-term projects or spending time studying for upcoming tests or quizzes. The individual student could also choose to work on behavioral goals (e.g., "participate more in class" or "stay for extra help"). Once the student had identified the tasks that he or she planed to do, the coach had the student specify when each task would be accomplished using the *Homework Schedule* (see Appendix M) and/or the *Long-Term Assignment Planning Form* (see Appendix N). Both student and the coach retained a copy of all sheets.

Except for the first coaching session of each week, all subsequent sessions followed the same format. Each session began with a general review of the tasks the student had planned to do at the previous coaching session to determine if the student had

carried out the plans as intended. Referring to the *Coach Monitoring Sheet* completed during the previous session, the coaches asked students to read each item on the list silently to themselves, and determine if they did the task. The coaches then prompted students to evaluate (rate) how well they accomplished the task using the 5-point rating scale detailed on the *Coach Monitoring Sheet*. The coaches asked for several student volunteers to share with the group how they had done.

The final step was to have the students plan what would be done before the next coaching session and anticipate work that they would have to do in the near future. Students then completed a fresh monitoring sheet and filled out "The Big Picture" section. This step involved transferring relevant information from the previous coaching session and adding any new assignments, tests, or responsibilities that may have come up since the previous session. Next, students were prompted by the coaches to complete the "Today's Plans" section of the *Coach Monitoring Sheet*. The coaches milled around the room throughout the session, checking to make sure students were correctly completing the *Coach Monitoring Sheet*, assisting students as necessary, and providing words of encouragement.

After these tasks were accomplished, students got started on their homework while the coaches met briefly (5-minutes) with individual students. Coaches met with each student individually once a week to discuss progress and, if needed, refine goals.

The first coaching session of each week varied slightly from the other sessions. During this session, the coaches provided students with the previous week's homework completion data obtained from their teachers and asked them to input that data into a pre-formatted graph provided to them by the coach.

The coaches also recorded attendance information. Student's daily attendance was rewarded. Students were given one "raffle" ticket for each day they attended. At the end of each week, a drawing was held. The winning student got to choose a $15.00 gift card as a reward. Gift cards from various retailers were offered throughout the intervention. The researcher verified student attendance daily by reviewing the attendance sign-in sheet maintained by the coaches. Homework center attendance was cross-referenced with school attendance records. Students who were in attendance for the school day, but failed to stay after and attend the coaching session were contacted the following day and reminded to attend the coaching sessions daily. Participants' parents completed the HPC at post-treatment; teachers completed the APRS at post-treatment and provided homework completion data throughout the study.

Treatment Integrity. To ensure treatment integrity during sessions, a school psychologist trained (see Appendix O) by the researcher attended 30% of the coaching sessions. The school psychologist used a 6-item procedural checklist (see Appendix P) to verify that the coaches adhered to the intervention. Treatment integrity was calculated for each session observed by dividing the number of steps completed by the total number of steps to be completed and multiplying by 100%.

Post-treatment. At the conclusion of the 10-week intervention study, students attended an exit session with the researcher. Students completed the CIRP at this time. The researcher contacted parents via phone and asked them to complete the HPC. He either emailed or mailed the HPC to the parent depending on parent preference. The researcher also obtained each student's marking quarter GPA at this time via the school-

generated report card. He contacted teachers via email and asked them to complete the APRS and submit final records of percentage of homework completed.

CHAPTER IV

Results

Participant Flow

The sample at the beginning of the intervention consisted of 57 middle school students (39 males and 18 females) in grades 6 to 8 with and without disabilities who were having substantial difficulty with homework. These participants were randomly assigned to one of two groups – group coaching and homework center (treatment-as-usual) using a computerized randomized numbers table generator (http://www.stattrek.com). Twenty-nine participants were assigned to group coaching and 28 were assigned to homework center. A total of 7 participants (4 from group coaching and 3 from homework center) withdrew from the study. Five participants indicated after the first session that they no longer wished to participate in the study. One participant, after attending four sessions, was suspended from school for the duration of the intervention. One participant, after attending three sessions, was restricted from staying after school by building administration for repeated misbehavior that occurred during the intervention sessions.

As such, a total of 50 students (33 males and 17 females) completed the study. Attrition was essentially equivalent among the group coaching and homework center groups. Twenty-five of the original 29 students (86%) who were randomly assigned to group coaching completed the intervention, and 25 of the original 28 students randomly assigned to the homework center (89%) completed the study. Fifty-eight percent of the students in the final sample did not have documented disabilities and the balance of the sample did (42%).

Table 1 presents the distribution of disability by treatment condition. As the table shows, more of the disabled students were randomly assigned to the coaching condition than the homework center condition, but this difference is not statistically significant (χ^2 (1) = 2.05, p = .15). Within the homework center group, 50% (n = 4) of the students with disabilities were identified as having LDs, 38% (n = 3) were identified as having AD/HD, and 13% (n = 1) were identified as having Sp/L impairments. The coaching group presented a similar breakdown with 54% (n = 7) of the students with disabilities in this group were identified as having LDs, 31% (n = 4) were identified as having AD/HD, 8% (n = 1) were identified as ED, and 8% (n = 1) were identified as having Sp/L impairments.

Table 1

Disability Status by Treatment Condition

Group	Count	% Within group
Homework center		
Not disabled	17	68%
Disabled	8	32%
Coaching		
Not disabled	12	48%
Disabled	13	52%

Descriptions of Participants' Scores on the Measures

The study investigated four "core" outcomes. The first of these measures, the Academic Performance Rating Scale (APRS) is a 19-item scale with item scores that range from '1' to '6' with higher scores indicating better academic performance. The

minimum possible total APRS score is 19; the maximum possible total APRS score is 114. DuPaul and colleagues (1991) provided means and standard deviations by grade and gender. For 6th graders, the highest grade that DuPaul et al. reported, the mean score for boys was 65.24 (*SD* = 12.39) and the mean score for girls was 74.10 (*SD* = 14.45). Table 2 shows that, relative to the published mean score for boys, the sample's scores fell more than one standard deviation below the mean at pre-test, and within one standard deviation at post-test.

The second outcome measure, the Homework Problems Checklist (HPC), ranges from 0 to 60, with higher scores indicative of more difficulty completing homework assignments. In fact, a test score of 19 is considered to be indicative of a clinically significant homework completion problem (Anesko et al., 1987). Table 2 shows that the "typical" or "average" student in this study had a mean HPC score that was well above the clinical criterion at pre-test and at post-test. Perhaps more telling is the fact that 100% of participants scored at or above the clinical criterion (19) at pre-test and only 50% (*n* = 25) met this criterion at post-test.

The third outcome, student grade point average (GPA), ranged from 0% to 100% with a score of 65% indicating the minimally "passing grade". Table 2 shows that these students, on average, barely achieved a minimally passing grade at pre-test, and, similarly, achieved only a marginally better GPA at post-test.

The fourth outcome measure, the percentage of homework assignments completed in their core curriculum courses, was only 42% at pre-test. However, at post-test, this figure exhibited dramatic improvement to 82%.

Table 2

Outcome Measures – Descriptive Statistics for Total Sample

	M		*SD*		Skewness		Kurtosis	
Measure	Pre	Post	Pre	Post	Pre	Post	Pre	Post
1. APRS	50.50	58.84	11.14	12.52	.628	.331	-.220	-.393
2. HPC	29.14	22.80	9.19	11.06	.828	1.43	.454	2.26
3. GPA	.664	.675	.084	.090	.187	-.109	-.196	-.961
4. % Comp	.428	.820	.220	.182	.514	-1.13	-.378	.758

Note. For APRS, GPA, and % Comp, higher scores are indicative of better functioning. For HPC, lower scores are indicative of better functioning. APRS = Academic Performance Rating Scale; HPC = Homework Problems Checklist; GPA = student grade point average; % Comp = teacher reported homework completion. GPA and % Comp are percentages converted to decimals.

Preliminary Analyses

Prior to conducting the main analyses of the study data, the investigator conducted several preliminary data analyses. The first of these analyses sought to evaluate whether the random assignment of students to treatment conditions did, in fact, establish two treatment groups that were initially equivalent prior to receiving either treatment. In order to evaluate this question, a two-way, multivariate analysis of variance was conducted. The four pre-test versions of the four "core" outcome measures served as the dependent or outcome variables in this analysis. Treatment condition, i.e., coaching

treatment *vs.* homework center, and disability status served as the two independent variables in this analysis.

The multivariate *F* tests for the main effect of treatment condition ($F(4, 43) = 0.13$, $p = .97$), the main effect of disability status ($F(4, 43) = 0.61$, $p = .66$), and the interaction between these two independent variables ($F(4, 43) = 2.24$, $p = .08$) were all statistically nonsignificant. In substantive terms, these findings supported the claim of initial equivalence of groups at baseline with respect to the pre-test versions of the four outcomes under investigation in this study.

The investigator undertook a second preliminary analysis in order to determine whether differential attendance in either of the two treatment conditions should be used as a covariate in the main analysis of the study's outcomes. In order for a variable like attendance to function as a "confounder", it must meet both of the following two conditions. First, the independent variables, here, treatment condition and disability status, must significantly differ with respect to the potential confounder, here, mean attendance rate. Second, the potential confounder must relate significantly to the dependent variable(s), here, change in the four outcomes.

With regard to the first condition, Table 3 presents the mean attendance rate by treatment condition and disability status. As this table shows, the "typical" or "average" student attended 75% of the scheduled sessions. Visual inspection of this table also suggests that the rates of attendance did not vary substantially between treatment conditions, disability statuses, or the cross-classification of these two independent variables. In fact, a two-way analysis of variance of the attendance data found no statistically significant main effect of treatment condition ($F(1, 46) = 0.09$, $p = .77$), no

statistically significant main effect for disability status ($F(1, 46) = 0.12$, $p = .73$), and no statistically significant interaction between these two variables ($F(1,46) = 0.36$, $p = .55$). As such, attendance did not need to be included as a confounder.

