

INTERVENTION PACKAGE TO INCREASE HOMEWORK IN
SIXTH GRADERS WITH ORGANIZATIONAL DIFFICULTIES

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ABSTRACT

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At the end of elementary school, students often find themselves unprepared for the more complex middle school environment. Students facing this daunting transition are at risk for school disengagement, yet at this grade level, they are still concerned about homework performance (Akos, 2002). Since 28% of average-achieving students have problems completing their homework (Polloway, Epstein, & Foley, 1992), the development of homework interventions while students are still motivated is crucial. Unfortunately, many interventions are written as handbooks without supporting empirical evidence and are not held up to the rigors of scientific testing. This study examined the effects of a homework intervention on sixth graders with organizational difficulties using a withdrawal of treatment (ABA) single-subject design. The intervention consisted of systematic daily adult support and prompting of student homework completion steps during school, including the use of a student homework planner to write down homework assignments. The study included a homework checklist to ensure all intervention steps were followed and as an important measure of treatment fidelity. Although the homework

intervention presented here was effective for some students, results were mixed. Two students, when compared to classmates, improved their homework completion levels with the onset of this intervention and reached more socially acceptable levels of homework completion. Two students showed no significant changes in overall rates of homework completion. For one participant, the homework intervention actually coincided with a sharp decrease in overall rates of homework completion – exactly the opposite of the desired result. The organizational measure given to students and parents before and after the intervention phase of this study did not yield significant results.

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CHAPTER 1

INTRODUCTION

Teachers assign homework for a variety of different purposes (Epstein & Van Voorhis, 2001). Homework is an opportunity for students to practice skills learned in class. It also prepares students for the next lesson and provides an opportunity to participate in learning. Homework allows students to learn personal development lessons like responsibility, perseverance, time management, self-confidence, and feelings of accomplishment. It has the potential to promote positive parent-child relations and parent-teacher communication because teachers are involving parents in their child's education. Homework may encourage parents and children to work together. Assigning homework fulfills school district policy and provides an indicator to parents and the public that the school is academically rigorous. Lastly, homework is sometimes assigned as a punishment for problem behaviors.

Statement of the Problem

When students enter the middle grades, they become less interested in school and less confident about their abilities (Wigfield, Eccles, MacIver, Reuman, & Midgley, 1991). Most middle school environments are very different from elementary schools, and students are asked to function in multiple classrooms during the day instead of one or two (Perkins & Gelfer, 1995). Because of the increased demands faced by children at this grade, many reach the middle grades without an understanding of how to navigate these complex environments. When interviewed, children at the end of the fifth grade and the beginning of the sixth grade reported homework as one of their greatest areas of concern

(Akos, 2002). In fact, of average-achieving students, 28% have problems completing their homework. That percentage rises to 56% among children identified with learning disabilities (Polloway, Epstein, & Foley, 1992).

Many barriers to homework completion relate to organizational skill deficits. Organized children are able to complete homework tasks given to them. To do this, they must be able to manage academic tasks within a certain time frame, arrange assignments and related materials within space so they can be retrieved quickly, and structure a specific plan of attack for each task (Zentall, Harper, & Stormont-Spurgin, 1993). Teaching new organizational skills at school may increase the chance that organizational skills will generalize to other environments such as the home (Stormont-Spurgin, 1997).

Students facing the daunting transition to the complex environment of the middle school are at risk for disengaging from school, yet at this grade level, they are still concerned about homework performance. For students having problems with homework, interventions need to be developed during the middle grades while the students are still motivated. Such interventions should focus on the organizational and study skills necessary to succeed throughout the rest of their school careers.

Teacher-directed interventions are plentiful in the homework literature (Bryan & Sullivan-Burstein, 1998; Balli, Demo, & Wedman, 1998; Bryan, Burstein, & Bryan, 2001; Epstein & Van Voorhis, 2001; Stormont-Spurgin, 1997). Unfortunately, many interventions are written as handbooks without supporting empirical evidence. The problem of homework completion among children in the middle grades is considerable, yet very few interventions have been consistently found successful, perhaps because of

the complex nature of homework. Homework interventions that lay full responsibility on the teacher may fall short because most teachers are already overworked with excessive demands on their time and energy (Miller & Nunn, 2001; Tye & Tye, 1993; Barth, 2001). Although research supports parental participation in their child's school careers (Balli, 1997; Balli, Wedman, & Demo, 1997; Bryan, Burstein, & Bryan, 2001; Epstein & Van Voorhis, 2001; Hoover-Dempsey, Battiato, Walker, Reed, DeJong, & Jones 2001; Keith & Keith, 1993), most classroom homework interventions fail to include parents.

While the creators of such handbooks and guidelines have used the interventions they are proposing in their own classrooms, they have not held these interventions up to the rigors of scientific testing. This study will explore the important components of successful homework interventions for children in the middle grades with poor homework completion. It will examine the effects of an intervention on total homework completion rates in disorganized sixth graders and determine its feasibility for use in the classroom.

Significance of the Problem

Homework is an important part of the education process. It provides an important opportunity for students to perfect the skills learned in the classroom and strengthen the underlying knowledge required for future lessons. As such, disorganized students who routinely fail to complete their homework will face compounding obstacles in coming years. If homework completion and organizational issues are not addressed at the outset, there is enormous potential for the development of low self-efficacy among these

students and the beginning of the cycle of disengagement from school may be established.

While there are many publications recommending certain interventions to teachers and parents, there are far fewer empirically-supported studies available. Perhaps the reason for this disconnect is the highly complex nature of homework. Homework takes place at home, school, and any other sites where children spend time after school completing (or not completing) homework. Internal characteristics of students, the dynamics of the family and the classroom, the nature of the assignments themselves, the quality of study-friends, environments in the home, and time spent in extracurricular activities are some of the many elements leading to the ultimate completion (or non-completion) of homework assignments. The assumption here is that it is of utmost importance that adult-supported interventions are of extremely high quality with proven effectiveness before they are placed into the hands of the parents and teachers of children who have homework completion problems.

Rationale

This study assessed whether a homework intervention can effectively increase homework completion in sixth graders who had been nominated as disorganized by their teachers. It aims to extend the current literature by clearly defining the intervention itself and studying it systematically. Consequently, the ultimate desired outcome for this study is maintenance of acceptable homework completion levels by students themselves.

If one component leading to homework completion is the quality of the systems in which children reside, then it often follows that issues of task completion or organization

may also be a problem for the adults within these systems. Introducing interventions that have not yielded positive empirical outcomes when carried out with high treatment integrity is irresponsible when dealing with potentially problematic systems. Instead, this dissertation attempts to develop a sound intervention that: (1) is based on commonly accepted interventions from the literature written for parents and teachers, (2) uses the wisdom of successful empirically-validated research findings, (3) uses the researcher as the primary interventionist to ensure high treatment integrity documented throughout the study, and (4) is one that teachers will easily welcome and adopt in their classrooms with minimal changes to pre-existing curricula and practices.

If implementation of this is successful, then it is expected that homework completion rates for children described as disorganized by their teachers according to specific criteria will increase to high levels when the intervention is introduced. This intervention supports the acquisition of improved organizational skills in participants by requiring that each step necessary for successful homework completion occurs. It is expected that homework rates will decrease, approaching baseline levels.

Research Questions

The study aims to answer the following research questions: (1) Can an intervention utilizing a homework support checklist increase homework completion in identified sixth graders? and (2) Can an intervention utilizing a homework support checklist increase child scores on an organizational scale?

CHAPTER 2

REVIEW OF THE LITERATURE

This chapter defines homework and reviews the literature relevant to the current study. First, there is first a discussion of the role of homework in education, including the links between homework and achievement. The second section presents common problems that interfere with homework completion. A discussion of the important internal and external changes which occur during a student's transition to middle school follows. The next sections contain reviews of the literature about student perspectives on homework, teachers' roles as designers of homework, and home-school communication issues. The chapter ends with a review of interventions for poor homework completion that have yielded effective empirical results and the research questions this study aims to answer.

Homework has been defined as “tasks assigned to students by school teachers that are meant to be carried out during non-school hours” (Cooper, 1989, p. 7). Successful homework performance includes both homework completion and homework quality (Callahan et al., 1998). Assignments given as homework account for 20 percent of a child's total engaged academic time (Cooper & Nye, 1994). When students are not successfully engaged in homework activities, they are missing out on a significant portion of their school experience.

Role of Homework in Education

Links between Homework and Achievement

Cooper and Valentine (2001) conducted a meta-analysis on the effects of homework on achievement and found that of 11 reviews conducted between 1960 and 1987, 5 found positive effects, and 6 determined no clear conclusion could be drawn because of lack of trustworthy evidence. They showed the relationship between homework and achievement was moderated by the student's age or grade level. Specifically, the higher the grade of the student, the stronger the link between homework completion and achievement.

There are two popular explanations for the finding that the link between homework and achievement increases as students progress to later grades. First, younger children are more affected by internal and external distractions. Because their time on task may be lower, the correlation between time doing homework and achievement may be weaker. Second, younger children have less effective study habits. This may also affect how efficiently they are using homework time. It is important to note it is possible task focus and study habits may also relate to spurious third variables such as developmental maturity or intelligence, which may also explain the link between doing homework and achievement.

Cooper and Valentine (2001) also considered several less-popular explanations for the finding that achievement and homework performance are more linked for students in later grades. Of these, they believed two had some statistical merit. One partially supported explanation was that elementary teachers tend to assign homework for the

purpose of teaching time management and effective study skills, rather than to increase children's knowledge and academic skill base. As a result, this sort of homework is not highly correlated with achievement scores. The other plausible explanation was that poorer performing students tend to take longer to complete homework assignments, offsetting the increase in achievement. In this case, time on task is not correlated with knowledge gained. Schumaker and Deshler (1988) found homework problems increase with age, so the range of homework performance is greater for older students than for younger students. Other possible explanations are that students who are unsuccessful at homework eventually give up and stop trying or that in the later grades, homework counts for a larger portion of their grade, so that low homework completion rates lead to poor grades. The increase in the range of performance as students advance in school may also help explain this change in correlation between homework and achievement.

Benefits, Limitations, and Negative Effects

Parents and teachers view homework as having many benefits. Several researchers have hypothesized about the positive effects homework has on students in school. Hartensteiner and Marek-Schoer (1992) believe well-designed homework assignments may raise achievement levels and grades, and may also teach responsibility, initiative and self-discipline. Based on survey research, Johnson and Pontius (1989) find teachers believe homework is tied to responsibility. Homework may also improve student attitudes toward school (Hoover-Dempsey et al., 2001) and coincide with good study habits (Fulk, 2003; Cooper & Nye, 1994). In identifying several potential purposes of homework, Alleman and Brophy (1991) hypothesize homework may be a way to involve

parents in the educational process. Cooper and Nye (1994) suggest several academic and nonacademic positive effects of homework, including several of the effects already mentioned above, as well as the facilitation of better understanding and retention of academic material. Some reasons teachers give for assigning homework are to review skills, to individualize instruction, to increase time on task, and to provide opportunities for more practice (Gajra & Salend, 1995). Specifically, homework allows children to practice the skills and lessons they are learning in the classroom, utilizing time that might otherwise not be spent on schoolwork (Bennett, 1999).

While intuitively, it may seem the practice of homework is a beneficial adjunct to the classroom experience, opinions about the benefits and limitations of homework are not consistent across researchers. Homework can positively affect children in both academic and nonacademic ways. Cited positive academic effects of homework include the immediate effect on retention and understanding of classroom content, improved study skills, improved attitudes towards school, and the notion that learning can take place in any setting (Cooper & Valentine, 2001). Nonacademic benefits include involving parents in the school process, encouraging students to work independently and to be responsible, improved companionship with the family, and an increased awareness by parents of what their children are doing in school (Balli et al., 1997; Cooper & Valentine, 2001).

Unfortunately, homework can also result in the negative effects. Corno (2000), in her reconceptualization of the role of homework, hypothesizes homework may lead to an increase in boredom from spending too much time on a topic; a lack of access to leisure

time; the danger of parental involvement becoming intrusive, unhelpful, and even confusing; the acquisition of undesirable character traits like cheating; and the exacerbation of pre-existing social inequalities. One example of this final effect is that children from a lower socioeconomic level are more likely to have parents that work at night, so they may receive less help from their parents after school.

Not doing homework or doing it poorly may also have an adverse effect on academic achievement (Bryan, Burstein, & Bryan, 2001). Some research has shown lack of homework completion is a major factor contributing to poor academic performance and school failure of at-risk youth and youth with disabilities (Callahan et al., 1998). Results of a meta-analysis conducted by Cooper and Valentine (2001) show students who did not do homework did not perform as well academically as students who did complete homework. While the studies cited in this section revealed that not doing homework has negative effects, they do not explain why some students have trouble completing their homework. The section that follows will address these issues.

Homework Problems

Almost one-third of average-achieving students have problems with homework completion (Polloway, Epstein, & Foley, 1992). While these problems vary from student to student, it is clear the process of homework completion can be quite a complex one. To complete a homework assignment, a number of tasks must be successfully completed. These include writing down assignments, bringing all necessary materials home, finding a time and a place to work, completing the work, bringing the assignment back to school, and turning in the assignment to the teacher. Sometimes students are aware of all these

steps intuitively, but many students need more explicit instructions to complete all the steps.