Table 3

Mean Attendance Rate by Treatment Condition and Disability Status

	Attendance rate	
Group	*M*	*SD*
Homework center		
Not disabled	.753	.206
Disabled	.767	.118
Total	.757	.180
Coaching		
Not disabled	.769	.196
Disabled	.718	.177
Total	.743	.184
Total		
Not disabled	.760	.198
Disabled	.737	.156
Total	.750	.180

Note. Data are percentages converted to decimals.

Treatment Integrity

To ensure treatment integrity during sessions, a school psychologist trained (see Appendix O) by the researcher attended 30% of the coaching sessions. There were a total

of 30 coaching sessions. Therefore, the school psychologist observed each of the 3 coaches in 9 sessions. The school psychologist used a 6-item procedural checklist (see Appendix P) to verify that the coaches adhered to the intervention. Analyses indicated that each of the coaches implemented the treatment with high integrity. Treatment integrity averaged 97% (*range,* 83% to 100%) for coach one, 100% for coach two, and 94% for coach 3 (*range* 83% to 100%).

Primary Analyses

At this point, three-way, repeated measures multivariate analyses of variance in which treatment condition and disability status served as the two between-subjects factors answered the principal questions of this dissertation. Time, the third independent variable, was a within-subjects factor with two levels (i.e., pre-test and post-test). The four study outcomes – APRS, HPC, GPA, and teacher reported homework completion – were the dependent variables in this analysis. Table 4 presents the pre-test and post-test means and standard deviations as a function of treatment group and disability status for the four outcome measures.

Table 4

Mean Scores and Standard Deviations for Outcome Measures as a Function of Treatment Group and Disability Status

	Homework Center		Coaching	
	M (*SD*)		*M* (*SD*)	
Variable	Pre	Post	Pre	Post
APRS				
Not disabled	52.94 (9.67)	58.18 (11.34)	50.58 (13.56)	62.00 (16.21)
Disabled	48.13 (13.37)	59.63 (11.55)	48.69 (9.68)	56.31 (11.49)
Total	51.40 (10.94)	58.64 (11.18)	49.60 (11.49)	59.04 (13.96)
HPC				
Not disabled	31.65 (9.77)	24.18 (11.89)	25.08 (7.49)	18.58 (5.66)
Disabled	25.38 (6.40)	20.88 (8.74)	31.92 (9.95)	26.08 (14.25)
Total	29.64 (9.19)	23.12 (10.91)	28.64 (9.35)	22.48 (11.44)

Table 4 continued

	Homework Center		Coaching	
	M (*SD*)		*M* (*SD*)	
Variable	Pre	Post	Pre	Post
% Comp				
Not disabled	.464 (.265)	.738 (.213)	.460 (.203)	.893 (.120)
Disabled	.413 (.193)	.891 (.143)	.360 (.194)	.819 (.177)
Total	.447 (.241)	.787 (.204)	.408 (.201)	.854 (.154)
GPA				
Not disabled	.667 (.076)	.668 (.083)	.670 (.088)	.638 (.115)
Disabled	.683 (.058)	.702 (.048)	.645 (.108)	.702 (.085)
Total	.672 (.070)	.678 (.075)	.657 (.098)	.672 (.104)

Note. For APRS, GPA, and % Comp, higher scores are indicative of better functioning. For HPC, lower scores are indicative of better functioning. APRS = Academic Performance Rating Scale; HPC = Homework Problems Checklist; GPA = student grade point average; % Comp = teacher reported homework completion. GPA and % Comp are percentages converted to decimals.

The multivariate significance tests (see Table 5) indicated that there were two statistically significant effects, time ($F(4, 43) = 53.27$, $p < .001$, $\eta_p^2 = .83$) and the three-way interaction between treatment condition, disability status, and time ($F(4, 43) = 3.26$, $p = .020$, $\eta_p^2 = .23$). Because the main effect of time was embedded in the statistically significant interaction, the latter term took precedence with regard to interpreting the findings.

In order to determine whether the statistically significant interaction applied to each of the four outcomes or only a subset of them, one needs to examine the four univariate significance tests (see Table 5). Doing so indicates that the statistically significant three-way interaction did not characterize any one of the four outcome measures based on the conventionally used $p <= .05$ level. However, for one of these measures, i.e., the APRS, the three-way interaction was statistically significant at the $p = .10$ level ($F(1, 46) = 2.78$, $p = .10$). The effect size ($\eta_p^2 = .06$) is considered moderate based on Cohen's (1988) benchmarks.

Table 5

Multivariate and Univariate Analyses of Variance F Ratios for Outcome Measures

		ANOVA			
	MANOVA	APRS[b]	HPC[b]	GPA[b]	% Comp[b]
Variable	F^a (η_p^2)	F (η_p^2)	F (η_p^2)	F (η_p^2)	F (η_p^2)
Group (G)	.207 (.019)	.010 (.000)	.002 (.000)	.494 (.011)	.021 (.000)
Disability (D)	1.307 (.108)	.734 (.016)	.207 (.004)	1.009 (.021)	.161 (.003)
G x D	1.885 (.149)	.109 (.002)	5.228** (.102)	.015 (.000)	2.415 (.050)
Time (T)	53.270*** (.832)	35.126*** (.057)	20.875*** (.004)	.841 (.042)	114.917*** (.029)
T x G	.288 (.026)	.145 (.003)	.005 (.000)	.015 (.000)	.811 (.017)
T x D	1.385 (.114)	.167 (.004)	.464 (.010)	4.542** (.090)	2.261 (.047)
T x G x D	3.263** (.233)	2.782* (.057)	.189 (.004)	2.014 (.042)	1.358 (.029)

Note. Multivariate *F* ratios were generated from Pillai's statistic. MANOVA = multivariate analysis of variance; ANOVA = univariate analysis of variance; APRS = Academic Performance Rating Scale; HPC = Homework Problems Checklist; GPA = student grade point average; % Comp = teacher reported homework completion. η_p^2 = effect size. [a]Multivariate *df* = 4, 43. [b]Univariate *df* = 1, 46. * $p < .10$. ** $p < .05$. *** $p < .001$.

In order to deconstruct this three-way interaction for the purpose of interpreting it, Figures 1 and 2 present a plot of the APRS means at pre-test and at post-test for each of the two treatment conditions, separately for each of the two disability statuses. As these figures depict, both treatment conditions (i.e., homework center and coaching) yielded improvement over time. However, the pattern of change over time appeared to differ as a function of disability status. That is to say, for the non-disabled students, the rate of change or improvement in the APRS scores was faster for the coaching intervention than for the homework center condition. For the disabled students, the rate of change or improvement in the APRS scores was faster for the homework center condition.

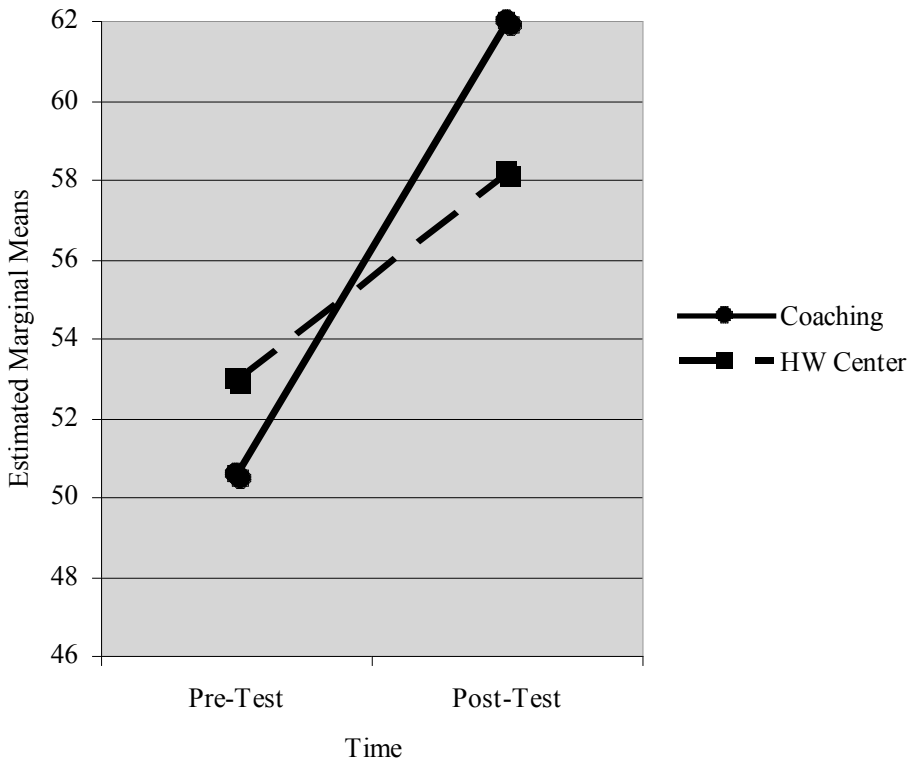

Figure 1. APRS means at pre-test and post-test for non-disabled students in coaching and homework center conditions. APRS = Academic Performance Rating Scale; HW Center = homework center.