Although poor homework completion may be due to defiance or willfulness on the part of the child, there are still other real barriers students face when completing homework. These barriers include understanding assignments, accurately recording assignments, remembering to bring materials home, setting aside time to work, organizing necessary materials, following through and completing work, putting work in a safe place, and bringing that work back to school (Bryan, Nelson, & Mathur, 1995; Epstein & Polloway, 1993). There are internal and external influences that can affect whether or not these barriers can be overcome. Poor organizational skills are an instance of an internal barrier. The next section will describe how poor organization and study skills can affect homework completion.

Poor Organization and Study Skills

Homework involves a number of organizational skills, which are frequently not taught. These skills become important as students approach the last year of elementary school. At this phase of schooling, teachers begin preparing students for the greater demands of middle school. Between the fifth and seventh grades, the routine typically changes from children staying in one classroom with one teacher all day to changing classes up to five times a day. This is a crucial transition in the development of good organizational skills and will be discussed in a subsequent section. The skills students gain in their first year of multiple class changes will help students adapt to the upcoming middle and high school environments.

Organized children are able to complete homework tasks given to them. To do this, they must be able to (1) manage academic tasks within a certain time frame, (2) arrange assignments and related materials within space so they can be retrieved quickly, and (3) structure a specific plan of attack for each task (Zentall, Harper, & Stormont-Spurgin, 1993). Stormont-Spurgin (1997) recommends collaboration with parents so new organizational skills taught at school can also be encouraged at home. This increases the chance of generalization of organizational skills. The next three sections will describe three primary aspects of organization that can be supported by teachers in the classroom and by parents in the home environment. The first is task analysis, which means breaking down tasks into smaller, more manageable components. The second is establishing specific routines that support homework completion. The third is teaching students to use homework planners, which organize homework completion through communication between home and school.

Task Analysis

According to Dean and Jud (1965), a task analysis is “a specialized method for writing up a procedural job as a basis for preparing instructional materials... analyz[ing] the basic steps of any job so that [one] can successfully teach it to someone else. (p. 9)” Task analysis procedures have been used to teach many types of tasks, including teaching self-care skills to adults with severe mental retardation (Epps, Stern, & Horner, 1990) and improving task completion in children with behavior disorders (Richman, Wacker, Cooper-Brown, Kayser, Crosland, Stephens, & Asmus, 2001). In education, task analysis can be useful when teaching large, multi-step tasks.

Although it sometimes goes by different names (such as job analysis, step analysis, content analysis, contextual inquiry, and procedural task analysis), task analysis (see Hughes, 1982 and Gagne, 1974 for reviews) involves systematically breaking down activities into their smallest components by analyzing smaller and smaller sub-tasks in as much detail as possible and putting them into a specific sequence.

Information gained from this process is helpful in developing specific behavioral objectives and goals in addition to identifying and selecting appropriate strategies for remediation of problem behaviors. In the classroom, task analysis also works well as a way for teachers and parents to assess the completion and accuracy of school tasks. Students are taught to break down or task-analyze assignments into smaller components, so the task is less overwhelming (Zentall et al., 1993; Mengel, 1998; Martin & Waltman-Greenwood, 1995).

Although this technique is frequently suggested in the popular magazines like *Parenting* (c.f. November 2002 and September 2003 issues) and by guides designed to improve homework completion (see Dawson, 1998), there are no empirical homework studies supporting this technique for use with children. Still, because of its prevalence as a suggested intervention, it may prove to be a promising intervention technique for disorganized students. Determining the subtasks of nightly homework or large projects and developing a suitable plan for completing them can be a primary component of a predictable daily routine.

According to Jonassen, Tessmen and Hannum (1999), one important reason task analyses are performed is to construct performance assessments and evaluation. For this

study, having a list of the important sequential steps necessary to have homework assignments written down and proper homework materials in a child's bag should increase the overall success in completing homework. Daily performance assessment of participants' completion of these required steps will be an important component of this intervention design.

Daily Routines

Daily routines foster a feeling of security for children because they are able to understand expectations and are able to practice fulfilling them every day. For academic tasks, use of consistent schedules, routines, and expectations is very important so children arrive home with all necessary materials, including a written record of the homework assignment for the night. Although researchers such as Reitz (1994) emphasize structure and consistency as crucial elements in teaching new behaviors, it is likely many teachers do not utilize them as much as they could.

Routines also occur in the home environment. Xu and Corno (2003) found parents directly teach children how to arrange their study environment and manage time. Children are often able to internalize these skills early on, although they may not always take the initiative to put them into action.

When students are able to function on "an automatic, subconscious level in all the routines to be used," (Appleton, 1995, p. 293) they are able to spend more time on learning tasks. When parents and teachers have to give continual reminders about what is expected of students, and when students do not understand what is expected of them, they spend less time on task (Appleton, 1995).

Many magazines, newspapers, and books in the popular press give suggestions for how to establish homework routines (e.g. Bush, 2004; Canter & Hausner, 1987; Rosenberg, 2004; Zentall & Goldstein, 1998). One important component of an effective daily routine is the use of a homework planner to increase the communication and coordination between the home and school environments. This intervention identified use of a homework planner as a crucial component (or sub-task) of successful homework completion.

Homework Planners

Students' organizational skills can be supported with calendars, schedulers, lists, and other devices to self-monitor activities (Warger, 2001). A homework planning calendar can be used to keep track of homework assignments. To facilitate home-school communication, a space next to each assignment can be reserved for notes from parents to teachers and vice-versa. When homework planners are used, students are asked to take homework planners home each day and return them to class the next day.

In their study of homework completion, Bryan and Sullivan-Burstein (1998) collaborated with teachers over a two-year period. Teachers reviewed the homework literature then designed and implemented the three strategies they thought would be most effective. One of these was the use of a homework planner as a way to increase children's self-management and organizational skills. Their hope was that the use of the homework planner would make it easier for them to communicate more frequently with parents about homework. Students fell into four categories: students identified with a learning disability with homework problems, students identified with a learning disability without

homework problems, average-achieving students with homework problems, and average-achieving students without homework problems.

Results indicated students with homework problems had significantly higher homework completion rates when they were given homework planners as compared to students who did not receive the planners. Overall, the homework planner intervention benefited the students with homework problems more than it did those without a homework problem. Teachers in the study received many positive responses from parents about the use of the planners. Communication between parents and teachers also improved as was expected. After the study ended, all the teachers in the Bryan and Sullivan-Burstein (1998) study decided to keep using the planners because of the positive effect on homework completion throughout the school.

The study by Bryan and Sullivan-Burstein (1998) suggests many children's homework problems relate to organizational skill deficits. Providing organizational support directly to children can increase homework completion success. Another cause of homework non-completion is procrastination. Even students who know how to be organized have trouble implementing these skills in daily life. One of the most detrimental barriers to homework completion, even among students who know how to be organized, is procrastination. The next section describes procrastination and how it often gets in the way of homework completion.

Procrastination

Janssen and Carton (1999) define procrastination as “needlessly delaying a task until the point of some discomfort” (p. 436). Their study of college students found

students who believe consequences relate to their own behavior and abilities began working on assignments sooner than students who believe consequences have more to do with outside influences like luck, fate, or the instructor. Students in the first group also turned in completed assignments sooner than students in the latter group. This implies that to decrease student procrastination, it is important for students to believe academic consequences are a result of their own behavior and abilities.

There may be an inverse relationship between procrastination and academic achievement. A large study of junior high and high school students in Australia showed academic achievement related positively with academic esteem and negatively with procrastination (Owens & Newbegin, 1997). One implication of this finding is the importance of addressing procrastination when trying to increase academic achievement. Procrastination tends to increase as students enter late adolescence (Milgram & Toubiana, 1999), so steps to remediate procrastination in the early adolescent years are crucial.

Morse (1987) has identified seven primary reasons students procrastinate: poor self-concept, fear of failure, need for perfection, fear of success, rebellion against authority, external locus of control, and lack of skill. He proposed a good intervention should also address the "negative feelings and attitudes" of procrastinators. Addressing the underlying reasons for procrastination is an important feature of the design of an effective homework intervention.

Typical approaches to remediation of procrastination include time management (Van Eerde, 2003) and behavioral contracting (Lamwers & Jazwinski, 1989). Cognitive restructuring, reframing, and visualizations of successful accomplishment of academic

goals are common ways counselors treat procrastination, although there is relatively little solid outcome data for the clinical treatments of procrastination (Ferrari & Johnson, 1995).

Given the information presented here, it follows that a successful homework intervention should also address the negative attitudes that lead to procrastination. No matter how effective parents' and teachers' homework interventions are, there are still the important effects of development and school environment. The transition from elementary to middle school and the developmental adjustments of adolescence are powerful life changes that are not smooth for all children. The next section of this chapter explains why these internal and external life changes have such a strong effect on children, and how these changes can get in the way of successful homework completion.

Student Transition to More Responsibility

Akos (2002) described the transition from elementary school to middle school as “especially challenging because it involves significant school and personal changes” (p. 339). According to Perkins and Gelfer (1995), most middle schools are significantly different from elementary schools. Students in the middle school grades are going through many physical, emotional, and social changes as a result of puberty, and as a result, they are more likely to be defiant and highly emotional (Berk, 1993). This effect is heightened by the fact that these pubertal changes occur at different rates for different students, making this a particularly fragile emotional time for students as they compare their development to that of peers (Berk, 1993).

Fenzel (2000) found the emotional stress that comes from peer relationships and school factors during the transition from elementary school to middle school causes students to have decreased feelings of self-worth. Students who receive social support from close friends and students who feel socially competent are less likely to have these feelings of decreased self-worth. The combination of changes in both the external school environment and the internal emotional and physical environment make this a particularly difficult time for students (Akos, 2002; Eccles, Midgley, Wigfield, Buchanan, Reuman, Flanagan, & MacIver, 1993)

For many years, researchers affiliated with the University of Michigan's Patterns of Adaptive Learning Study have explored the link between the academic environment and early adolescents' academic and emotional well-being. In one study of African-American families living in poverty, Gutman and Midgley (2000) found school grades declined significantly during the transition from elementary to middle school. They also found students who had good feelings about their academic ability had higher grades across the transition than children who felt less confident in their academic ability. Last, they found significant interaction effects between family and school factors. Parental involvement alone does not have an effect on student grades. However, when parental involvement is combined with other factors, it is more likely to have a significant and positive effect. Specifically, the researchers found two significant interactions: the interaction between parental involvement and school belonging and the interaction between parental involvement and perceived teacher support. So, teachers who facilitate meaningful parental involvement can enhance the parents' ability to support their

children in school. On the other hand, when parents are excluded from the educational process, they may feel alienated from the school, and this can decrease the effectiveness of parental involvement. Based on these results, the authors suggest perhaps the best way to support academic achievement in this population is to focus on both family and school factors across this transition rather than only one of the two primary environments.

Once students enter junior high school, they become less interested in school and less confident about their abilities (Wigfield, Eccles, MacIver, Reuman, & Midgley, 1991). When students believe their middle school is supportive, caring, and focused on individual effort, this belief relates to better performance, feelings about school, and behavior than in schools that are seen as more competitive (Eccles et al., 1993). The classroom environment changes dramatically as students transition from elementary to middle school. The specific ways middle school classrooms differ from elementary classrooms will be described in detail in the “Classroom Environments” section of “Homework Begins in the Classroom.”

Akos (2002) interviewed fifth and sixth grade students, asking them what they were most concerned about as they approached middle school. Students at the end of their fifth grade year were most worried about older students, homework, and using a locker. Students at the beginning of the sixth grade (those beginning middle school in their district) were most worried about rules and homework.

During this time of great student change, parents also change their attitudes and behaviors. Parents feel the transition from elementary to high school is important, and they tend to raise their expectations of self-determined behavior and responsibility as this

transition approaches (Bryan & Nelson, 1994). By the time students reach junior high, they often want to do homework without adult supervision (Bryan & Nelson, 1994). Still, middle school students may continue to benefit from clear expectations of how to arrange their work environment, how to cope with distractions, and how to deal with negative emotions when homework becomes challenging (Xu & Corno, 2003).

For many students, the transition from elementary school to middle school may be a smooth process, with new organizational and study skills seeming obvious. For others, these skills need to be taught explicitly. The present study targets the latter group of students, using one of the primary worries of beginning middle school students as the target behavior. If these students can receive support with homework completion, perhaps the transition they make into the sixth grade, and the transition they make the next year to seventh grade in a new school will be that much easier.

Student Perspectives on Homework

There have been several studies that have cited the opinions of parents and teachers about the purposes and benefits of homework (Balli et al., 1997; Bennett, 1999; Cooper & Valentine, 2001; Epstein, 1988; Epstein & Van Voorhis, 2001; Hartensteiner & Marek-Schoer, 1992; Martin & Waltman-Greenwood, 1995). However, there is little research-based understanding of students' perspectives and feelings about homework (Warton, 2001). Many researchers have asked students themselves for their perspectives on homework. The next sections discuss students' attitudes about homework, how those attitudes shift during the transition to middle school, and what students have to say about their motivation to do homework.

Student Attitudes about Homework

Chen and Stevenson (1989) found 61% of 250 American fifth graders reported having negative feelings about homework. In a follow-up assessment, children were more likely to report the reasons they spent as much time as they did on homework were because of parental pressure and because teachers gave long assignments rather than because they liked doing homework. Overall, Chen and Stevenson (1989) found there was a significant positive association between children's feelings about school and feelings about homework. The implication of these findings is that homework may actually lead students to feel more negative about school, instead of the desired effect of boosting students' self-esteem and helping them to like school more.

Leone and Richardson (1989) found students reported significantly more negative levels of affect, arousal, and motivation during homework time than during any other activity of the day, including class time. This trend did not vary by grade or gender. They also found affect, arousal, and motivation were likely to be the lowest when homework was completed alone, as opposed to when it was completed in more social settings (for example, in the presence of parents or friends or in class).