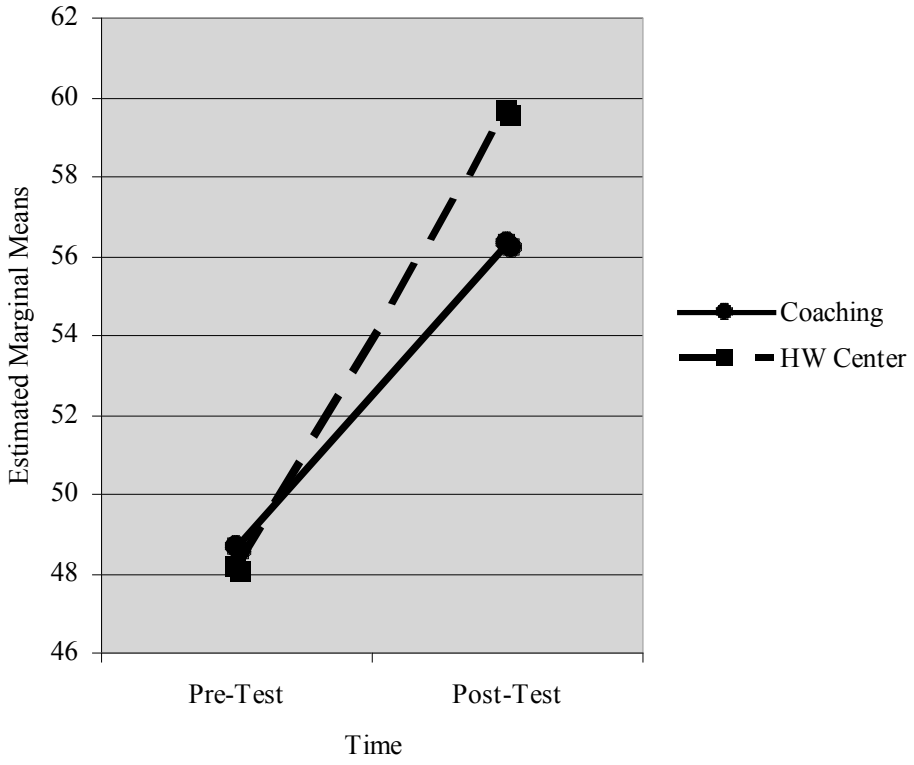

Figure 2. APRS means at pre-test and post-test for disabled students in coaching and homework center conditions. APRS = Academic Performance Rating Scale; HW Center = homework center.

In order to further investigate the main effect of time, the researcher conducted a series of *F* tests that tested the multivariate simple effects of time within each level combination of the variables group and disability status. These tests are based on the linearly independent pairwise comparisons among the estimated marginal means. The multivariate significance tests (see Table 6) indicated that all combinations were statistically significant at the $p < .001$ level.

Table 6

Multivariate Simple Effects of Time Within Each Level Combination of Group and Disability Status

	MANOVA
Variable	*F* (4, 43)
Homework center	
Not disabled	10.810***
Disabled	12.059***
Coaching	
Not disabled	21.877***
Disabled	13.529***

Note. Multivariate *F* ratios were generated from Pillai's statistic. MANOVA = multivariate analysis of variance.

*** $p < .001$.

Social Validity

To assess participants' perceptions of the intervention, the students completed the Children's Intervention Rating Profile (CIRP; Witt & Elliott, 1985) after completion of the intervention. The CIRP is a seven-item, one-factor scale with item scores that range from '1' to '6' with higher scores indicating better social validity and treatment acceptability. The minimum possible total CIRP score is 7; the maximum possible total CIRP score is 42. Mean rating for the coaching intervention was 35.60 (*SD* = 3.83), and

the mean rating for the homework center was 35.56 (*SD* = 4.26). In other words, both interventions had good social validity.

CHAPTER V

Discussion

This chapter provides a summary and discussion of the results. Included is a discussion of the limitations of the present study, as well as suggestions for future research.

The purpose of this dissertation was to further explore the effectiveness of the self-management intervention referred to as coaching (Dawson & Guare, 2000). The study examined the effectiveness of coaching, as compared to treatment-as-usual, in alleviating the homework difficulties of middle school students with significant homework problems, regardless of disability category. Further, the study investigated the feasibility of executing the coaching intervention in a group, rather than individual format. The investigations in this study were intended to investigate five issues. First, I examined the effectiveness of the local treatment-as-usual, referred to as "homework center", in alleviating the homework difficulties of middle school students identified as having significant homework problems. Second, I examined the effectiveness of group coaching in alleviating the homework difficulties of middle school students identified as having significant homework problems. Third, I compared these two interventions in order to determine which would result in better homework outcomes for middle school students identified as having significant homework problems. Fourth, I examined the differential effectiveness of both interventions for students with disabilities, and those with no documented disabilities. Finally, I examined the impact of increased homework completion on students' academic performance.

Effectiveness of Homework Center

The first research question sought to determine if the current treatment employed in the school where this study took place is, in fact, effective in improving the homework completion of middle school students who were identified as having significant homework issues. The treatment-as-usual was locally referred to as "homework center", and was essentially a quiet, adult supervised, place to work on homework that is available for all students for a 42-minute period immediately after the regular school day. Students identified as having homework issues by teachers are encouraged, but not mandated, to stay after school for homework center. No known research has examined the effectiveness of such an intervention. However, the homework center does address one issue that has been found to contribute to the homework difficulties of students with AD/HD and students with LD's, namely, setting aside time to work (Power et al., 2006).

The current study provides some support for the effectiveness of homework center for students identified as having significant homework difficulties. For the current sample, students who received homework center, on average, demonstrated a significant reduction in their homework problems. Results of *F* tests that tested the multivariate simple effects of time indicated significant improvements across parent and teacher ratings of homework difficulties, as well as a significant improvement in actual homework completion for students receiving the homework center intervention.

It is important to highlight that, in the current study; various measures were taken to ensure high rates of attendance. Specifically, attendance was taken on a daily basis, students who attended school but failed to attend the homework center were met with briefly the following day, and students were provided with a tangible incentive to attend.

These procedures (incentives, attendance check, and reminders to attend) were not in place before the study, but were added in an effort to ensure consistent attendance. It could be argued that these measures were effective in getting students to attend regularly as, on average, students in the homework center group attended 76% (*SD* = .18) of the possible sessions. These measures to ensure high rates of attendance are not typically taken. In fact, many teachers at the school, as well as parents of students who are identified as potentially benefiting from the homework center, cited the lack of an attendance requirement, and in turn a lack of attendance at the homework center, as major issues with the intervention. Given the results of the current study, which suggests that homework center has some positive impact on homework difficulties of middle school students, it would make sense for the school to add components, such as those used in this study, to encourage consistent attendance at the homework center intervention.

Effectiveness of Group Coaching

The second research question sought to determine if group coaching (Dawson & Guare, 2000) is an effective treatment for improving the homework completion of middle school students identified as having significant homework problems. Research on coaching suggests it is a promising intervention that may be useful for addressing several aspects of the homework problems for all secondary students. Coaching, as described by Dawson and Guare, consists of goal setting, self-monitoring, performance feedback, and/or contingency management and may be particularly beneficial because students generate goals, create plans for achieving these goals, and monitor outcomes with the assistance of a coach. Coaching has been shown to be effective in improving the homework completion and accuracy of high school students with AD/HD (Merriman &

Codding, 2008) and increasing study time, grades, and study habits for post-secondary student (Swartz et al., 2005).

Despite the success of coaching when administered individually, coaching is initially very time intensive. Consequently, a school professional's caseload typically would not permit him or her to implement the intervention with more than a few students at once. In an attempt to address the potential practical problems associated with this treatment package, the present study modified the treatment so that it could be administered in group, rather than individual sessions.

Results of the present study provide some support for the efficacy of group coaching. On average, students who received group coaching significantly reduced their level of homework difficulty. Results of *F* tests that tested the multivariate simple effects of time indicated significant improvements across parent and teacher ratings of homework difficulties, as well as a significant improvement in actual homework completion for students who received the coaching intervention. These results suggest that coaching can be effective in alleviating homework difficulties of middle school students when administered in a group format.

Homework Center vs. Group Coaching

The third research question that the present study sought to answer was whether or not group coaching is more effective than homework center in improving the homework difficulties of middle students identified as having significant homework issues. Current research suggests that group coaching would be a more effective intervention than homework center. Coaching is a self-management intervention, and the current body of research on homework interventions suggests that self-management

interventions may be the best type of intervention to help all students with homework difficulties. Research has demonstrated self-management interventions to be effective in alleviating the homework problems of students with AD/HD (e.g., Gureasko-Moore et al., 2006; Langberg et al., 2008; Merriman & Codding, 2008; Meyer & Kelley, 2007; Swartz et al., 2005) and those with LD (e.g., Hughes et al., 2002; Lenz et al., 1991; Shimabukuro et al., 1999; Trammel et al., 1994). Further, self-management interventions are potentially superior to teacher- and parent-mediated interventions as they drastically limit the role of external agents, which is important for several reasons. First, direct parent and/or teacher involvement may not be possible for any number of reasons (i.e., resistance, time constraints, etc.). Second, parent involvement may actually have deleterious effects (e.g., Jayanthi et al., 1995; Levin et al., 1997; Polloway et al., 1994; Smilansky, Fisher, & Sheftaya, 1986). Third, focusing on directly teaching students the skills needed to successfully complete homework promotes students' independence and feelings of self-control and self-efficacy, which, in turn, will improve the probability of maintenance and generalization (Fish & Mendola, 1986; Holman & Baer, 1979; Olympia et al., 1994).

Contrary to what was expected based on the current body of literature the current study did not provide support for the differential effectiveness of coaching when applied to a mixed group (students with and without disabilities) of middle school students identified as having significant homework issues. Multivariate significance tests did not yield a main effect of group. In other words, there was not a significant difference between the homework improvements made by students who received homework center compared to students who received group coaching.

Effectiveness of Interventions for Students with and without Disabilities

The fourth research question sought to determine if homework center and group coaching are differentially effective for students with disabilities, and those with no documented disabilities. Research has identified a number of common difficulties associated with homework problems that cut across disability category. Students with AD/HD, LD, and those without documented disabilities tend to display a variety of problems that are likely to interfere with homework completion (Power et al., 2006). These problems include academic skill deficits, poor communication and organizational skills, difficulty with tasks that demand voluntary, selective, and sustained attention, poor memory, and poor self-monitoring.

Research has also shown that students with homework problems have a number of common characteristics that interfere with every step of homework completion, including understanding assignments, accurately recording them, remembering to take materials home, setting aside time to work, organizing necessary materials, following through and completion the work, putting it in a safe place, and then remembering to take it back to school. Power and colleagues (Power et al., 2006) investigated patterns of homework problems, as assessed by parent reports on the Homework Problem Checklist (HPC), of children referred for evaluation and treatment of AD/HD and those in general education. Exploratory factor analysis identified two distinct homework problem factors for general education students: Inattention/Avoidance of Homework and Poor Productivity/Nonadherence with Homework Rules. Exploratory factor analysis of the clinic-referred sample revealed a factor structure that was highly similar to that of the general sample.

Another reason to examine the differential effectiveness of coaching is because, to date, there is not research support for utilizing this intervention with students that do not have AD/HD. Therefore, exploring the differential effectiveness could potential provide support for using this intervention with students without disabilities.

Given the fact that research suggests that there are a number of commonalities, regardless of disability status, among students with homework difficulties, one would predict that there would not be indications of differential effectiveness of homework interventions. However, results of the present study suggest that this may not be the case. The multivariate significance tests indicated that there was a statistically significant three-way interaction between treatment condition, disability status, and time. As stated previously, both homework center and coaching yielded significant reductions in homework problems. Significant reduction occurred for both students with, and students without, documented disabilities. However, the pattern of change over time differed as a function of disability status. More specifically, for the non-disabled students, the rate of change or improvement was faster for the coaching intervention than for the homework center condition. For the disabled students, the rate of change or improvement was faster for the homework center condition.

This result is the opposite of the hypothesized pattern. Given that student with disabilities would be expected to have more significant impairments in self-monitoring than those without documented disabilities, the researcher hypothesized that students with disabilities would benefit the most from coaching, as the purpose of coaching is to directly improve self-management. In hindsight, severity of self-management deficits could also explain the current findings. It is possible that, if in fact, students without

disabilities had less severe impairments in self-management; this may have enabled them to respond more quickly to coaching than students with disabilities, and theoretically, more severe self-management impairments. Students with disabilities may require more time in the coaching intervention before improvements in homework occur. Merriman and Codding (2008) found that one of the three students who received the coaching intervention required 15 individual sessions before homework completion rates stabilized at 80% or higher. The other two students stabilized after five sessions. Laura, the student who responded less quickly to the intervention, had more significant academic issues than the other two students.

The pattern of change within the homework center intervention was the most surprising. The researcher hypothesized that homework center would have little impact on the homework issues of students with disabilities, but students without disabilities would show at least some improvement in their homework problems. The fact that students with disabilities responded more quickly to the homework center intervention than students without disabilities is puzzling. One possibility is that the homework center intervention functioned similarly to the "Homework Teams" homework program described by Olympia and colleagues (1991). The "Homework Teams" intervention is a peer-mediated, student driven homework program that utilizes positive peer influences to reinforce homework completion. While the homework center was not conceived as a peer-mediated intervention, it is possible that students were motivated by one another to complete homework. The researcher did received anecdotal feedback from the teacher assistant who supervised the homework center that many students took to sharing with the group their successes. For example, various students would announce on Thursdays

(the last day of the week students attended homework center) that they had done all their homework for the week. Various students would also announce test or quiz grades they earned, and they would frequently connect this success to the fact that they were doing more of their homework.

It was also shared with the researcher that multiple teachers of students in the homework center group made a point of "stopping by" the homework center at various times throughout the intervention to publicly acknowledge their student's achievements. About midway through the intervention, one science teacher began stopping by once a week (on Thursdays) and publicly praised her students for their achievements. She would announce test or quiz grades and/or would announce her student's percentage of homework completion in science for the week. It is possible that students with disabilities responded more quickly to these types of peer and teacher motivation and reinforcement than students without disabilities. Research has shown that students with AD/HD have lower self-expectations, are less persistent and more easily discouraged when engaging in academic tasks, and are less motivated to complete assignments than typical peers (Carlson et al., 2002). Similarly, research had demonstrated that students with LD's experience more difficulty with academic motivation and are more easily discouraged than typical peers (Epstein et al., 1993). More specifically, researchers have found that students with LD's generally have developed lower expectations for success, and have less confidence than their achieving classmates in their ability to succeed as a function of hard work and ability (Pearl, Bryan, & Donahue, 1980). Several decades of research have shown that student expectations for academic success and attributions about the causes of achievement remain the most robust predictors of academic achievement gains

(Patrikakou, 1996). A large body of research has provided support for the positive impact of teacher praise and the role of publicity in enhancing pride, motivation, as well as feelings of satisfaction and self-worth (for reviews, see Brophy, 1981; Delin & Baumeister, 1994; Dweck, 2000). Through the "reflected appraisal" of others, one acquires a large portion of self-knowledge (see Shrauger & Schoeneman, 1979, for a review), and public praise is a particularly direct way for reflected appraisals to occur. Public praise has been found to enhance and give greater permanence to self-evaluations (e.g., Baumeister & Tice, 1984; Tice, 1992). Kastelen, Nickel, and McLaughlin (1984) evaluated the impact of a performance feedback system on the academic performance, on-task behaviors, and self-esteem of 16 8th graders. The performance feedback system included prompt feedback, public posting, and teacher praise. Results indicated that achievement in reading, spelling, and writing improved; on-task behaviors increased; and self-esteem ratings also improved. The peer and teacher praise and reinforcement that occurred during the homework center condition may have helped to improve student motivation, increase expectations of success, and foster confidence for those students with disabilities over and above those without disabilities.

Impact of Increased Homework Completion on Academic Performance

The final research question sought to examine the impact of increased homework completion on students' academic performance. As previously discussed, students with and without disabilities, in both homework center and group coaching, significantly improved their homework completion. On average, students were completing only 42% of their homework in their core curriculum courses at pre-test. At post-test, students were completing, on average, 82% (see Table 4 for the pre-test and post-test comparisons by

group and disability status). Researchers have found ample evidence to support the belief that homework has a positive effect on middle and high school students' learning, whether learning is measured by achievement test scores or students' grades (Cooper et al., 1989; 2006). Given the well-documented connection between homework and academic achievement, the researcher hypothesized that an increase in homework completion in the current study would lead to improved academic performance, as measured by student GPA.

Results did not support this hypothesis. Students, on average, barely achieved a minimally passing grade at pre-test, and, similarly, achieved only a marginally better GPA at post-test. *F* tests found no significant differences between pre-test and post-test GPA for students with and without disabilities in both treatment groups. It is possible that improvements in homework completion did not lead to improved academic performance as measure by GPA in the present study because of the point at which post-test GPA was measured. Third marking quarter GPA was used as the post-test measure of academic performance. The interventions ran for 10-weeks, starting at the beginning of the third marking quarter, and concluding at the end of the third marking quarter. It is possible that consistent gains in homework completion, and in turn gains in academic achievement, were not achieved until the middle, or even towards the end of the intervention period for many students. As such, third quarter GPA would not accurately reflect these gains, as it would include grades earned since the beginning of the intervention period. In hindsight, mid-fourth quarter GPA, or even end of fourth quarter GPA, may have more accurately captured whether or not improvements in homework completion led to increased academic performance.

Limitations

The current study has several limitations that may be addressed in future research. The ability to generalize the findings of this study to all middle school students identified as having significant homework difficulties is limited. The study was conducted in a public middle school located in an upper-middle class suburb of New York City. The student population at this middle school may be different from populations at other public middle schools and at middle schools of different types, such as private and charter schools. Specifically, minority students and students from lower SES categories were under-represented at the middle school from which the sample was drawn. Over 80% of students attending the middle school were white, and only 5% were eligible for free or reduced lunch.

Similarly, the sample size might also limit generalizability. The researcher set out to recruit 128 subjects. Teachers nominated 126 students, but only 57 parents and students consented to participate in the study. Results of the study may have been different if all 126 students participated in the study. The randomness of the sample was potentially further reduced by subject loss as a total of 7 participants withdrew from the study. Further, those who chose to participate in the study might have been disproportionately concentrated among certain values (Braver & Bay, 1992). For this study, it could be argued that parents and students who were more highly motivated to alleviate homework difficulties were more likely to agree to participate in the study. Sample size also prevent certain analyzes from being conducted. The researcher had intended to analyze the effects of homework center and coaching for students with

AD/HD and students with LD separately. Due to the small sample size, this level of analysis was not possible.

Limitations stemming from the research design also existed. Specifically, the fact that follow-up data were not collected is a major limitation. Lack of follow-up data prevented analysis of maintenance of treatment gains. As discussed previously, not obtaining fourth quarter GPA may have also prevented the researcher from accurately evaluating the impact of treatment gains on academic performance. Additionally, the fact that the control condition was different from homework center as usual was a limitation. As discussed previously, the researcher provided incentives for attendance. Also, homework center was altered from its original design as a function of the students who attended and their teachers. Students took to announcing their level of homework completion and grades and several teachers began "dropping by" the homework center to publicly praise student accomplishments. These added an additional, uncontrolled element to the homework center.

Recommendations for Future Research

The current findings suggest some areas that should be included in future research. Since homework center, an intervention that was not previously examined, was found to have a positive impact on homework completion, future research should focus on further exploring this intervention. Replication of these results, as well as an effort to identify and isolate the active ingredient(s) in this intervention, should be primary focuses. This research may be particularly important because there were several potential active ingredients in the current study, namely incentives and reminders to attend as well as peer and teacher attention. Replication with other populations – including high school

students, students from minority groups, and students from lower SES backgrounds – would also be important. Because this intervention can potentially be implemented with large groups of students, and can be potentially facilitated by teacher assistants, makes it a fairly low-cost, high impact intervention that is less time-consuming than coaching.

The present study provides some support for the efficacy of group coaching, as well as some support for the effectiveness of group coaching for students without disabilities. Replications and extensions of these findings are recommended. Specifically, examining the efficacy of the intervention when applied to other populations (i.e., minority groups, students form lower SES backgrounds, and high schools students), and examining the differential effectiveness for students with AD/HD compared to students with LD's are recommended.

Adaptations to the research design to address the lack of follow-up data collection are also recommended. Follow-up data collection would permit analysis of the maintenance of improvements, as well as more refined analysis of the impact of improvements in homework completion on academic performance.

Appendix A

PARENTAL PERMISSION FORM

My name is Donald Merriman. I am a student in the Educational Psychology Ph.D. Program at the Graduate Center of the City University of New York (CUNY), and Principal Investigator (PI) of this project, titled "The Effects of Group Coaching on the Homework Completion of Secondary Students with Homework Problems." This study will compare two interventions designed to help middle school students with and without disabilities get more of their homework done. Research has shown that a large number of middle school students have a lot of trouble finishing homework. These problems can affect learning and grades.