Csikszentmihalyi and Larson (1987) asked students in grades five through nine to carry an electronic pager. These researchers monitored students' emotional states and activities every two hours throughout the day. In this study, students reported their lowest levels of motivation during homework time. Attention levels for homework time were highest when an adult was present. Like Leone and Richardson (1989), Csikszentmihalyi and Larson (1987) found students reported lower levels of motivation and positive affect

during homework time than during any other time of the day. This indicates the social context of homework completion matters (Warton, 2001). Completing homework in the presence of others may cause it to be a less negative experience for students.

According to Eccles (1983), the value of any task relates to three primary components: the importance of doing well on the task, the immediate enjoyment of engaging in the activity, and how useful the task seems for reaching future goals (more costs are acceptable if engaging in the task will help the person reach future goals). The first of these three components is the one over which teachers have a great deal of influence. Teachers can communicate to students the importance of doing well on homework by checking that it has been completed, by providing feedback on assignment, and by linking work content and process completed at home to work in class. Warton (2001) suggests when homework is turned in to the teacher, but no feedback is provided, the teacher demonstrates to the student that doing well on the task is unimportant. This means when teachers neglect to provide feedback to students about homework, they are decreasing the chances students will understand the value of homework.

Teachers and parents have a clear idea of the link between homework completion and achievement and why homework is important in the attainment of students' future goals. For students, on the other hand, the costs of doing homework often feel like a burden, because students fail to understand the greater purposes of homework as clearly as parents and teachers (Warton, 2001). Instead of a way to practice the skills necessary for growing into responsible adults or practicing skills for greater mastery, students see homework as a way to please adults and receive approval (Warton, 1997; Xu & Corno,

1998). Still, one study found approximately 75% of sixth graders understood homework was their responsibility and not the responsibility of parents or teachers (Warton, 1997)

Gajria and Salend (1995) surveyed 96 sixth, seventh, and eighth graders with and without learning disabilities on their views about homework. While there were differences in the reports of children with and without learning disabilities, both groups reported they (1) believe homework is not important, (2) sometimes forget what homework is assigned or do not bring the correct materials home to do homework, (3) often misunderstand assignments, (4) procrastinate on homework assignments, (5) fail to use a homework schedule, and (6) often make excuses for incomplete assignments. These negative attitudes about homework and failure to complete assignments with success often lead to low motivation and interest in homework completion.

While the general feeling is that homework is a way to improve students' interest in school, Warton (2001) suggests it is possible homework may, in fact, undermine rather than support interest in school. This may have more to do with the type of homework assigned rather than the fact of doing work in the after-school hours. Chen and Stevenson (1989) suggest dislike for homework may relate more to the quality of the homework assigned rather than specific dislike for doing work outside of school.

Shift in Attitudes during Middle School Transition

Not only do student homework behaviors change, students' perspectives about homework also change significantly during the transition from elementary school to middle school. Focusing on the student perspective of homework provides a picture of

the multi-faceted and complex homework dynamic, which involves multiple settings and multiple levels of influence.

Bryan and Nelson (1994) surveyed 1,527 students from 9 to 15 years of age in both regular and special education about self-evaluations and opinions of homework. Children in the seventh and eighth grades were significantly less likely to report they learned a lot from homework assignments than younger children in grades four, five, and six. They were also significantly less likely to report liking school than the children in the younger age group or that they were doing well in Spelling, Math, or Language homework assignments. These results suggest the transition from elementary school to middle school does coincide with degradation in attitudes about homework. Often degraded attitudes about homework coincide with decreased levels of motivation. The next section describes students' perspectives about how motivated they are to do homework and what specifically motivates them to do the assignments.

Student Motivation to Do Homework

Much like student attitudes about homework, student motivation to do homework is determined by multiple factors. Researchers (Fazey & Fazey, 2001) found one's sense of competency, locus of control, and autonomy significantly affects motivation. Children's motivation affects academic achievement (Anderman & Maehr, 1994; Ryan & Powelson, 1991). There are also factors lying outside the child that relate to both children's motivation and academic performance. These factors include parental involvement and teacher warmth (Ryan & Powelson, 1991).

Singh, Granville, and Dika (2002) used structural equation modeling to examine the effects of motivation, attitude, and academic engagement on the achievement of eighth graders. Participants were a random sample of eighth graders who participated in the 1988 National Education Longitudinal Study (NELS). This sample comprised about 25% of the original group of NELS eighth grade participants, and students for whom there was not complete data were excluded from Singh et al.'s (2002) analysis.

The motivation factor that Singh et al. (2002) found in their factor analysis related to many issues described as organizational in the present study. This motivation factor was made up of three items: comes to class without books, comes to class without materials, and comes to class without homework. While this factor had no direct effect on Math achievement (including scores on standardized test of Math achievement and Math grades), it did have an indirect effect via its effect on attitude about Math and time spent on academic work, including time spent on homework. This Math attitude factor was comprised of the following three items: Looks forward to Math class, thinks Math will be useful in the future, and reports low levels of boredom at school. Math attitude also affects time spent on academics, including time spent on Math homework. The combination of attitude and “time spent on academics” affects Math achievement and grades.

Students’ ability to monitor their own motivation and emotion develops later than their ability to arrange study space and manage time. (Corno, 2000; Xu & Corno, 2003). Parents and teachers may find they need to be active in supporting students’ motivations to do homework later than they may have first thought. Motivation is a difficult skill to

teach, although Xu and Corno (2003) found parents do make the attempt.

Developmentally, increased internal motivation is slow to develop, and internalizing lessons about self-motivation is a long, slow process. Still, students do take initiative to motivate themselves. While controlling emotions is a skill parents both model for and teach to children, this is a complex set of skills that takes time to develop. Students are not easily able to internalize these lessons, nor do they take the initiative to control negative emotions during homework time (Xu & Corno, 2003). Parental participation in the development of motivation can also be detrimental in certain cases. Bryan (2001) found students feel less motivated to do homework when parents come across as coercive and pressuring (Bryan, 2001).

In a study of middle, junior, and high school students with and without learning disabilities, Gajria & Salend (1995) found that teachers can increase motivation to do homework by discussing in class why it is important for attainment of good grades, by providing feedback on homework in a timely manner, and by using homework contracts. Teachers have the capacity to design homework assignments that are more likely to result in a positive affective response in students, thus motivating increased academic engagement (Corno, 2000). For students to have interest in improving homework completion and accuracy, they need to understand why assignments have meaning (Gajria & Salend, 1995; Bryan, 2001). If they do not see meaningful relevance, they are less motivated to perform well. The logical outcome of this finding is for teachers to assign real life assignments whenever possible (Bryan, 2001).

When students are more interested in learning tasks and outcomes for their own sake (intrinsic) than in the rewards received (extrinsic), they are more likely to become effective learners (Deci & Ryan, 1985). Intrinsic motivation occurs when students engage in an activity, which brings them pleasure. Extrinsic motivation occurs when students engage in an activity to earn a reward or avoid a punishment. When students work for extrinsic rewards instead of intrinsic rewards, that work is more susceptible to parental interference, meaning that instead of receiving help from parents, students entice their parents to do their work for them. Corno (2000) believes interventions may not be as effective when children are working because of external demands.

The Role of the Teacher in Homework

Homework is assigned by teachers in school classrooms. Although the curriculum is often handed down from school systems and corporations, it is the teacher's job to convert this curriculum into daily assignments and homework. Teachers design homework assignments, and the quality of homework design may determine students' ability to complete the homework accurately and on time. Teachers are also in the position to reach out to parents and engage them in their child's education. The environment of the classroom also plays a part in children's understanding of the content of assignments and how well they organize materials to bring home for nightly assignments.

Teachers Can Design Effective Homework Assignments

Teachers serve the important role of designers of homework assignments. When they design homework effectively, students are more likely to complete homework and

benefit from it (Epstein & Van Voorhis, 2001). Well-designed homework assignments may raise achievement levels and grades (see Cooper & Valentine, 2001, for a review), and may teach responsibility (Johnson & Pontius, 1989), initiative and self-discipline (Hartensteiner & Marek-Schoer, 1992). A danger when designing homework is developing overly simple homework assignments that lead to boredom. Corno (2000) hypothesized boredom may lead to frustration, tedium, and daydreaming. Ideally, when designing assignments, teachers need to find balance between overly complex and assignments that are too simple.

By finding ways to make homework assignments meaningful to students, teachers increase student motivation to do homework (Gajria & Salend, 1995). Well-designed homework is more likely to result in a positive affective response from students, which is likely to lead to increased academic engagement (Corno, 2000). Making assignments meaningful and designing quality homework assignments make the chances parents will be interested in their child's homework completion more likely. The next section highlights ways teachers can encourage parental participation in homework completion and why this is so important in supporting students.

Teachers Can Encourage Parental Participation

When teachers create well-designed homework assignments, this increases the chances parents are going to become involved in their child's education over time. When parents are more involved, teachers actually report liking their jobs more (Epstein & Van Voorhis, 2001), so teachers themselves can begin the cycle that can lead to their own job satisfaction.

Teachers who take time to encourage parental participation tend to have the attitude that all parents can help their children. On the other hand, teachers who do not encourage parental participation are more likely to stereotype less-educated parents, saying those parents don't really care about their child's education (Epstein & Van Voorhis, 2001). This relationship between teacher and students' parents is a crucial one in the development of effective study skills, including homework completion, as children progress to higher and higher levels of academic autonomy.

Communication between Home and School Environments

“Homework is a bridge for knowledge to travel back and forth between school and home (Corno, 2000).”

Homework involves a high level of complexity. Children do homework outside of school, so teachers do not supervise its completion. Students may complete homework in one of several locations: home, after-school programs, on buses, in libraries, or at the homes of friends or relatives. Students may receive homework support from parents or friends (either live or on the phone), from the Internet, or from workers at after-school programs. These environments and individuals affect and are affected by the homework process itself. Additionally, the child both affects and is affected by homework and the environments in which it is completed (Corno, 2000).

Home-School Communication Problems

Not only is homework linked to the family, it is also connected to school factors (Bryan, 2001). Although homework begins in the classroom, bringing school assignments into the home environment can actually change the dynamics of family functioning.

According to Bryan et al. (2001), “When the child has a homework problem, the family has a homework problem (p. 177).” Teachers report it is important they communicate “often and clearly” with parents about homework (Bryan & Sullivan-Burstein, 1998). Still, parents and teachers have differing beliefs about homework (Bryan, Burstein, & Bryan, 2001), which suggests a need to improve communication. Polloway (2001) found home-school communication patterns were a key variable in improving homework performance.

Parents and teachers tend to blame each other for poor communication about homework (Bryan, 2001; Munk, Bursuck, Epstein, Jayanthi, Nelson, & Polloway, 2001). The focus of this blame often centers on not initiating and maintaining communication about homework, not following through with previously agreed upon channels of communication and homework-related tasks, and not providing clear messages. Teachers are “on their own in setting homework demands,” and parents are “on their own in seeking help (Bryan, 2001, p. 178).”

Balli (1997) suggests addressing home-school communication problems by coaching students to invite family involvement as a way to facilitate partnerships between families and the educational community. Through enhanced communication channels, parents are better able to build consensus on expectations, assignments, and problem solutions (Bryan, 2001). Once that consensus is built, parents can become more involved because they have the skills to do so. Parents can learn to monitor children doing homework as a way to stay involved. This may increase the parent-child bond, although if parents monitor too closely and hover, there is also the danger this will lead to conflict.

This section has discussed problems that can occur in the communication between home and school. The next section examines the home environment and its complexity in greater detail.

Homework Goes Home

When homework goes home, it enters an environment that differs greatly from the school environment. Parents are expected to create environments that foster the completion of assignments developed by teachers. Some parents are highly skilled at the content of homework and organizational and study skills, while other parents are not. Home environments include several other factors, including the physical components of the living space and other family members, which can distract children from homework assignment. Some home environments support successful homework completion while others fall short.

The Role of the Parent in Homework

Parents believe they should be involved in their child's homework completion, that involvement is something their child's teacher wants, and that their involvement will make a positive difference in their child's achievement (Hoover-Dempsey et al., 2001). They look to teachers for specific advice about how best to involve them in this process (Hoover-Dempsey & Sandler, 1995). Often, parents who want to help with homework of their students in the middle grades do not feel as prepared as parents of elementary students (Balli et al., 1997).

Whether positive or negative, there is little doubt the parents' role in the process of homework is significant (Callahan et al., 1998). Many researchers believe parental

involvement with homework enables and enhances its positive effects (Balli, 1997) and is a strong factor leading to student achievement. One notable exception is Balli et al.'s (1997) finding that higher levels of family involvement were not associated with higher student achievement. Keith and Keith (1993) analyzed data collected from 21,814 eighth-grade students from the National Education Longitudinal Study of 1988 (NELS). This study examined students' critical transitions starting in elementary school and continuing on through high school and beyond. They found parental involvement is a powerful influence affecting the achievement of students in the eighth grade. Many other studies have found parent involvement correlates with improved academic performance (Balli, Demo, & Wedman, 1998; Balli, Wedman, & Demo, 1997; Epstein, 1992; Rhoades & Kratochwill, 1998). For example, a study of over 21,000 eighth graders revealed this correlation might be due in large part to the increased homework completed by students with more involved parents (Keith & Keith, 1993). Epstein (1995) found parental involvement is also positively associated with positive attitudes toward school.