One or more of your child's teachers have seen that your child has been having trouble getting their homework done. I would like your permission to include your son/daughter in this study with the goal of helping them get more of their homework done. Your child will be randomly put into one of two groups. Both groups will need to stay after school for 40-minutes, Monday through Friday, for 10-weeks (one marking period). Students in one group will attend the "Homework Center". The homework center is a quiet place to work on their homework. Students in the other group will attend "Group Coaching Sessions". Group coaching is meeting with a coach (the coach might be a school psychologist, social worker, or another adult) who will help your child set goals for getting more homework done. This group will also keep track of how they are doing every day. Student's daily attendance in both groups will be rewarded. Students will get one "raffle" ticket for each day they attend. At the end of each week, a drawing will be held for both groups. The winning student will get to choose a reward. Rewards will be worth about $25.00. An example of a reward is a $25.00 gift card to the movies. Students in either group can take a break at any time and/or stop being in the study at any point. Your child will not be penalized in any way if you or they choose not to be in the study or later choose to stop being in the study.

If you would like your child to be part of this study, you would need to fill out three rating scales and one information form. One rating scale will help me know how much trouble your child has with homework. The other two rating scales will help me identify what might be causing your child's trouble with homework. If your child has already been diagnosed with AD/HD, these rating scales will also provide information about current symptoms. The information form will provide needed background information about your child. Your child's teachers will also fill out a rating scale and will let me know if your child is doing their homework. You and your child's teachers will be asked to fill out the rating scales again after 10-weeks, and a third time 5-weeks later. All information will be kept strictly confidential, and will be stored in a locked file cabinet, to which only I, and my advisor, will have access.

Potential benefits of being in this study are increasing the amount of homework your child gets done on a daily basis. Getting homework done helps students learn more and get better grades. If the intervention that your child does not receive turns out to work

better, you and your child will have the choice to have that intervention after the study ends. Risks are minimal. Although your child will meet daily with a coach, it is limited to 40-minutes and will not occur during class time. Your child may worry about not being able to do what the coach wants and/or might be embarrassed about having to see the coach. However, the culture of the school is such that students often see adults (school psychologist, guidance staff, or school social worker) for a variety or reasons.

I may publish results of the study, but names of people, or any identifying information, will not be used in any of the publications. If you would like a copy of the study, please give me your address and I will send you a copy in the future.

If you have any questions, you can contact me at (845) 621-1330 ext. 404 or dmerriman@gc.cuny.edu or my advisor Dr. Georgiana Tryon at (212) 817-8285 or gtryon@gc.cuny.edu. If you have questions about your rights as a participant in this study, you can contact Kay Powell, IRB Administrator, The Graduate Center/City University of New York, (212) 817-7525, kpowell@gc.cuny.edu.

Thank you for your participation in the study. I will give you a copy of this form to take with you.

I have read and understand the above and consent to my son/daughter's participation in this study.

_____
Student's Name

_____ _____ _____ _____
Parent's Signature Date Investigator's Signature Date

Appendix B

CONSENT FORM

My name is Donald Merriman. I am a student in the Educational Psychology Ph.D. Program at the Graduate Center of the City University of New York (CUNY), and Principal Investigator (PI) of this project, titled "The Effects of Group Coaching on the Homework Completion of Secondary Students with Homework Problems." This study will compare two interventions designed to help middle school students with and without disabilities get more of their homework done. Research has shown that a large number of middle school students have a lot of trouble finishing homework. These problems can affect learning and grades.

Your child has been nominated for this study because they are having trouble getting their homework done. What is required of your child should you choose to have them be in the study are in the "Parental Permission Form." This form outlines what would be expected of you, the parent, should you allow your child to be in the study. You or your child will not be penalized in any way if you or they choose not to be in the study or later choose to stop being in the study.

If you would like your child to be part of this study, you would need to fill out three rating scales and one information form. One rating scale will help me know how much trouble your child has with homework. The other two rating scales will help me identify what might be causing your child's trouble with homework. If your child has already been diagnosed with AD/HD, these rating scales will also provide information about current symptoms. The information form will provide needed background information about your child. You will be asked to fill out the rating scales again after 10-weeks. All information will be kept strictly confidential, and will be stored in a locked file cabinet, to which only I, and my advisor, will have access.

Potential benefits of being in this study are increasing the amount of homework your child gets done on a daily basis. Getting homework done helps students learn more and get better grades. If the intervention that your child does not receive turns out to work better, you and your child will have the choice to have that intervention after the study ends. Risks are minimal. Although your child will meet daily with a coach, it is limited to 40-minutes and will not occur during class time. Your child may worry about not being able to do what the coach wants and/or might be embarrassed about having to see the coach. However, the culture of the school is such that students often see adults (school psychologist, guidance staff, or school social worker) for a variety or reasons.

I may publish results of the study, but names of people, or any identifying information, will not be used in any of the publications. If you would like a copy of the study, please give me your address and I will send you a copy in the future.

If you have any questions, you can contact me at (845) 621-1330 ext. 404 or dmerriman@gc.cuny.edu or my advisor Dr. Georgiana Tryon at (212) 817-8285 or

gtryon@gc.cuny.edu. If you have questions about your rights as a participant in this study, you can contact Kay Powell, IRB Administrator, The Graduate Center/City University of New York, (212) 817-7525, kpowell@gc.cuny.edu.

Thank you for your participation in the study. I will give you a copy of this form to take with you.

I have read and understand the above and consent to participate in this study.

_____	_____	_____	_____
Parent's signature	Date	Investigator's signature	Date

Appendix C

STUDENT ASSENT FORM

My name is Donald Merriman. I am a student at the City University of New York and a school psychologist at your school. I am doing a study to see if I can help students like you get more of their homework done. It might be hard to get homework done right now but I hope to help make it easier. You would need to stay after school with me each day for 40-minutes for one marking quarter. You and the other students who stay after will be split into two groups. One group will go to a quiet room and work on homework. The other group will spend some time talking about the best ways to get their homework done, set some goals, and keep track of how they are doing. This group will also have time to work on their homework.

You will get a ticket each day you stay after. At the end of each week, there will be a drawing. If one of your tickets is chosen you will win the prize that week. The prize might be a $25 gift card to your favorite store, restaurant, or to the movies. When we work together, you can take a break any time you need one. Also, if you don't want to work with me anymore, you can tell your parents or me, and you could stop right away. No one will be mad if you stop working with me. All of the work that we do together is between you and I, and will be locked in my file cabinet so that no one will be able to see it, except for my professor and me. Do you have any questions?

If you would like to work with me please sign your name below.

_____ _____

Student's signature Date

_____ _____

Investigator's signature Date

Appendix D

TEACHER CONSENT FORM

My name is Donald Merriman. I am a student in the Educational Psychology Ph.D. Program at the Graduate Center of the City University of New York (CUNY), and Principal Investigator (PI) of this project, titled "The Effects of Group Coaching on the Homework Completion of Secondary Students with Homework Problems." This study will compare two interventions designed to help middle school students with and without disabilities get more of their homework done. Research has shown that a large number of middle school students have a lot of trouble finishing homework. These problems can affect learning and grades.

One or more of your students will be part of the study. If you agree to participate in the study, you will be asked to fill out a 19-item rating scale for each of your students in the study. This rating scale will help me gather information about each student's academic performance and abilities, as well as behavior in your class. You will also be asked to fill out this rating scale 10-weeks later. You will also be asked to provide the PI with ongoing information about each student's homework completion. Specifically, you will be asked to keep track of the number of homework assignments given and the number of assignments completed for each student every week during the 10-week intervention. Your participation in the study is voluntary and you will not be penalized in any way should you choose not to participate or later choose to stop being in the study.

Potential benefits of being in this study are increasing the amount of homework your students gets done on a daily basis. Getting homework done helps students learn more and get better grades. Risks are minimal. Although students will meet daily with a coach (the coach might be a school psychologist, social worker, or another adult), it is limited to 40-minutes and will not occur during class time. Students may worry about not being able to do what the coach wants and/or might be embarrassed about having to see the coach. However, the culture of the school is such that students often see adults (school psychologist, guidance staff, or school social worker) for a variety or reasons.

I may publish results of the study, but names of people, or any identifying characteristics, will not be used in any of the publications. If you would like a copy of the study, please provide me with your address and I will send you a copy in the future.

If you have any questions about this research, you can contact me at (845) 621-1330 ext. 404 or dmerriman@gc.cuny.edu or my advisor Dr. Georgiana Tryon at (212) 817-8285 or gtryon@gc.cuny.edu. If you have questions about your rights as a participant in this study, you can contact Kay Powell, IRB Administrator, The Graduate Center/City University of New York, (212) 817-7525, kpowell@gc.cuny.edu.

Thank you for your participation in the study. I will give you a copy of this form to take with you.

I have read and understand the above and consent to participation in this study.

_____	_____	_____	_____
Teacher's signature	Date	Investigator's signature	Date

Appendix E

Demographic Questionnaire

Please complete the following information.

1. Student's Name: _____

2. Male_____ Female_____

3. Age_____

4. Grade_____

5. Ethnicity:

White (not Hispanic)_____

Black (not Hispanic)_____

Hispanic or Latino_____

Asian_____

Native Hawaiian/Other Pacific Islander_____

American Indian_____

Alaskan Native_____

Other (please specify) _____

5. What is the primary language spoken at home? _____

6. Does your child currently receive English as a Second Language Services?

Yes_____

No_____

7. Did your child ever receive English as a Second Language Services?

Yes_____ If yes, for how long and when did they stop?_____

No_____

8. Is your child eligible for free or reduced lunch?

Yes_____

No_____

9. Does your child receive special education and/or related services?

Yes_____(answer questions 10-12)

No_____(skip to question 13)

10. When was your child first classified? _____

11. What disability category is your child under? _____

12. If your child is identified under the category "Other Health Impairment," please explain the condition that resulted in special education eligibility_____

12. Please describe the special education and related services your child currently receives.

_____

_____

_____

13. Was your child ever evaluated for special education and found ineligible?

Yes_____ If yes, when was he/she evaluated_____

No_____

14. Does your child have a Section 504 Accommodation Plan?

Yes_____ (answer questions 14-17)

No_____ (skip to question 18)

15. When was your child first found eligible under Section 504? _____

16. What medical condition resulted in eligibility under section 504? _____

17. Please describe the accommodations your child currently receives under Section 504.

_____

_____

_____

18. If your child does NOT receive special education services or Section 504 accommodations, do they receive any building level supports (i.e., Academic Intervention Services, after-school help, reading support, etc.)?