Sometimes, homework can become a negative experience for parents, students, and teachers. Homework can be a source of "frustration, aggravation, disappointment, and self-doubt" for parents and students, so much so that homework may no longer be valued, because it is seen as a negative experience (Baumgartner, Bryan, Donahue, & Nelson, 1993). Some parents look at homework as a punishment (Bryan, 2001). For example, teachers will often "punish" students for not completing all their class work by sending the incomplete work home with the student. Another problem is some parental

“help” can come across as coercive and pressuring for students (Bryan, 2001). This can have a negative effect on how motivated students are to do homework.

Quality and quantity of parental involvement can vary greatly. Student achievement was found to be higher when parents monitored homework, participated in school activities (such as field day and PTA meetings), and supported the work and values of the school (Epstein, 1984). Bryan et al. (2001) found systematic and structured parent participation was a useful way to improve homework compliance, homework accuracy, and test scores in children identified with a learning disability. Balli (1997) found the quality of involvement by families in their child’s homework was at least as important as the quantity of that involvement.

The amount of time parents spend involved with their child may depend on the socioeconomic level of the family. There is debate about how the socioeconomic level of a student’s family affects how involved that family is in their child’s education. According to Balli (1997), parents from higher socioeconomic levels are more involved with their child’s education, and this higher level of involvement leads to better academic performance. Conversely, Sui-Chu (1996) found parents tended to supervise children’s homework at about the same level, regardless of their SES level.

Bryan et al. (2001) believed parental presence remained important across all ages. According to the National Educational Goals Report (1995), 65% of parents reported helping their first graders with homework, but by the time they reached the eighth grade, that level had dropped to only 14% of parents. While the nature of parental involvement

certainly changes over time, such a decrease in quantity may not be the best option for children.

Parents are important to middle school students when it comes to homework completion (Xu & Corno, 2003). They can minimize distractions, help children cope with negative emotions, help them focus on the homework task at hand, and encourage persistence. Parents can also model and suggest strategies for completing homework, including arrangement of the homework environment, and monitoring attention, motivation, and emotions. Parents teach their children how to arrange the environment and children are able to internalize these skills early on. Still, students do not always take the initiative to put it into action. Parents also model and suggest strategies for focusing attention and managing time (Xu & Corno, 2003)

Although students eventually learn to monitor their own motivation and emotion, this tends to develop later than the ability to arrange their study space and manage time. (Xu & Corno, 2003; Corno, 2000). Middle school students still benefit from clear expectations, especially those related to arranging the environment, coping with distractions, and regulating negative emotions when homework becomes too difficult (Xu & Corno, 2003).

Parental Involvement: Barriers and Motivators

Many authors have suggested ways to increase parental motivation to become involved in their child's homework. First, it is important to consider barriers that may decrease the likelihood of parental involvement. Levin (1997) found many parents worry helping their child with homework will cause the child to become dependent upon them

and helpless to complete homework alone. The other significant barrier is animosity between parents and the child's school and teachers. Bryan et al. (2001) reported parents who struggle to keep children on-task during homework time may become frustrated with their child's teacher and school, especially if the teacher is not taking the child's abilities, limitations, and needs into account.

When surveyed, a significant number of sixth grade students believed they performed better in school when parents helped them with their homework (Balli, 1997). Parents report three primary factors that motivate them to become involved in their child's academic lives, specifically through monitoring homework completion (Hoover-Dempsey & Sandler, 1995). First, they themselves must believe the role of the parent should include helping with homework. This usually occurs because their own parents modeled this when they were in school. Second, they must experience their own efficacy as a helper. In other words, they need to feel like the help they are offering is actually useful to their child. If they lack the skills or knowledge to be effective in helping their children, they are less likely to become involved. Lastly, parents are motivated to help if they perceive pressure from their child or their child's teacher and/or school to do so.

Many research findings support parental involvement in their child's academic lives through involvement in homework. According to Bryan et al. (2001), student performance increases when parents are coached to help their children with homework. Specifically, when parents are coached to help children with relevant academic skills or the application of organizational self-monitoring strategies, this positively influences their child's academic performance. Balli (1997) found student and family prompting

lead to higher levels of family involvement in their child's homework for students in the middle grades. Parent involvement increases and is of higher quality when parents receive instructions, when there are opportunities provided to practice role-playing homework scenarios, when materials are provided, and when social support is provided throughout (Bryan, 2001). Balli (1997) believes it is in the best interest of teachers to find ways to support parents in understanding of homework concepts and in how to use developmentally appropriate strategies when they help their children with homework.

Distractions in the Home Environment

The home environment is often a hectic one, filled with overlapping schedules, competing responsibilities and needs of family members, and many types of distractions.

External Distractions

Patton, Stinard, and Routh (1983) found 49% of fifth through ninth graders surveyed reported doing homework with the television on. To study the distraction of television, Pool, Koolstra, and Van Der Voort (2003) asked eighth-graders to complete a memorization task when a television was on and in a condition without television. Students performed significantly worse on the task and took significantly longer to complete the task when the television was on than students who completed the task without the presence of a television.

Fifty-eight percent of students surveyed in Patton, Stinard, and Routh's (1983) study reported playing music while completing homework. Students, in general, believed music made it easier to do homework and television made homework completion more difficult. Over half of students in a survey of sixth graders reported television and

telephone as their most significant distractions. Other distractions reported were noise made by parents and siblings, appliance noises, doorbells, radios, and stereos. Students in Benson's (1988) study said parents were in an ideal position to monitor and minimize these external distractions.

There are even times when the assignment itself can be distracting. Sometimes there are entertaining aspects of a homework assignment (called "seductive details") that may keep the child from being able to finish (Harp & Mayer, 1988). According to Harp and Mayer (1998), "seductive details do their damage by 'seducing' the reader's selective attention away from the important information." (p. 415). Besides seductive details embedded within assignments, there may also be seductive details in the environment itself. Examples of these distractions include assignments that require looking up information on the Internet, coloring, and learning new features of the computer. Sometimes, these ancillary aspects of the assignment can be more interesting than the task itself and derail students' primary aim of completing the assignment.

Fortunately, certain internal processes can act as buffers to external distractions. The primary example of this is motivation. Motivated students can often maintain task focus, even in the presence of external distractions (Xu & Corno, 2003). This is another reason it is so important teachers design homework assignments that increase motivation by making assignments meaningful and providing feedback regularly.

Internal Distractions. The inner emotional states of students can affect their ability to complete homework. Negative emotions and anxiety can decrease a child's

ability to focus on homework while motivation can foster focus in the presence of external distractions (Corno, 2000; Xu & Corno, 2003).

Students may get frustrated with homework, leading to anxiety and inefficacy. This may cause them to avoid doing homework as a way to avoid these negative feelings (Hoover-Dempsey & Sandler, 1995). Students may also perseverate on their weaknesses rather than taking action and doing their homework (Corno, 2000).

According to Corno (2000), children who are distracted can upset an entire household. Homework time can become a time families dread. When assignments take longer than expected, this can cause stress in the entire family. Parents and siblings may either engage in distracting activities which keep students from being able to finish their homework assignments, or parents and siblings or other members of the household may resent students who require distractions be kept at a minimum to complete assignments. Like classrooms, the home environment is complex and filled with factors that support and compete with successful homework completion.

Effective Homework Interventions

In a review of homework problems and interventions for students with learning disabilities, Bryan, Burstein, and Bryan (2001) found nine empirically-based homework intervention articles. What follows are several relevant data-based studies of effective homework interventions.

Many interventions have been effective in increasing overall rates of homework completion, including specific strategies for parents, specific strategies for children, home-school communication, and interventions that alter school policies and

assignments. As was stated in a previous section of this dissertation, students with homework problems had significantly higher homework completion rates when they were given homework planners as compared to students who did not receive the planners (Bryan & Sullivan-Burstein, 1998).

Training parents to use specific strategies in the home has been effective in increasing rates of homework completion in studies with certain populations of children. Four children in the fourth and sixth grades considered to have homework problems increased their rates of homework completion to those of the children in their class without homework problems after their parents were trained to use structured home study time (Rhoades & Kratochwill, 1998). Parents of 26 at-risk sixth and seventh graders were trained to use home-based self-management and reinforcement strategies. Completion levels and quality increased for those participants whose parents consistently implemented the homework program over ten weeks (Callahan et al., 1998).

Sometimes interventions focus on teaching children strategies to change their own behavior. For example, Hughes, Ruhl, Schumaker, and Deshler (2002) found children with learning disabilities who were taught a strategy comprised of specific organizational behaviors increased then maintained their grades and the quality of their homework assignments, as rated by their teachers. Similarly, Trammel, Schloss, and Alper (1995) found adolescents who were taught to self-monitor, graph, and set goals had increased homework completion rates.

Some effective homework interventions result from changing the way schools operate. For example, Hartensteiner and Marek-Schroer (1992) found stricter homework

policies resulted in more completed assignments and of those completed assignments, more were turned in on time. Bryan and Sullivan (1998) found giving students real-life assignments, using homework planners, and teaching students to graph homework completion lead to increases in completion rates of children with homework problems. Another effective intervention addressed the communication between home and school. Strukoff, McLaughlin, and Bialozor (1987) used a daily report card system, sending school homework performance home to effectively increase the homework completion of a fifth-grade female.

Selection of Treatment Components

The homework intervention designed for this study utilizes several treatment components found effective through empirical studies, as well as components that have strong face validity and are frequently recommended in the less data-driven literature.

A task analysis of the steps required to successfully arrive home with all necessary assignments and materials was completed. A homework checklist consisting of these steps was used to measure each student's success on a daily basis.

Homework planners were included as an important treatment component in this intervention. As stated previously, Bryan and Sullivan–Burstein (1998) found using a homework planner increased homework completion success. Also, homework planners are already an important part of the current school culture. Matching the intervention to the pre-existing culture of the school was an important means to increase the likelihood of teacher acceptance and adoption of this intervention.

Positive empirical support for the direct teaching of organizational skills to students led to the inclusion of that teaching as a primary component of the intervention in this study. One assumption of this study's design is that children with skill deficits in organization come from homes and school systems that may also be disorganized. It was important to test this intervention's effectiveness with high treatment fidelity before placing the intervention in the hands of parents and teachers. As a result, the design of this study relied on the primary researcher as the interventionist rather than on the adults already in the student's life. If successful results are obtained, then the next step is to teach parents and teachers how to use a similar checklist.

To increase the social validity of the intervention, it was decided alteration of school homework policies and the nature of homework assignments was unwise. Every attempt was made to decrease the demands made on busy parents and teachers.

Research Questions

An intervention was designed using the aforementioned criteria to answer the following research questions: (1) Can an intervention utilizing a homework support checklist increase homework completion in identified sixth graders? (2) Can an intervention utilizing a homework support checklist increase child scores on an organizational scale?

CHAPTER 3

METHODOLOGY

Participants

Five sixth graders in the last year of elementary school participated in this study. These participants were 11-12 years old. Sixth grade classroom teachers were recruited at a local elementary school. Potential participating schools were recruited by first contacting local principals. One of the two schools contacted did not have traditional sixth grade classrooms, and instead had mixed-grade classrooms. As a result, the school with the more traditional one-grade classrooms was chosen for this study. The principal investigator met with teachers at the beginning of the study and presented an overview of the study, including expectations, and potential risks and benefits for both teachers and students.

Recruitment

During a pilot study, teacher identification of children who were having trouble completing homework did not correlate with students with low rates of homework completion according to their grade books. So the researcher collected baseline data for all sixth grade academic classes using anonymous identifiers to maintain confidentiality thereby 1) obtaining an accurate baseline level for the whole sixth grade class and 2) identifying students who had atypically low rates of homework completion.

In this sixth grade, there were three teachers and three blocks in the day, meaning that there were nine class rosters and nine sets of grades. The Reading and Writing teacher does not assign homework, so no information about homework completion was

available for her classes. The researcher visited the classrooms of the remaining two teachers every day to collect homework completion data. The goal was to identify the students who were most inconsistent with their homework completion. Because teachers did not assign homework nightly, it took several weeks to collect sufficient information for the pilot study/recruitment. Homework was typically assigned two to four nights a week.

In the week before the intervention phase was to begin, one of the two remaining teachers decided to move to in-class group projects. This meant that he would no longer be assigning homework for the rest of the school year. Thus, all of the participants identified as having low homework completion rates were in the remaining teacher's class. While this teacher taught both Math and Science, the homework assignments always related to Math and not Science.

The criterion for low homework completion rates was missing at least 1/3rd of homework during baseline data collection. In order to be included in the study, the teacher had to agree that the primary reason these students were not turning in their homework was organizational (rather than skill) deficits. The teacher was asked to exclude students who may have an unidentified learning disability. Students who met the criteria for poor organizational skills tended to keep their desks, backpacks, folders, and lockers messy; frequently leaving books and supplies necessary for homework at school. They often left homework assignments at home instead of bringing them back to school, lost assignment sheets, forgot to write assignments down, and had trouble prioritizing

which assignments or tasks were the most important. The researcher encouraged the teacher to exclude children who might find the homework too academically difficult.

Solicitation of Consent

Once it was determined which students met the study criteria, the primary contact teacher called the parents directly to determine whether they were willing to allow their child to participate in the study. If parents expressed interest, the Reading and Writing teacher sent them a letter, consent form, and an organizational scale. This letter included a basic description of the study including benefits, potential risks, and expectations of parent and child participants. Until it was determined that a parent was interested in participation, the researcher did not know the identity of the nominated students. This ensured that the privacy of parents was protected. If a parent was not interested in participation, teachers recommended another child with low homework completion rates that may benefit from the proposed intervention, and they sent the same letter home. This repeated until there were five student participants in the study, and participating parents and students had signed and submitted informed consent forms. Because students whose parents did not want them to participate were not shared with the researcher, the total number of students who qualified for participation is not known.

Student Participant Descriptions

Teachers were asked to describe briefly the organizational skills and homework completion of all study participants during the current school year. Because of the organization of class changes in the sixth grade at this school, all sixth grade subject teachers had every student in the sixth grade in their classroom at some point during the

day. The purpose of the subjective descriptors was to have a baseline narrative of the student's skills for comparison at the end of the study to determine improvement.

Students were surveyed regarding their general feelings about homework and why they think teachers assign homework. This was done so that outcomes for different students could be compared to their attitudes about homework. It may be the case that certain attitudes make this a more appropriate intervention for certain students than for others.

Participant 1. The first participant was a 12-year old white female who lived with her mother and two siblings: one older brother and one younger sister. According to one teacher, this participant's mother tries to be her friend rather than the person in charge of the household. The Math and Science teacher described this participant as "disorganized" with a locker that is "often a mess." He reported that she was turning in about 75% of her total assigned homework during this school year, although her rate of turning in homework was sufficiently low during baseline that she met study criteria for low homework completion. According to this teacher, her homework performance "can be streaky... turns in everything, and then turns in nothing for a while." This teacher reported that Participant 1 "always has an attitude and an excuse, and never accepts responsibility." He also said that it is his belief that the parent of this child enables her deflective behavior. The second teacher interviewed has this student for Reading and Writing class and said that this participant's occasional writing pieces were frequently late by a day or two with excuses like "computer breaking down" and leaving her assignments at home. This teacher reports that the Trapper Keeper this child uses for

school is “pretty chubby,” meaning overloaded with papers and badly organized. The last teacher interviewed was the Social Studies and Life Skills teacher. When asked about this student’s organizational skills and homework completion, he described them as “very inconsistent.” This teacher felt that this student was “sometimes very committed to getting things done [and] other times slacks way off.” He said that he has seen some improvement over the school year.

Participant 2. The second participant is a very intelligent 12-year old white male who spends part of his time at his mother’s house and part of his time at his father’s house. The custody used to be split equally, but his mother has recently gone back to school, so he has been spending more time at his father’s house. This participant has a younger sister. Sometimes she is in the same house, and sometimes not. He often does not know who will be picking him up from school. The second participant was described by his Math and Science teacher as “very disorganized.” According to this teacher, Participant 2 “seldom does homework or other assignments.” Instead, he daydreams and is “seldom on task.” Despite poor homework completion and poor organizational skills, this teacher described Participant 2 as intelligent and says that he “learns well through audio/visual modes.” This teacher says that he “seems to want to succeed and do the right thing, but cannot bring himself past the planning stage and into the production stage.” When this child does complete his homework, this teacher reports that it is still frequently lost before it is turned in for credit. The Reading and Writing teacher said that this participant turns in very few assignments. She says that she does not know if he is “disorganized or uncaring.” When he does turn in homework assignments, they are

usually very late. Finally, the Social Studies teacher described him as “very intelligent and very insightful.” Still, he “often forgets to do his work, but remains interested and likes to participate in discussions.”

Participant 3. Participant number three lives with her mother and her stepfather. She has two older sisters, one in high school who lives in the home and another who is enrolled in her first year at a local university. She is a 12-year old white female and, according to her homeroom teacher, she “runs the show.” Her teachers described her as a very sophisticated child who gets along well with adults and is very interested in rock music. Her Math and Science teacher described her as “often unaware of homework assignments and/or cannot find them, lost them, forgot to do them, etc.” This teacher reports that Participant 3 “does not keep an assignment notebook” and “misses a lot of school and does not do make-up work.” The teacher Participant 3 has for Reading and Writing and homeroom says that her homework “has been late more often than not. Big assignments have not been turned in.” This teacher described this participant’s binder as “huge, bulging,” and “spilling out over her desk.” Her Social Studies teacher described her as “a bit scattered in organization.” He says that she occasionally forgets to complete assignments,” but she usually makes an effort to “catch up and keep up.”

Participant 4. The fourth participant is a 12-year old white boy who is very active in extracurricular sports. He lives with his mother, his father, an older brother in middle school, and a younger sister who is also in elementary school. His teachers say that he is not very interested in school. His Math and Science teacher described the fourth participant as “disorganized,” and at the time he was interviewed about this student, he

felt that the student's homework had "really dropped off in the last few weeks." He felt that this participant did not "put much emphasis on school." It should be noted that mid-study, this teacher reported that he felt that this participant might have an unidentified learning disability, although he had not provided this information during the recruitment process despite being told that students who were not completing their homework because of learning disabilities were not appropriate. His Reading and Writing teacher described him as turning in assignments late "more often than not." According to her, Participant 4 "seems to forget things in his locker regularly." His Social Studies teacher described Participant 4 as "very disorganized." According to this teacher, the student "needs help with structure" and "will forget to do work unless pressure is kept on." Although his homework completion and organization are not good, he still "is interested in some aspects of History."

Participant 5. The fifth participant is a 12-year old biracial girl who lives with her mother, her mother's boyfriend, and a sister who is one year older than she is and who, according to the participant's homeroom teacher, is frequently in trouble at school. She is one of the tallest children in her class, and all of her teachers have mentioned her negative attitude towards authority figures. The student was described as "relatively well-organized" with homework often completed. This student's Math teacher described Participant 5 as having "quite an attitude" and said, "She does not appreciate the importance of an education." Her Reading and Writing teacher says that she "uses an assignment notebook" and "usually turns in assignments on time, although there have been a couple of late ones." According to this teacher, Participant 5 has a messy locker.

According to her Social Studies teacher, she began the year “very disorganized and inconsistent.” He says that now, “she seldom has her Social Studies work missing and tries to prepare and participate.” It should be noted that this student’s low homework completion rate during the baseline of this study still made her eligible for participation.

Setting

This study took place in the sixth grade of a public elementary school with grades 4 through 6 in a mid-sized city in the Midwest. There were many similarities between the sixth grade at this school and sixth grades in other local middle schools. Most importantly, the sixth grade in this elementary school is on a separate floor from the rest of the school, and students change classes multiple times per day. There were 480 students enrolled at this school during the current year. White students comprise 83% of the population of the school. Other races represented were Asian (6%), African-American (4%), Multiracial (4%), and Hispanic (2%). Fifteen percent of this student population receives free or reduced lunch. On average, 97% attend school each day. This elementary school rates in the highest 25% of elementary schools in the state for standardized test scores and attendance rates.

Although this elementary school typically has a sixth grade enrollment of approximately 150 students, during the year of this study, enrollment was atypically low, with a total sixth grade enrollment of only 94 students. The sixth graders were in their first year of changing classes multiple times a day. There were three sixth grade classrooms. Students follow a block schedule, with three 74-minute blocks in each day. During each block, teachers each taught two subjects: Social Studies/Study Skills,

Science/Math, and Reading/Writing. The child's Math level determines their group assignment.

Design

Quality of Design

The purpose of single subject research is to document functional relationships between independent and dependent variables (Marchant, Martella, & Nelson, 1999). Horner, Carr, Halle, McGee, Odom, and Wolery (2005) believe that in quality single subject designs, (1) descriptions of participants and settings should be detailed so that results can be replicated by other researchers; (2) dependent variables should be operationally defined, measured repeatedly, and monitored for consistency throughout the experiment; (3) independent variables should be operationally defined and the treatment fidelity should be documented; (4) there should be a baseline measure that is described in detail, and the response pattern should be documented using multiple data points; (5) there should be well-documented experimental control for most threats to internal validity; and (6) every attempt should be made to establish the external and social validity of the results of the study. Horner et al. (2005) also suggest assessing the degree to which the preceding elements have been applied to the study. Earlier in this chapter, the participants, recruitment procedures, and the setting of this study were described in enough detail to allow replication by other researchers. The remaining sections of this chapter include all information that these researchers identified as critical for quality single subject design.

ABA Design

This study used a single-subject design to determine the effectiveness of a homework intervention. Specifically, a withdrawal of treatment (ABA) design was used to examine the effects of the intervention. The ABA Design is a three phase design consisting of a no-intervention baseline phase (A), an intervention phase (B), and a no-intervention withdrawal phase (Kazdin, 1982). In reversal designs, the introduction and withdrawal of the independent variable produces the experimental control. When the dependent variable changes at the same time a new intervention phase begins, there is likely an experimental effect, thereby establishing a functional relationship between the independent variable and the dependent.

If the dependent variable does not return to baseline levels during the second baseline phase, this may indicate the possible influence of a third variable. Another explanation is that the intervention was successful in causing a stable change in the dependent variable (i.e. learning has occurred). In order to establish true experimental control, threats to internal validity that may account for the change in the dependent variable need to be ruled out systematically (Kazdin, 1982).

According to Kazdin (1982), collection of baseline data is important for both descriptive and predictive reasons. Baseline data describe the extent of the problem behavior before intervention. Baseline data also help predict how that behavior may change if the intervention is not implemented. For example, if the behavior is increasing on a daily basis, then that trend may continue if no remediation is employed.

In this type of design, each participant acts as his or her own control to determine what sort of homework completion rates can be expected without further intervention (Kazdin, 1982). Because the design enables this type of comparison within each participant, as well as between participants, threats to internal validity are minimized. Replication using several participants increases the external validity of the results (Martella, Nelson, & Marchand-Martella, 1999). The threat that the shared history of the participants poses to internal validity is controlled for by the withdrawal phase. While some outside event might happen at the same time that the intervention begins, it is not likely that the event will also end at the same time the intervention ends. By minimizing threats to internal validity, one can make more confident statements regarding the functional relationship between the independent and dependent variables (Horner et al., 2005; Kazdin, 1982).

The goal of this study was to determine whether structured outside organizational support in the school environment would increase the completion rates of students having trouble with homework. If homework completion rates improve during the first intervention phase, then return to baseline levels when the intervention is suspended, then the homework intervention was effective.

Baseline

Baseline data were collected for all five participating students along with anonymous aggregate data for all students in the sixth grade for each class. The latter data

were collected to describe current homework completion levels and to predict future homework levels if no intervention were implemented. During the baseline phases (A), students participated in class as they normally do during the school day. Students did not receive special support for homework completion. This set of procedures was directly replicated across five participants. The intervention began after attaining a stable baseline. The researcher collected daily homework completion data for all student participants for the duration of the study. Data collection continued for approximately eight weeks.

Intervention Phase

The intervention phase began once there was the establishment of a stable baseline level. During this phase, the researcher and the student filled out the student homework checklist appropriately during the last academic block of the school day before the final bell.

Independent Variable. The independent variable in this study is specific adult support and prompting of student homework completion steps during school. A homework checklist was created for use both as a guide to make sure that all intervention steps were followed and as an important measure of treatment fidelity. A detailed description of the adult support and prompting is in the “Using the Homework Completion Checklist” section that follows. The adult support and prompting were the intervention, and recording these behaviors using the homework checklist was the measure of treatment fidelity.

Student Planner. One of the primary components of the homework completion checklist was using a student planner (see Bryan & Sullivan-Burstein, 1998). At the beginning of the intervention phase of the study, the researcher trained all participating students to use a student planner. This involved the following steps: (1) the student carried the student planner to the classroom and wrote down the following day's assignments in it, including the necessary materials needed for each assignment, (2) the student took the student planner home and used it to complete the assignments due for the next day, and (3) the student showed the relevant page in the student planner to the researcher during their brief meeting together the following school day.

Using the Homework Completion Checklist. The researcher met with each student in the hallway to go over the content of the homework completion checklist. This meeting occurred individually with each study participant, regardless of whether homework was assigned or due that day. This interaction between researcher and student lasted approximately five minutes daily when school was in session.

Using the homework completion checklist as a guide, the researcher began each brief meeting by asking the student if they had homework due that day. If the child answered incorrectly, the researcher corrected the misinformation. Next, if homework were due, the researcher asked the child if they turned that homework assignment in. If they said that they did, and that was correct, then the researcher offered verbal praise (for example, "Great job."). Sometimes the student reports did not match the teacher's reports. In these cases, the researcher told the child about this discrepancy and asked for

further explanation. Next, the researcher asked the child to tell what happened to prevent the homework from being turned in.

If the child reported that they did their homework, but they did not turn it in during class, the researcher asked the child where they thought the homework was. The researcher then asked the student what they needed to do the next time to make sure they are able to turn their homework in during class. If the student did not turn the homework in during class, the researcher asked the student the following question: “What do you need to do to make sure you turn your homework in during class the next time?” If the student responded with a relevant answer, the researcher praised the student for his or her response and then repeated that answer back to the student. For example, if in response to the initial question the student said, “I need to remember to get my Math workbook when I’m at my locker before Math class and bring it with me,” the researcher said, “Great! That’s exactly right. So when you’re at your locker tomorrow before Math class, you’re going to do your best to remember to get your Math workbook and bring it with you.” No punishment (verbally or otherwise) was given for missed steps.

Next, the researcher asked the student if homework was assigned for that day. If the student answered that there was no homework, and that was correct, the researcher confirmed that fact by agreeing with the child. If the student reported that there was no homework, but there was, the researcher told the child about the homework. Next, the researcher and student walked to the classroom where the homework was assigned and copied the assignment for the day into their student planner. If the student reported that there was homework assigned for the day, then the researcher asked the student to show

where the assignment was written down. If they did not write it down but said they remembered it, the researcher asked them to write it down in their planner and checked that it was correct. If necessary, the researcher prompted the student to write the assignment down in their planner. The same procedure just described was used to ensure that the student listed all items required to complete their homework, prompting if necessary. If there was new homework assigned for the night, the researcher walked with the student to his or her classroom to retrieve the items they listed as necessary for the completion of their homework that night. The student brought these items and the student planner to their locker, and the researcher watched the student put these into their bag to take home with them that day from school.