Yes_____

No_____

19. If you answered YES to question 18, please describe the supports your child currently receives_____

_____

_____

20. Please describe any current homework interventions (i.e., homework planner, home-school notes, tutoring, etc.) that your child is receiving and their duration.

_____

_____

_____

_____

21. Please describe any past homework interventions (i.e., homework planner, home-school notes, tutoring, etc.) that your child has received and their duration.

_____

_____

_____

_____

22. Is your child currently taking any medications?

Yes_____ If yes, please list_____

No_____

23. Your name_____

24. Relationship to student_____

Appendix F

Homework Problems Checklist
(Anesko, Schoiock, Ramirez, & Levine, 1987)

TABLE 1
HOMEWORK PROBLEM CHECKLIST

Child's Sex: _____
Child's Grade: _____
Child's Age: _____

Child performs: (−1) below grade level in most subjects
(0) on grade level in most subjects
(+1) above grade level in most subjects

For each statement, Check one:	Never (0)	At Times (1)	Often (2)	Very Often (3)
Fails to bring home assignment and necessary materials (textbook, dittos, etc.)				
Doesn't know exactly what homework has been assigned.				
Denies having homework assignment.				
Refuses to do homework assignment.				
Whines or complains about homework.				
Must be reminded to sit down and start homework.				
Procrastinates, puts off doing homework.				
Doesn't do homework satisfactorily unless someone is in the room.				
Doesn't do homework satisfactorily unless someone does it with him/her.				
Daydreams or plays with objects during homework session.				
Easily distracted by noises or activities of others.				
Easily frustrated by homework assignment.				
Fails to complete homework.				
Takes unusually long time to do homework.				
Responds poorly when told by parent to correct homework.				
Produces messy or sloppy homework.				
Hurries through homework and makes careless mistakes.				
Shows dissatisfaction with work, even when he/she does a good job.				
Forgets to bring assignment back to class.				
Deliberately fails to bring assignment back to class.				

Appendix G

Academic Performance Rating Scale
(DuPaul, Rapport, & Perriello, 1991)

ACADEMIC PERFORMANCE RATING SCALE

Student _____ Date _____
Age ___ Grade ___ Teacher _____

For each or the below items, please estimate the above student's performance over the *past week*. For each item, please circle *one* choice only.

1. Estimate the percentage of written math work *completed* (regardless or accuracy) relative to classmates.	0–49% 1	50–69% 2	70–79% 3	80–89% 4	90–100% 5
2. Estimate the percentage of written language arts work *completed* (regardless of accuracy) relative to classmates.	0–49% 1	50–69% 2	70–79% 3	80–89% 4	90–100% 5
3. Estimate the *accuracy* of completed written math work (i.e., percent correct of work done).	0–49% 1	50–69% 2	70–79% 3	80–89% 4	90–100% 5
4. Estimate the accuracy of completed written language arts work (i.e., percent correct of work done).	0–49% 1	50–69% 2	70–79% 3	80–89% 4	90–100% 5
5. How consistent has the quality of this child's academic work been over the past week?	Consistently poor 1	More poor than successful 2	Variable 3	More successful than poor 4	Consistently successful 5
6. How frequently does the student accurately follow teacher instructions and/or class discussion during *large-group* (e.g., whole class) instruction?	Never 1	Rarely 2	Sometimes 3	Often 4	Very often 5
7. How frequently does the student accurately follow teacher instructions and/or class discussion during *small-group* (e.g., reading group) instruction?	Never 1	Rarely 2	Sometimes 3	Often 4	Very often 5

(cont.)

ACADEMIC PERFORMANCE RATING SCALE (p. 2 of 3)

8. How quickly does this child learn new material (i.e., pick up novel concepts)	Very slowly 1	Slowly 2	Average 3	Quickly 4	Very quickly 5
9. What is the quality or neatness of this child's handwriting	Poor 1	Fair 2	Average 3	Above average 4	Excellent 5
10. What is the quality of this child's reading skills?	Poor 1	Fair 2	Average 3	Above average 4	Excellent 5
11. What Is the quality of this child's speaking skills?	Poor 1	Fair 2	Average 3	Above average 4	Excellent 5
12. How often does the child complete written work in a hasty fashion?	Never 1	Rarely 2	Sometimes 3	Often 4	Very often 5
13. How frequently does the child take more time to complete work than his/her classmates?	Never 1	Rarely 2	Sometimes 3	Often 4	Very often 5
14. How often is the child able to pay attention without you prompting him/her?	Never 1	Rarely 2	Sometimes 3	Often 4	Very often 5
15. How frequently does this child require your assistance to accurately complete his/her academic work?	Never 1	Rarely 2	Sometimes 3	Often 4	Very often 5
16. How often does the child begin written work prior to understanding the directions?	Never 1	Rarely 2	Sometimes 3	Often 4	Very often 5
17. How frequently does this child have difficulty recalling material from a previous day's lessons?	Never 1	Rarely 2	Sometimes 3	Often 4	Very often 5
18. How often does the child appear to be staring excessively or "spaced out"?	Never 1	Rarely 2	Sometimes 3	Often 4	Very often 5
19. How often does the child appear withdrawn or tend to lack an emotional response in a social situation?	Never 1	Rarely 2	Sometimes 3	Often 4	Very often 5

ACADEMIC PERFORMANCE RATING SCALE (p. 3 of 3)

SCORING INSTRUCTIONS FOR THE ACADEMIC PERFORMANCE RATING SCALE

The subscales of the Academic Performance Rating Scale (DuPaul et al., 1991) consist of the following items:

Academic Success: 3, 4, 5, 8, 10, 11, 17
Impulse Control: 9, 12, 16
Academic Productivity: 1, 2, 3, 4, 5, 6, 7, 13, 14, 15, 18, 19

To compute the subscale score, add the ratings given to each item on the subscale. Note that ratings for items 12, 13, 16, 17, 18, 19 must be reverse-scored so that high ratings correspond with positive academic functioning.

Means and Standard Deviations for the APRS by Grade and Gender

Grade	Total Score	Academic Success	Impulse Control	Academic Productivity
Grade 1 (n = 82)				
Girls (n = 40)	67.02 (16.27)	23.92 (7.37)	9.76 (2.49)	44.68 (10.91)
Boys (n = 42)	71.95 (16.09)	26.86 (6.18)	10.67 (2.82)	46.48 (11.24)
Grade 2 (n = 91)				
Girls (n = 46)	72.56 (12.33)	26.61 (5.55)	10.15 (2.70)	47.85 (7.82)
Boys (n = 45)	67.84 (14.86)	25.24 (6.15)	9.56 (2.72)	44.30 (10.76)
Grade 3 (n = 92)				
Girls (n = 43)	72.10 (14.43)	25.07 (6.07)	10.86 (2.65)	47.88 (9.35)
Boys (n = 49)	68.49 (16.96)	25.26 (6.53)	9.27 (2.67)	45.61 (11.89)
Grade 4 (n = 79)				
Girls (n = 38)	67.79 (18.69)	24.08 (7.56)	10.36 (2.91)	44.26 (11.96)
Boys (n = 41)	69.77 (15.83)	25.35 (6.50)	9.83 (2.77)	45.71 (10.22)
Grade 5 (n = 79)				
Girls (n = 44)	73.02 (14.10)	26.11 (6.01)	10.76 (2.34)	48.36 (9.05)
Boys (n = 35)	63.68 (18.04)	23.14 (7.31)	8.69 (2.82)	42.40 (12.47)
Grade 6 (n = 70)				
Girls (n = 31)	74.10 (14.45)	26.59 (6.26)	10.79 (2.25)	48.77 (9.13)
Boys (n = 39)	65.24 (12.39)	23.75 (5.90)	9.05 (2.35)	43.59 (8.19)

Note. Standard deviations are in parentheses. From DuPaul, Rapport, and Perriello (1991).

Appendix H

ADHD Rating Scale – IV
(DuPaul, Power, Anastopoulos, & Reid, 1998)

ADHD RATING SCALE–IV: HOME VERSION

Child's name_____ Sex: M F Age_____ Grade_____

Completed by: Mother_____ Father_____ Guardian_____ Grandparent_____

Circle the number that *best describes* your child's home behavior over the past 6 months.

	Never or rarely	Sometimes	Often	Very often
1. Fails to give close attention to details or makes careless mistakes in schoolwork.	0	1	2	3
2. Fidgets with hands or feet or squirms in seat.	0	1	2	3
3. Has difficulty sustaining attention in tasks or play activities.	0	1	2	3
4. Leaves seat in classroom or in other situations in which remaining seated is expected.	0	1	2	3
5. Does not seem to listen when spoken to directly.	0	1	2	3
6. Runs about or climbs excessively in situations in which it is inappropriate.	0	1	2	3
7. Does not follow through on instructions and fails to finish work.	0	1	2	3
8. Has difficulty playing or engaging in leisure activities quietly.	0	1	2	3
9. Has difficulty organizing tasks and activities.	0	1	2	3
10. Is "on the go" or acts as if "driven by a motor."	0	1	2	3
11. Avoids tasks (e.g., schoolwork, homework) that require sustained mental effort.	0	1	2	3
12. Talks excessively.	0	1	2	3
13. Loses things necessary for tasks or activities.	0	1	2	3
14. Blurts out answers before questions have been completed.	0	1	2	3
15. Is easily distracted.	0	1	2	3
16. Has difficulty awaiting turn.	0	1	2	3
17. Is forgetful in daily activities.	0	1	2	3
18. Interrupts or intrudes on others.	0	1	2	3

Appendix I

Children's Intervention Rating Profile
(Witt & Elliot, 1985)

Name_____ Date_____

What Did You Think?