Before walking students back to class, the researcher thanked them for their time and asked them once again to articulate their goal. The target answer was “Turn my homework in during class.” If they answered anything else, questions were asked to encourage them to articulate this goal. For example, if they said, “Do my homework,” the researcher replied, “Yes, that’s really important, but what is the ultimate goal?”

Return to Baseline

The second baseline phase came at the end of the study to determine how removal of the intervention affected student homework completion. The researcher met with each student on the next school day after the last intervention day to thank them for their participation. Students received a thank you card and were told how much their participation helped the researcher to learn about students and homework. During this

second baseline, students participated in class as they normally do during the school day with no extra homework completion support.

Measuring Treatment Fidelity

Because the intervention was spread over an extended period of time in single subject design, it was important to document its implementation for the duration of the study (Horner et al., 2005). Without documentation of the independent variable over time, replication is not possible.

During the intervention phase, the researcher recorded all information the child gave about their homework on a homework completion checklist. This checklist appears in Appendix A. The checklist was designed to help students check that they were completing all of the necessary steps to ensure that their homework was completed and turned in. These data serve as an important measure of treatment fidelity.

Data gained from the homework completion checklist also allowed the researcher to see how many of the sub-steps of homework were completed. Homework requires a sequence of completed steps for a successful outcome. A child may have written down the homework assignment in the planner without any prompting and have all the necessary materials with them in their backpack, yet still failed to turn in the homework assignment the next day. Although the child still received 0% as a measure of homework completion, that child may have completed several of the necessary steps based on data from the checklist. This is important information, because it helps determine exactly which steps are causing problems for the student.

During each individual student meeting, the researcher recorded whether the student said that homework was due that day, including any details the child offered. If the child said that they did their homework but did not turn it in, the researcher recorded in detail what the child said about whether they did their homework, and where their homework was now located. The researcher recorded whether it was necessary to prompt the student to write down the daily assignment. Together the student and the researcher initialed completed items, including “Today’s entire homework assignment is written down in the student planner,” and “In the student planner, all necessary materials for homework completion are listed. (For example: textbook, handouts, notebooks, folder, and supplies).” Once again, the researcher recorded whether a prompt was necessary for the student to write down necessary supplies. After confirming that all relevant items were in the student’s backpack, the researcher and the student both initialed this checklist item.

Dependent Variables

The primary dependent variable was each student’s homework completion rate. In order for homework assignments to be considered complete, they had to be turned in on time. Late assignments were considered incomplete, since the goal of this intervention was for students to turn in completed assignments on time. This criterion was designed to exclude homework assignments left in lockers or at home. All parts of the homework must have been attempted, even if the answers were not correct. If participating students met these criteria, then the teacher counted that homework assignment as complete.

The only time the researcher accepted late assignments was when students were absent from school. When this occurred, the teacher's policy about turning in homework after an absence was used as a guide.

Social Validity

According to Wolf (1978), assessment of social validity should focus on the social importance of treatment goals, the acceptability of treatments to relevant stakeholders, and social importance of treatment outcomes. One can assess outcomes subjectively through appraisal either by consumers or by comparison with existing norms.

Normative comparison

Although research has suggested that homework is beneficial (Epstein, 1988; Hartensteiner & Marek-Schoer, 1992; Martin & Waltman-Greenwood, 1995), it is necessary to determine that the goals of this homework intervention and the resulting behavior changes meet the demands of the current social context. This social validity was determined by the use of social comparison (Kazdin, 1982). Specifically, the same data collected for the student participants was also collected for the entire class, and an aggregate amount of homework completion was calculated as a point of comparison. The researcher collected normative data and data for student participants throughout all study phases. The initial normative data served as a basis for identifying the ultimate homework completion expectations for the identified participants.

Because parents of students not participating in the study did not give consent, their missed homework assignments following absences were not tracked. Instead, their

absence resulted in no data being added to the overall results. For example, if a class had 22 students on the roster, 3 of those students were absent on a given day, and 15 homework assignments were turned in, then the resulting fraction used as representative of class data was 15/19. The denominator reflected the absences from class. When non-study students brought back homework a few days later, in accordance with the teacher's homework policy, that fraction did not change. However, if a study participant was one of the absent children, and they did turn in homework in compliance with the teacher's absence policy, then that fraction changed to 16/20. If they failed to turn in their homework after an absence, then that fraction changed to 15/20.

Zentall Organizational Scales

The Child Organization Scale and Child Organization Parent Perception Scale (Zentall et al., 1993) served as important support for the social validity of the present intervention. Zentall and her colleagues (1993) developed these assessment scales to measure both time and object organization, two crucial aspects of being organized. They designed the Child Organization Scale for the students themselves and the Child Organization Parent Perception Scale for their parents.

The Child Organization Scale and Child Organization Parent Perception Scale were originally created to help empirically validate the claim that children with Attention-Deficit/Hyperactivity Disorder are more disorganized than other children (Zentall et al., 1993). These scales are not used widely as a way to identify children who are disorganized, so there are no national norms or reliability information available. However, this scale was used because the items (1) relate to issues of organization of

objects and time, (2) have face validity, (3) include a range of possible responses, (4) take little time, and (5) contain enough items to explain the construct of organization. The Zentall scales were a useful way to collect information quickly about how organized students seem themselves and how organized their parents think they are.

All student and parent participants were given these scales at the beginning and end of the treatment phases of this study. When responses changed from the beginning and end of the study, this may indicate an overall change in the child or parent's perception about how organized the child was in school. This added important information to the overall assessment of whether the present intervention made a real difference for the student, increasing opportunities to participate and succeed in school. According to Wolf (1978), evidence for effectiveness is one of the key factors in judgments of social validity.

The Child Organization Scale quantifies the various components of children's organization through items using a Likert scale such as "I have trouble finding my school supplies when I need them," "I put my homework in the same place in my notebook or book," and "I don't realize that I have forgotten something until I'm already at school." The Child Organization Parent Perception Scale quantifies the parent or caregiver's perception of their child's organizational skills by asking parents to rate statements using a Likert scale ("I suggest that my child make lists when he/she is presented with different tasks/jobs."). Every attempt was made to collect this parent scale from all adults living with the child full- or part-time.

Data Analysis

In single-subject design methodology, data are analyzed simultaneously with data collection using visual inspection and trend line analysis (Kazdin, 1982). A cumulative graph of student homework completion displayed the binary data generated by student homework completion and non-completion throughout all phases of the study. Average class homework completion was plotted concurrently with participant data to enable normative comparison.

According to Perone (1999), single-subject methods encourage (1) direct, continuous interaction between the researcher and the participant and (2) the development of strong forms of experimental control that eliminate the need for statistical inference.

Experimental Control

ABA single-subject designs can be potentially powerful designs for demonstrating causal effects; however, these designs can only be used in certain circumstances (Kazdin, 1982). Demonstrating causality is dependent upon showing that a behavior is under experimental control, which means that the degree of the behavior must change as the treatment is varied. A simple return-to-baseline (ABA) design such as the one used in this study requires that the level of the dependent variable returns to, or approaches, baseline levels once the treatment is withdrawn.

It is possible that the treatment effects of this intervention are irreversible. If new learning takes place such that students maintain their newly acquired organization habits and are unable to “unlearn” them, then homework completion rates will remain high.

While this will be considered a clinical success, this scenario does not demonstrate experimental control so it will be impossible to show that the intervention/treatment had a powerful effect on the dependent variable. In this example, a causal relationship will not have been proven.

It is hypothesized that in this instance, the intervention will only be effective while it is ongoing. Learned effects are unlikely, because habits of disorganization are powerful learned responses. There are likely several environmental factors that serve to support their continuation. Without the continued outside support embedded in this intervention, it is expected that homework completion rates will return to their pre-intervention levels.

Visual Analysis

Kazdin (1982) explains that in single-subject design research, results are traditionally analyzed using the systematic visual comparison of the outcomes of participants across various phases of the study. Experimental control is documented through inspection of all conditions in the design. Specific data patterns must be observed in order to make claims that the changes in the dependent variable are a direct result of the manipulation of the independent variable (or phase changes). In this type of experimental design, data is evaluated using visual inspection to determine whether the change in the dependent variable is directly attributable to the chosen intervention. Judgments are made based on the visual inspections of the overall patterns of the data. Data is plotted on a graph to make visual inspection and determination of a causal relationship between the intervention and the dependent variable. Visual inspection is not

useful in determining subtle experimental effects. This is considered one of its primary strengths. Only highly potent intervention effects will be detected.

Specific criteria for the visual inspection of data in single-subject have been developed (Kazdin, 1982). When visually inspecting data in single-subject design, researchers look for changes in the dependent variable that correspond to intervention phase changes. Specifically, changes in means (average rates of performance), changes in levels (shifts in performance from one phase to another), changes in trends (increases or decreases in rates of performance), and changes in latency (lags before onset or discontinuation of performance rate after a phase change) are important to examine visually. An informed visual examination of the relationship between phase changes and the changes in rates of performance can determine the robustness of the intervention (i.e. whether that relationship is, in fact, causal).

CHAPTER 4

RESULTS

As stated in Chapter 1, this study examined in detail the problems encountered by students with organizational deficits as they completed homework assignments for their sixth grade Math class. This chapter presents data designed to answer the two research questions posted in Chapter One: (1) Can an intervention utilizing a homework support checklist increase homework completion in identified sixth graders? (2) Can an intervention utilizing a homework support checklist increase child scores on an organizational scale? The chapter begins with a presentation of the treatment fidelity, followed by the results for each student participant. The last section of this chapter addresses social validity data.

Treatment Fidelity Outcomes

Treatment fidelity determines the degree to which a treatment is implemented. In this study, there are two major components of treatment fidelity. The first component is the researcher's ability to carry out the intervention as it was described in the Methodology section. The second is the extent to which student participants in the study were able to meet the expectations presented to them by the researcher.

Researcher Fidelity to Treatment

The researcher met with student participants every day that school was in session. The only exceptions were days the student was absent and the day of the Science Fair. For that day, the Mathematics teacher made a specific request that the researcher not meet with students because of the irregular schedule and unpredictability of that day.

Participants 1, 4, and 5 had no absences during the intervention phase of the study. Participants Two and Three were each absent three times during the intervention. On those occasions, the researcher supported the student' homework completion in accordance with the teacher's guidelines for make-up homework following absences.

A homework completion checklist was completed for participants in the study every day that they each met with the researcher. In addition to recording whether homework was assigned, collected, or if prompts were needed, as much descriptive data as possible was recorded to create a complete narrative of the homework completion process, including barriers to homework completion.

Student Participant Fidelity to Treatment

Participant 1. Participant 1 met with the researcher twelve times during the intervention phase of this study. She was assigned homework on ten of these days. This participant followed the expectations provided for her by the researcher to a fairly high degree. As indicated in Table 4.1, of the ten times this participant met with the researcher on days when homework was due, this participant was prompted only three times to write down her Math assignment. On all of the other days, she remembered to write down her assignment during Math class. This participant was prompted only four times to write down the materials she needed to complete her assignment. On all of the other days, she remembered to write these materials down herself. The "Where is this assignment written?" column in Table 4.1 indicates that this student preferred to write her assignment down on the planner page of her spiral math notebook rather than in a separate student

Table 4.1. Treatment Fidelity Data for Participant 1

Day	Homework Due?	Homework Returned?	Homework Assigned?	Prompt to write down assignment?	Prompt to write down materials?	Where is assignment written?
1	Yes	Yes	Yes	Yes	Yes	Notebook planner page
2	Yes	Yes	Yes	No	Yes	Notebook planner page
3	Yes	Yes	Yes	Yes	Yes	Notebook planner page
4	Yes	Yes	No	-----	-----	-----
5	No	None Due	Yes	Yes	Yes	Notebook planner page
6	Yes	Yes	Yes	No	No	Notebook planner page
7	Yes	Yes	No	-----	-----	-----

Table 4.1. Treatment Fidelity Data for Participant 1 (cont.)

Day	Homework Due?	Homework Returned?	Homework Assigned?	Prompt to write down assignment?	Prompt to write down materials?	Where is assignment written?
8	No	None Due	Yes	No	No	Notebook planner page
9	Yes	Yes	No	-----	-----	-----
10	No	None Due	Yes	No	No	Did in class
11	Yes	Yes	No	-----	-----	-----
12	No	None Due	Yes	Last day of intervention. No prompts given.		

planner. Together, she and the researcher decided that this was a perfectly acceptable alternative that better fit into her current academic context.

Participant 2. Participant 2 met with the researcher 19 times during the intervention phase of this study, as indicated in Table 4.2. He was assigned homework on 14 of these meeting days. On one day that homework was assigned, he was absent. The researcher and student participant discussed that missed homework assignment upon his return to school the next day. This participant followed the expectations provided for him by the researcher only some of the time. As indicated in Table 4.2, of the 19 times this participant met with the researcher on days when homework was assigned, a prompt was required on six days in order for him to write down his Math assignment in his student planner. On nine days, a prompt was required in order for him to write down the materials he needed to complete his assignment in the student planner. This participant had his student planner with him on most days that he met with the researcher.