		I do not agree					I agree
1	The way I worked on improving my homework completion was fair.	1	2	3	4	5	6
2	The way I worked on improving my homework completion was too hard.	1	2	3	4	5	6
3	The way I worked on improving my homework completion may cause problems with my friends.	1	2	3	4	5	6
4	There are better ways to improve my homework completion than the one I used.	1	2	3	4	5	6
5	The way I worked on improving my homework completion is good to use with other students.	1	2	3	4	5	6
6	I liked the way I worked on improving my homework completion.	1	2	3	4	5	6
7	I think the way I worked on improving my homework completion would help me to do better in school.	1	2	3	4	5	6

Appendix J

Coaching Training Protocol
(Adapted from Dawson & Guare, 1998)

SESSION 1 (40-minutes)

1. Present trainees with the general framework of the coaching model by stating the following:

> "The coaching model involves an initial session at which a written plan including goals and objectives is jointly developed by the coach and the student, followed by regular "coaching" sessions to evaluate progress and develop new objectives. The steps of the coaching sessions follow the acronym REAP, which we will now discuss."
>
> **Review**
> Review with the students the goals set at the last coaching session. Go over each item to determine if the students followed through on the goals that were set.
>
> **Evaluate**
> Have the students assess how well the goals were accomplished. How many goals were met? What interfered with meeting the goals?
>
> **Anticipate**
> Ask students to anticipate what has to be accomplished between now and the next coaching session. Students should include a review of homework assignments, upcoming tests or quizzes, and longer-term assignments that should be started.
>
> **Plan**
> Ask students what their plans are for completing tasks. Do not let students be evasive – ask for specifics. Have the students schedule exactly what is going to be done and exactly when it will be done. Write it all down so it can be reviewed at the next coaching session. Conclude the session with words of encouragement and assurance that you know the students can meet their goals.

2. Present coaches with the materials used to facilitate the coaching process by stating the following:

> "There are several standard forms that we will use to facilitate the coaching process. These include: the *Long-Term Goals Planning Sheet*; the *Coach Monitoring Sheet*; the *Homework Schedule*; and the *Long-Term Assignment Planning Form*. We will now review each of these forms in more detail."

3. Ask coaches to refer to the *Long-Term Goals Planning Sheet* by saying the following:

> "Please look at the *Long-Term Goals Planning Sheet*. This sheet helps students identify long-term goals and the potential obstacles that they may encounter as well as the steps needed to follow in order to achieve the goal(s). Further, it helps students identify supports, both within the school and at home, that they can draw on to help them reach their goal(s)."

4. Ask coaches to refer to the *Coach Monitoring Sheet* by saying the following:

> "Now turn to the *Coach Monitoring Sheet*. This sheet helps students keep track of the "big picture" (i.e., upcoming tests and quizzes, long-term assignments, other responsibilities such as sports, clubs, jobs). This sheet also helps students identify and document what they hope to accomplish before the next coaching session (Today's Plans). This section includes all academic tasks, including homework due the next day as well as beginning long-term projects or spending time studying for upcoming tests or quizzes. The student may also choose to work on behavioral goals (e.g., "participate more in class" or "stay for extra help")."

5. Ask coaches to refer to the *Homework Schedule* and the *Long-Term Assignment Planning Form* by saying the following:

> "Now, let's look at the *Homework Schedule* and the *Long-Term Assignment Planning Form*. Once students have identified the tasks that they plan to do, the coach has the students specify when each task will be accomplished using the *Homework Schedule* and/or the *Long-Term Assignment Planning Form*."

SESSION 2 (40-minutes)

1. Review the specific steps of the group coaching process by stating the following:

> "Yesterday (last time) we discussed the general parameters of the coaching model and reviewed the forms that are used to facilitate the coaching process. Does anyone have any questions about the general model or the forms? (Pause for questions) Okay, we will now discuss the specific steps in the group coaching model."
>
> **Session 1:** "The first coaching session will consist of a general description of the treatment, an explanation as to why completing homework consistently is important, a detailed description of the coaching process, and an introduction to long- and short-term goal setting. You will discuss the results of the Homework Problem Checklist with the students. You will say the following:"
>
> > **Everyone is here because they have been having difficulty getting their homework done on a regular basis. Everyone's parents**

identified homework completion as problematic. For example, many of you procrastinate or put off doing homework and some don't complete homework at all. Getting homework done consistently is important because it helps us do better in school. Students who regularly do their homework get better grades! I am here to help you get your homework done on a more regular basis. We are going to meet as a group everyday at this time for this marking period to work together on getting your homework done more consistently. To accomplish this, everyone is going to set goals, think about what prevents them from doing homework, and how to overcome those obstacles that keep you from getting homework done.

Does anyone know what a long-term goal is? (Allow 2 or 3 students to provide responses) Right, a long-term goal is something we want to accomplish in the future. For example, you may want to make the honor roll at the end of this marking period or get better at participating in class. When we set long-term goals it is important to make sure they are realistic and attainable. For example, if you really want to make the honor roll but right now you are failing several classes, it may not be realistic to make the honor roll this marking period. A better long-term goal might be to get your grades up to 70's or better in all your classes. To help us meet our long-term goals, it is important to set short-term goals as well. For example, if your long-term goal is to make the honor roll, a short-term goal might be to complete all your homework every day and/or to study for at lest 30-minutes prior to each test.

"You will then provide each student with his/her homework completion data from the prior two weeks and the *Long-Term Goals Planning Sheet.* With their pre-treatment level of homework completion in front of them, you will then ask students to set a long-term goal for homework completion and several short-term objectives that build up to that goal. You will provide students with examples of both short- and long-term homework completion goals. Students will be required to set at least one short-term objective. Once students have set their goals, you will ask several students to share their long-term goal and short-term objective(s) with the group. Be sure to move around the room as students work on formulating their goals and provide individual assistance as needed. You will say the following:"

I asked your teachers to let me know how much homework of your homework you completed the last two weeks. I am going to pass out sheets that list how many homework assignments you had and how many you completed over the past two weeks. I have calculated a "homework completion percentage" for you. I want you to look at this information and think about what your long-term goal for homework completion is. Then, I want you to think about how you can build up

to that goal. Let's pretend that I completed only 10% of my homework that last two weeks and that by the end of the marking period I want to be doing at least 85% of my homework. I might set a short-term goal of 50% completion for next week, 60% for the following week, 70% for the week after that, and then 80% for the week after that. In other words, I would work on doing more and more of my homework each week for the next month with the end goal of getting almost all of it done. I am going to give you a few minutes to think about your goals. I want you to write your goals on the *Long-Term Goals Planning Sheet.* Be sure to set at least one short-term goal. I am going to walk around and check how you are doing. If you need help, raise your hand.

"After students have set their long-term goal and at least one short-term goal, ask for student volunteers to share their goals. Provide feedback to each student who shares with the group. You will say the following:"

Okay, does everyone have their goals written down? Who would like to share their goal with the group?

"Once the goals are established, you will ask students to think of the potential obstacles that they might encounter as well as the steps they need to follow in order to achieve the goal(s) they identified. Via group discussion, you will help students identify supports, both within the school and at home, that students could use to assist them with goal attainment. You will say the following:"

Everyone's goals are great! Now, I want you to think about what might get in the way of you meeting your goal. What makes it hard for you to get homework done? Is it hard for you to concentrate on getting your homework done at home because it is really noisy or you have trouble resisting the urge to play video games or watch TV? Maybe you get home and realize you don't know what homework you have to do or you wait until the last minute and then are too tired to do it. Or, maybe you know what you have to do but are not sure how to do it. I want everyone to take a couple minutes to think about what makes it hard you to get your homework done and write them down where it says, "Are their barriers you need to overcome in order to meet your goal." I am going to move around to room, if you need help raise your hand. (Allow students several minutes to think) Okay, who wants to share with the group? (Allow several students to share their obstacles). Okay, now that we know what gets in our way, let's think about how we can overcome these barriers and what supports we can draw on. For example, if you weren't sure how to do the homework what could you do? (Allow students to respond) Good, one thing you could do is ask mom or dad for help. Okay, I want all of you to think about how you can overcome your barriers and what supports you

> **have to help you to do it. Write them down where it says, "how can you overcome these barriers" and "what environmental supports or modifications are necessary in order to help you meet these goals?" (Allow students time to complete this section) Okay, let's have a couple volunteers to share what they came up with.**

"During this first session you will also teach students how to complete the *Coach Monitoring Sheet*, the *Homework Schedule*, and the *Long-Term Assignment Planning Sheet*. You will say the following:"

> **One tool that all of you are going to use to help you meet your goals is the *Coach Monitoring Sheet.* This sheet will help you keep track of the "big picture" (i.e., upcoming tests and quizzes, long-term assignments, other responsibilities such as sports, clubs, jobs). This sheet will also help you identify and document what they hope to accomplish before the next coaching session (Today's Plans). This section includes all academic tasks, including homework due the next day as well as beginning long-term projects or spending time studying for upcoming tests or quizzes. You may also choose to work on behavioral goals (e.g., "participate more in class" or "stay for extra help"). Once you have identified the tasks you plan to do, you will specify when each task will be accomplished using the *Homework Schedule* and/or the *Long-Term Assignment Planning Form*. I want you all to work on filling out the *Coach Monitoring Sheet* while I walk around. Raise you hand if you need help. (Allow students several minutes to complete the form).**

"You will then close the first session by stating the following:"

> **Okay, everyone did a great job today. Tomorrow we will review how you did and complete a new *Coach Monitoring Sheet.* Then you will have some time to work on homework.**

Subsequent Sessions: "Except for the first coaching session of each week, all subsequent sessions will follow the same format. Each session will begin with a general review of the tasks the student had planned to do at the previous coaching session to determine if the student carried out the plans as intended. Referring to the *Coach Monitoring Sheet* completed during the previous session, you will ask students to read each item on the list silently to themselves, and determine if they did the task. You will then prompt students to evaluate (rate) how well they accomplished the task using the 5-point rating scale detailed on the *Coach Monitoring Sheet*. You will ask for several student volunteers to share with the group how they did. You will say the following:"