Participant 3. As indicated in Table 4.3, Participant 3 met with the researcher 15 times during the intervention phase of this study and was assigned homework on 11 of these days. On three days during the intervention, she was absent. The researcher met with her about those assignments on the day after she returned to school to help support her in completing these missed assignment within the teacher's guidelines for missed work. This participant followed the expectations provided by the researcher to a high degree. As indicated in Table 4.3, of the 15 times this participant met with the researcher on days when homework was due, a prompt was only needed once for her to write down

Table 4.2. Treatment Fidelity Data for Participant 2

Day	Homework Due?	Homework Returned?	Homework Assigned?	Prompt to write down assignment?	Prompt to write down materials?	Where is assignment written?
1	Yes	Yes	Yes	Yes	Yes	Student Planner
2	Yes	Yes	Yes	No	Yes	Student Planner
3	Yes	No	Yes	No	No	Did in class
4	Yes	No	No	----	----	----
5	No	None Due	Yes	No	Yes	Student Planner
6	Yes	Yes	Yes	No	No	Student Planner
7	Yes	No	No	----	----	----
8	No	None Due	Yes	Absent	Absent	----
9	Yes	No	No	Absent	Absent	----
10	No	None Due	No	----	----	----
11	Yes (from absence)	No	No	----	----	----
12	No	None Due	Yes	Yes	Yes	Student Planner

Table 4.2. Treatment Fidelity Data for Participant 2 (cont.)

Day	Homework due?	Homework returned?	Homework assigned?	Prompt to write down assignment?	Prompt to write down materials?	Where is Assignment Written?
13	Yes	Yes	No	Absent	Absent	-----
14	No	None Due	No	-----	-----	-----
15	No	None Due	Yes	No	Yes	Student Planner
16	Yes	Yes	Yes	Yes	Yes	Student Planner
17	Yes	No	Yes	Yes	Yes	Student Planner
18	Yes	No	Yes	Yes	Yes	Math Notebook
19	Yes	No	Yes	Yes	Yes	Math section of folder
20	Yes	Yes	Yes	No	No	Student Planner
21	Yes	No	No	-----	-----	-----
22	No	None Due	No	Last day of intervention. No prompts given.		

Table 4.3. Treatment Fidelity Data for Participant 3

Day	Homework due?	Homework returned?	Homework assigned?	Prompt to write down assignment?	Prompt to write down materials?	Where is assignment written?
1	Yes	Yes	Yes	Yes	Yes	Student Planner
2	Yes	Yes	Yes	No	No	Student Planner
3	Yes	No	Yes	No	No	Did in class
4	Yes	No	No	----	----	----
5	No	None Due	Yes	Absent	Absent	----
6	Yes	Yes	Yes	Absent	Absent	----
7	Yes	Yes	No	----	----	----
8	No	None Due	Yes	Absent	Absent	----
9	Yes	Yes	No	----	----	----
10	No	None Due	No	----	----	----
11	Yes (from absence)	Yes	No	----	----	----
12	No	None Due	Yes	No	No	Student Planner
13	Yes	No	No	----	----	----
14	No	None Due	No	----	----	----

Table 4.3. Treatment Fidelity Data for Participant 3 (cont.)

Day	Homework Due?	Homework Returned?	Homework Assigned?	Prompt to write down assignment?	Prompt to write down materials?	Where is assignment written?
15	No	None Due	Yes	No	No	Student Planner
16	Yes	Yes	Yes	No	No	Student Planner
17	Yes	Yes	Yes	No	No	Student Planner
18	Yes	Yes	Yes	Last day of intervention. No prompts given.		

her assignment and the necessary materials. On all other days, she remembered to do these tasks on her own before the researcher met with her.

Participant 4. Participant 4 met with the researcher 22 times during the intervention phase of this study as indicated in Table 4.4. He was assigned homework on 14 of these days, and he was never absent during the intervention phase of this study. This participant did not ever follow the expectations provided for him by the researcher unless there was a prompt. The only reason a prompt was not required on three of the 14 days he was assigned homework was that he had completed his full homework assignment in class, so it was not necessary to write it down to bring home. At the beginning of the intervention phase, this student did not have the student planner distributed by the school. The researcher called his mother to inquire about the student planner, and she said that she felt like the sections of the planner made it difficult for him to use. She said that she would send him to school with a notebook instead, but this participant was not sure which notebook was supposed to be used to write down assignments. After several days without him bringing a dedicated notebook or planner for his homework assignment, and several more days of trying to use his math notebook as a place to write down assignments, a decision was made between he and the researcher to write down his homework on a sheet of paper and inserting it into the page where the homework was assigned for the night.

Participant 5. Participant 5 met with the researcher 17 times during the intervention phase of this study. She was assigned homework on 10 of these days and was never absent during the intervention phase of the study. This participant followed the

Table 4.4. Treatment Fidelity Data for Participant 4

Day	Homework Due?	Homework Returned?	Homework Assigned?	Prompt to write down assignment?	Prompt to write down materials?	Where is assignment written?
1	Yes	Yes	Yes	Yes	Yes	Paper in book.
2	Yes	No	Yes	Yes	Yes	Notebook
3	Yes	No	Yes	No	No	Did in class
4	Yes	Yes	No	-----	-----	-----
5	No	None Due	Yes	Yes	Yes	Notebook
6	Yes	Yes	Yes	No	No	Did in class
7	Yes	No	No	-----	-----	-----
8	No	None Due	Yes	Yes	Yes	Notebook
9	Yes	Yes	No	-----	-----	-----
10	No	None Due	Yes	No	No	Did in class
11	Yes	No	No	-----	-----	-----
12	No	None Due	Yes	Yes	Yes	Notebook page where he began assignment
13	Yes	No	No	-----	-----	-----
14	No	None Due	No	-----	-----	-----
15	No	None Due	Yes	Yes	Yes	Loose paper in Math book

Table 4.4. Treatment Fidelity Data for Participant 4 (cont.)

Day	Homework Due?	Homework Returned?	Homework Assigned?	Prompt to write down assignment?	Prompt to write down materials?	Where is assignment written?
16	Yes	No	Yes	Yes	Yes	Loose paper in Math book
17	Yes	Yes	Yes	Yes	Yes	Loose paper in Math book
18	Yes	No	Yes	Yes	Yes	Loose paper in Math book
19	Yes	Yes	Yes	Yes	Yes	Loose paper in Workbook
20	Yes	Yes	Yes	Yes	Yes	Loose paper in Math book
21	Yes	No	No	-----	-----	-----
22	No	None Due	No	Last day of intervention. No prompts given.		

Table 4.5. Treatment Fidelity Data for Participant 5

Day	Homework due?	Homework returned?	Homework assigned?	Prompt to write down assignment?	Prompt to write down materials?	Where is assignment written?
1	Yes	Yes	Yes	Yes	Yes	Back of notebook
2	Yes	Yes	Yes	No	No	Did in class
3	Yes	No	No	----	----	----
4	No	None Due	Yes	No	Yes	Student Planner
5	Yes	Yes	Yes	No	Yes	Student Planner
6	Yes	No	No	----	----	----
7	No	None Due	Yes	Yes	Yes	Student Planner
8	Yes	No	No	----	----	----
9	No	None Due	No	----	----	----
10	Yes	Yes	No	----	----	----
11	No	None Due	Yes	Yes	Yes	Loose paper in Math book
12	Yes	No	No	----	----	----
13	No	None Due	No	----	----	----

Table 4.5. Treatment Fidelity Data for Participant 5 (cont.)

Day	Homework due?	Homework returned?	Homework assigned?	Prompt to write down assignment?	Prompt to write down materials?	Where is assignment written?
14	No	None Due	Yes	Yes		Loose paper in Math book
15	Yes	No	Yes	Yes	Yes	Loose paper in Math book
16	Yes	Yes	Yes	Student refused to write down assignment.		
17	Yes	Yes	Yes	Last day of intervention. No prompts given.		

expectations provided for her by the researcher only some of the time. As the intervention went on, she became very defiant and argumentative regarding participation in the intervention. As indicated in Table 4.5, of the 17 times this participant met with the researcher on days when homework was due, prompts were needed on five days in order for her to write down her homework assignment. On six days of the intervention, this participant required prompts to write down the materials she needed to complete her Math homework. On another day, she was prompted to write down her assignment and materials yet she refused to do so. Her behavior on that day coupled with recent poor outcomes on the dependent measure prompted the researcher to discontinue the intervention with this participant the following day.

Quantitative Results

Data were collected for participating students throughout all phases of the study. Additionally, average homework completion rates for the class were taken to determine social validity through normative comparison.

Use of the Cumulative Graph

A cumulative graph rather than the more typical simple line graph was used to present student rates of homework completion. This type of graph presents homework completion additively. In other words, each time a student turns in homework, a one is added to his or her homework completion value from the prior day. If a student does not turn in homework, then the homework completion value stays the same as it was the day before. When homework rates increase, the slope of the line increases.

This graphing method was chosen because of the way the participating teacher recorded homework completion. Teachers are most likely to accept/adopt interventions that do not intrude upon their existing class routines. All efforts possible were made to minimize the intrusiveness of the intervention and the data collection into the school environment.

Because results were binary (zero or one), a cumulative graph was more appropriate to show total homework completed over time, which is what this intervention attempted to maximize. This presentation also worked well for showing the cumulative effects of poor homework completion over time when compared to the average homework completed by the rest of the class.

Dependent Variable

For this study, the primary dependent variable was homework completion rate. Of the five participants in this study, two showed clear increases in homework completion rates for the target class, two had homework rates similar to their baseline rates in the target class, and one showed a marked decrease in overall homework completion in the target class. Results for each of the five student participants are presented in Figures 4.1 through 4.5.

The primary participating teacher recorded homework in his grade book using a simple system. A check mark indicated that the assignment was turned in on time, and it was complete; a dot indicated homework was incomplete; and a zero indicated that no homework was turned in. When a child was absent, nothing was recorded, and a grade using this system was filled in later.

Because the goal of this study was to turn in completed homework on time, a check mark was assigned a value of one, a dot or a zero was assigned a value of zero, and make-up work completed after an absence had to be completed according to the teacher's guidelines in order to count as a one. Otherwise, it was a zero.

Social Validity through Normative Comparison

Social validity measures provide an indication of the client's perceptions of the importance of intervention goals and outcomes. They also determine whether the interventions used are acceptable to relevant stakeholders. Two measures of social validity were used to determine whether homework completion rates following the intervention met the demands of the school environment. For this study, social validity was achieved through social comparison with peers and through the use of a structured subjective measure of organization completed by student participants and their mothers.

In order to ascertain whether the goals of this homework intervention corresponded to the demands of the current academic context, social comparison data were collected throughout all phases of the study. These data were plotted alongside participant homework completion in Figures 4.1 through 4.5. For example, on a day when 18 out of 21 present students completed their Math homework, the class homework completion was considered $.8571$ (18 divided by 21). Graphs were continuous, so $.8571$ was added to the total homework level from the last day homework was assigned. A running total of average class homework completion was plotted alongside the running total for each participant, so overall comparisons could be made.

Participant Data

Participant 1. During the baseline phase of the study, Participant 1 completed only two out of six homework assignments. During the intervention, she turned in seven consecutive homework assignments. During the several days of baseline following the discontinuation of the intervention, she continued to turn her homework in for the next five assignments. For the next six assignments following, she turned in only three of her assignments. Overall, this participant was successful at turning in her homework 33% of the time pre-intervention, 100% of the time during the intervention, and 73% of the time following the end of the intervention. The intervention effectively supported this student in improving her level of homework completion. There will be a discussion of why this intervention may have been particularly effective for this student in the Discussion section of this dissertation.

Figure 4.1 shows that during baseline, Participant 1 was completing homework at a much slower rate than the average class completion. During the intervention, Participant 1 was actually completing her homework at a rate higher than the class average. By the end of the intervention phase, she had nearly caught up to the total homework completion for the class. In the final baseline phase, her performance continued at a high level for four more assignments, then she began to drop behind the class rate again. Using the class average homework completion rate as the social standard, it was clear that her improvements during the intervention brought her to a more acceptable level.

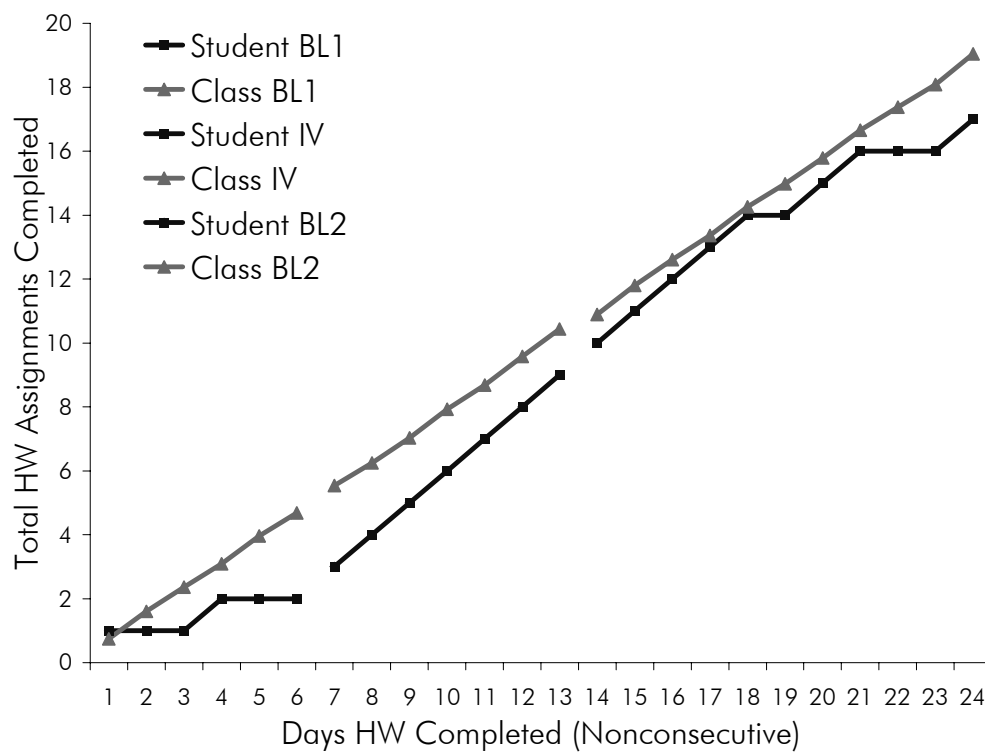


Figure 4.1. Homework Completion Data for Participant 1

Participant 2. During the baseline phase of the study, Participant 2 completed three out of six homework assignments. During the intervention, he turned in six out of 14 homework assignments. During the four days following the end of the intervention, he turned in only two of his four assignments. Overall, this participant was successful at turning in his homework 50% of the time pre-intervention, 43% of the time during the intervention, and 50% of the time following the end of the intervention. The intervention was not successful in improving this student's homework completion. There were a number of intervening variables that may have accounted for this lack of success. These will be discussed in the next chapter.