> **Good afternoon everyone! I want you all to take out the *Coach Monitoring Sheet* that you filled out last time. Look at the "Today's Plans" section. Read each of the items to your self and check "yes" if you completed the task or "no" if you did not. Next, rate how you did on the 5-point scale. (Give students a few minutes to do this). Okay, who would like to share how they did? (Allow several students to share) Did anyone encounter any obstacles that they were able to successfully overcome? How did you overcome them? (Allow several students to share) Now, did face obstacles they were unable to overcome? (Allow students to share) What could you have done differently? (If student is having difficulty, say the following) Let's help (name). What could he/she have done differently? (Allow discussion).**

"After this discussion you will prompt students to plan what will be done before the next coaching session and anticipate work that they have to do in the near future. At this point in the session students will complete a fresh monitoring sheet and they will fill out "The Big Picture" section. This step will involve transferring relevant information from the previous coaching session and adding any new assignments, tests, or responsibilities that may have come up since the previous session. Next, students are prompted to complete the "Today's Plan" section. You will mill around the room throughout the session, checking to make sure students are correctly completing the *Coach Monitoring Sheet*, assisting students as necessary, and providing words of encouragement. Be sure to check that each student has completed his or her *Coach Monitoring Sheet*. Introduce this portion of the session by saying the following:"

> **Okay, we are now going to complete a new *Coach Monitoring Sheet.* The first section we fill out is "The Big Picture" section. Be sure to transfer any long-term assignments or tasks that are not yet complete first and then add any new assignments, tests, or responsibilities that you have. Once you have done that, complete the "Today's Plans" section. I will be walking around the room, raise your hand if you need any help.**

"After these tasks are accomplished, students will be prompted to get started on their homework while you meet briefly (5-minutes) with individual students. Each student would be meet with individually once a week to discuss progress and, if needed, refine goals. You will meet with 3 to 4 students per session, making sure to meet with each student once during each week. You will introduce this portion of the session by stating the following:"

> **Once you have completed your *Coach Monitoring Sheet* and shown it to me, you can get started on some of your homework. I will be calling**

> **individual students up to the front of the room. I will be meeting with (name), (name), and (name) today. Be sure to bring your *Coach Monitoring Sheets* and *Long-Term Goals Planning Sheet* with you.**

"After meeting with individual the individual students, conclude the session by stating the following:"

> **Great job today! Everyone is making good progress. Keep up the good work and I will see all of you tomorrow.**

First Coaching Session of the Week: "The first coaching session of each week will vary slightly from the other sessions. During the first coaching session of each week, you will provide students with the previous week's homework completion data obtained from their teachers and will ask them to input that data in a pre-formatted graph that you provided to them. This is the initial task of the first coaching session of each week. You then follow the procedures of the ongoing coaching session outlined above. Introduce this portion of the session by stating the following:"

> **Welcome back everyone! How was everyone's weekend? We are going to start our session today by having you graph your progress toward your long-term goal. I am now going to hand out your weekly homework completion percentage. I want you to enter it on the graph that I (am handing out) gave you. This is week (week number), so be sure to enter the percentage in the right spot. I will be walking around, raise your hand if you need help. (Allow students time to plot the data) Okay, now I want you to take out your *Coach Monitoring Sheet* from (day of last session)…**

"Then you would proceed with script from ongoing coaching session outlined above. Does anyone have any questions about any of the steps?

Appendix K

Long-Term Goals Planning Sheet

Long-Term Goals Planning Sheet

Student's Name:_____ Date: _____/_____/_____

What is your long-term goal? Goal 1: _____

What do you need to do to meet your goal?

1._____
2._____
3._____
4._____

Are there barriers you need to overcome in order to meet your goal?	How can you overcome these barriers?
1._____	1._____
2._____	2._____
3._____	3._____

What environmental supports or modifications are necessary in order to help you meet these goals?

_____
_____

Other Tasks/Responsibilities:

_____
_____

What is your long term-goal? Goal 2: _____

What do you need to do to meet your goal?

1._____
2._____
3._____
4._____

Are there barriers you need to overcome in order to meet your goal?	How can you overcome these barriers?
1._____	1._____
2._____	2._____
3._____	3._____

What environmental supports or modifications are necessary in order to help you meet these goals?

_____
_____

Other Tasks/Responsibilities:

_____
_____

What is your long-term goal? Goal 3: _____

What do you need to do to meet your goal?

1. _____
2. _____
3. _____
4. _____

Are there barriers you need to overcome in order to meet your goal?

1. _____
2. _____
3. _____

How can you overcome these barriers?

1. _____
2. _____
3. _____

What environmental supports or modifications are necessary in order to help you meet these goals?

_____

_____

Other Tasks/Responsibilities:

_____

_____

What is your long-term goal? Goal 4: _____

What do you need to do to meet your goal?

1. _____
2. _____
3. _____
4. _____

Are there barriers you need to overcome in order to meet your goal?

1. _____
2. _____
3. _____

How can you overcome these barriers?

1. _____
2. _____
3. _____

What environmental supports or modifications are necessary in order to help you meet these goals?

_____

_____

Other Tasks/Responsibilities:

_____

_____

Do you think this is a realistic set of goals? ❒ Yes ❒ No How can it be modified?

_____

_____

Appendix L

Coach Monitoring Sheet

Coach Monitoring Sheet

Student's Name: _____ Date: ____/____/____

Long Term Goal:

The Big Picture:

Upcoming Tests/Quizzes Subject	Date	Long Term Assignments Assignment	Due Date	Other Responsibilities Task	Date
	____/____/____		____/____/____		____/____/____
	____/____/____		____/____/____		____/____/____
	____/____/____		____/____/____		____/____/____
	____/____/____		____/____/____		____/____/____
	____/____/____		____/____/____		____/____/____

Today's Plans:

What are you going to do? Academic Tasks:	When will you do it?	Did you do it?	How did you do? Not very well	So-so	Average	Very Well	Excellent
1.		☐ Yes ☐ No	1	2	3	4	5
2.		☐ Yes ☐ No	1	2	3	4	5
3.		☐ Yes ☐ No	1	2	3	4	5
4.		☐ Yes ☐ No	1	2	3	4	5
5.		☐ Yes ☐ No	1	2	3	4	5
6.		☐ Yes ☐ No	1	2	3	4	5
Behavioral:							
1.		☐ Yes ☐ No	1	2	3	4	5
2.		☐ Yes ☐ No	1	2	3	4	5

General Observations Regarding Goals and Performance:

Appendix M

Homework Schedule

Monday		
Study Hall 1	Study Hall 2	Study Hall 3
3:00	5:30	8:00
3:30	6:00	8:30
4:00	6:30	9:00
4:30	7:00	9:30
5:00	7:30	10:00

Tuesday		
Study Hall 1	Study Hall 2	Study Hall 3
3:00	5:30	8:00
3:30	6:00	8:30
4:00	6:30	9:00
4:30	7:00	9:30
5:00	7:30	10:00

Wednesday		
Study Hall 1	Study Hall 2	Study Hall 3
3:00	5:30	8:00
3:30	6:00	8:30
4:00	6:30	9:00
4:30	7:00	9:30
5:00	7:30	10:00

Thursday		
Study Hall 1	Study Hall 2	Study Hall 3
3:00	5:30	8:00
3:30	6:00	8:30
4:00	6:30	9:00
4:30	7:00	9:30
5:00	7:30	10:00

Friday		
Study Hall 1	Study Hall 2	Study Hall 3
3:00	5:30	8:00
3:30	6:00	8:30
4:00	6:30	9:00
4:30	7:00	9:30
5:00	7:30	10:00

Weekend Schedule	
Assignment	When will you do it?

Appendix N

Long-Term Assignment Planning Form

Description of Assignment: Subject:_____

_____

_____

_____

Due Date:_____/_____/_____

Step 1: _____

Date to be completed: _____/_____/_____

Step 2: _____

Date to be completed: _____/_____/_____

Step 3: _____

Date to be completed: _____/_____/_____

Step 4: _____

Date to be completed: _____/_____/_____

Step 5: _____

Date to be completed: _____/_____/_____

Step 6: _____

Date to be completed: _____/_____/_____

Step 7: _____

Date to be completed: _____/_____/_____

Step 8: _____

Date to be completed: _____/_____/_____

Step 9: _____

Date to be completed: _____/_____/_____

Appendix O

Treatment Integrity Training Protocol

"You will be observing 30% of each coach's daily sessions. Daily sessions are specifically formatted so that each coach is presenting the same information and following the same steps. Your job is to check to see of these steps are being followed. A "Procedural Checklist" has been created (give copy of checklist to person being trained). It consists of 6-items. They are…(orally review checklist items). You will observe the coach and check "yes" if the behavior was observed and "no" if it was not. Do you have any questions?"

Appendix P

Procedural Checklist

1. Did the coach cue students to review the *Coach Monitoring Sheet* completed during the previous session by stating, "Everyone take out the *Coach Monitoring Sheet* you filled out yesterday. Review the "Today's Plan" section and check YES if you accomplished the task and NO if you did not."

Yes_____

No_____

2. Did the coach cue students to rate their how well they accomplished each task by stating, "After checking YES or NO, rate your performance using the 5-point scale."

Yes_____

No_____

3. Did the coach cue students to complete a new *Coach Monitoring Sheet* by stating the following, "Spend a few minutes thinking about what work you have to do in the near future as I pass out a new *Coach Monitoring Sheet.* When ready, begin filling out "The Big Picture" section as I walk around the room."

Yes_____

No_____

4. Did the coach cue students to transfer relevant information from the previous *Coach Monitoring Sheet* to the new one by stating, "After completing "The Big Picture" section be sure to transfer any assignments, tests, or responsibilities that you still need to complete from the old sheet to the new one."

Yes_____

No_____

5. Did the coach cue students to add any new assignments, tests, or responsibilities that may have come up since the previous session to the new *Coach Monitoring Sheet* by stating the following, "After transferring relevant information be sure to add any new assignments, tests, or responsibilities that have come up since our last session."

Yes_____

No_____

6. Did the coach move around the room to check that each student correctly completed the *Coach Monitoring Sheet*?

Yes_____

No_____

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