Figure 4.2 shows that during baseline, this participant was completing his homework at about half the rate of the rest of the class. During intervention and the second baseline phases, he continued to lag behind the rest of the class. Using the class average homework completion rate as the social standard, it was clear that Participant 2 did not reach an acceptable standard given his current social context.

Participant 3. During the baseline phase of the study, Participant 3 completed three out of six homework assignments. During the intervention, she turned in nine out of 12 homework assignments. It seems there was a bit of a learning curve for this student. Two of her missed assignments during the intervention phase were in the first three days of the intervention. After that initial learning period, she was successful at turning in her homework eight out of the next nine days. In the baseline period following intervention when she was no longer receiving support with her homework, this participant turned in three out of the next six homework assignments. Overall, this participant was successful

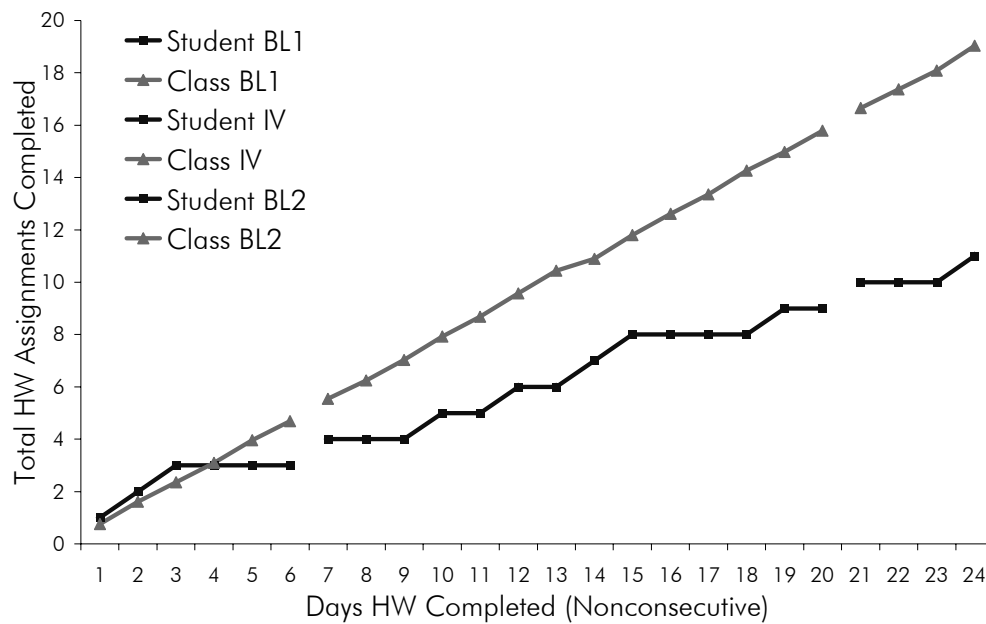


Figure 4.2. Homework Completion Data for Participant 2

at turning in her homework 50% of the time pre-intervention, 75% of the time during the intervention (89% after the first three days of intervention), and 50% of the time post-intervention. This intervention was successful in increasing the total number of homework assignments this student turned in. The last chapter of this dissertation will discuss why this intervention may have been effective for this particular student.

Figure 4.3 shows that during baseline, Participant 3 was completing homework at a slower rate than the average class completion. For the first six assignments, this participant completed three assignments, while the class completed an average of 4.685 overall. During the intervention, Participant 3 was actually completing her homework at a rate higher than the class average, although it is clear that it took three days at the beginning of the intervention phase for her to begin showing improvement. Once she started doing homework, she completed it on every day of the intervention, except for one. On the mid-intervention day that she did not complete her homework, the overall class average was atypically low, with only 45% of students completing their homework due for the day. There may have been effect that meant many students found homework completion for the day difficult. By the end of the intervention phase, this participant had had nearly caught up to the total homework completion for the class; she had completed 12 total assignment since the beginning of baseline while the class average homework completion was 14.264 assignments. In the final baseline phase, her performance declined and fell behind the class average again. Using the class average homework completion rate as the social standard, it was clear that her improvements during the intervention brought her to a more acceptable level.

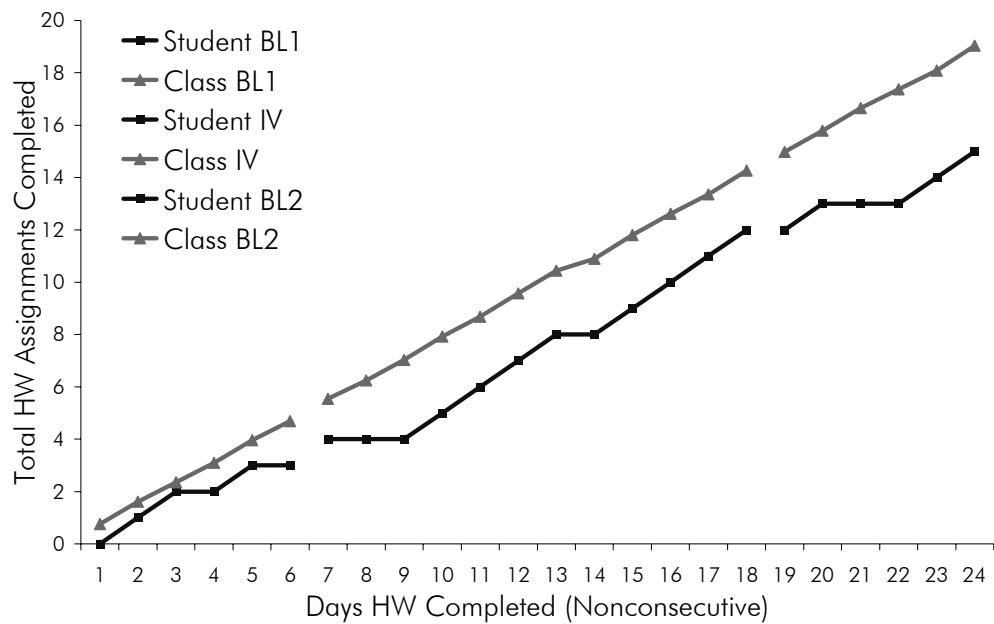


Figure 4.3. Homework Completion Data for Participant 3

Participant 4. During the baseline phase of the study, Participant 4 completed two out of six homework assignments. During the intervention, he turned in six out of 14 homework assignments. During the four days following the end of the intervention, he turned in only two of his four assignments. Overall, this participant was successful at turning in his homework 33% of the time pre-intervention, 43% of the time during the intervention, and 50% of the time following the end of the intervention. The intervention did not successfully support this student in improvement of his level of homework completion. There were several intervening variables that may have accounted for this negative outcome. These will be discussed in the Discussion chapter that follows.

Figure 4.4 shows that during baseline, Participant 4 was completing homework at a slower rate than the average class completion. For the first six assignments, this participant completed only two assignments. During the intervention and second baseline phases, he never approached the overall completion levels of the rest of the class. Using the class average homework completion rate as the social standard, it was clear that Participant 4 did not reach an acceptable standard given his current social context.

Participant 5. The fifth participant's outcomes are perhaps the most interesting, although they were not successful. In fact, it seems that this intervention not only did not succeed at improving this participant's homework completion levels, it actually seemed to make her homework completion considerably worse than it was pre-intervention. During the baseline phase when students were identified for this study, this student completed three out of six homework assignments. However, because contact with her family was slow, the onset of the intervention was delayed by a day, and in that day, she brought

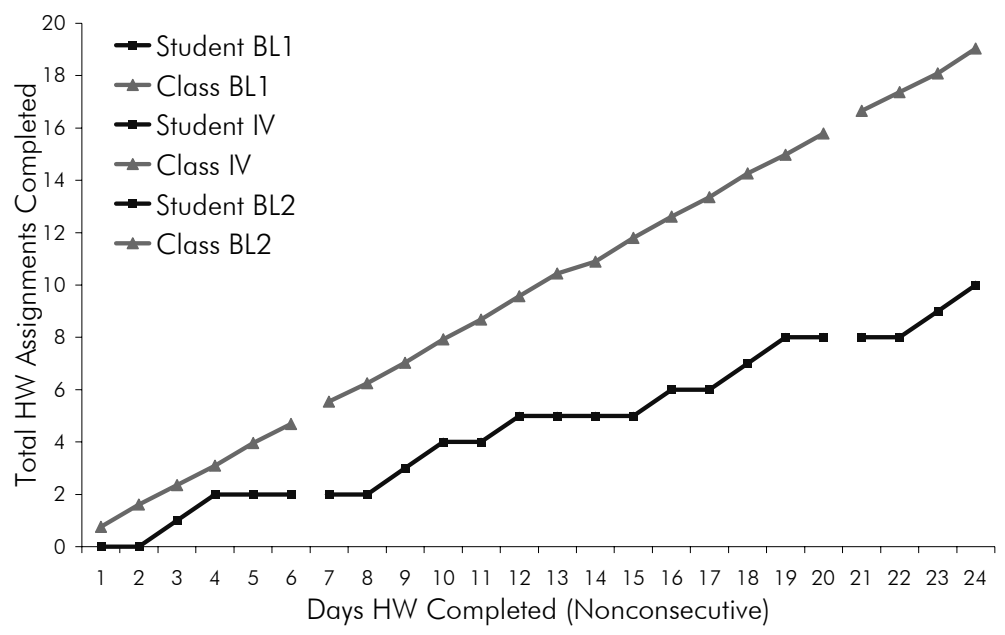


Figure 4.4. Homework Completion Data for Participant 4

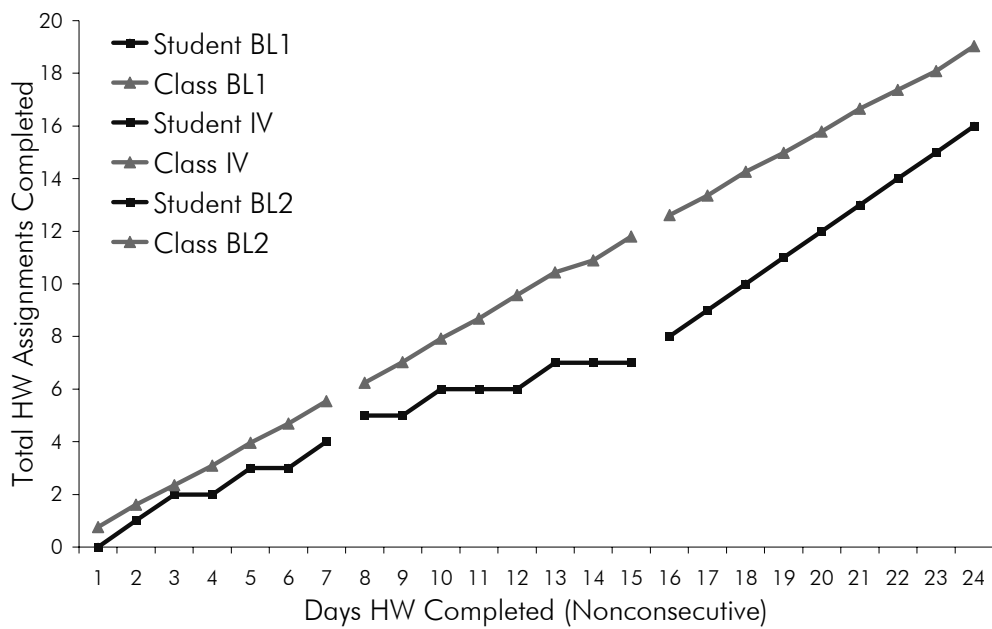


Figure 4.5. Homework Completion Data for Participant 5

back her homework assignment, so her baseline level was the completion of four out of seven homework assignments. Still, because her teachers were concerned about her organizational skills, it was decided that she was still an appropriate participant. During intervention, this participant completed only three out of eight homework assignments. As was discussed in the Methodology chapter, the intervention was discontinued because (1) this student's homework completion levels seemed to be getting worse and (2) she began to refuse to cooperate with the researcher. In the post-intervention baseline phase, this participant completed all nine of the next nine homework assignments. Overall, this participant was successful at turning in her homework 57% of the time during the first baseline, 38% of the time during the intervention, and 100% of the time in the final post-intervention baseline. In this case, instead of the intervention acting as a positive reinforcer that increased homework completion, the opposite occurred. For Participant 5, the withdrawal of the intervention acted as negative reinforcer for increased homework completion.

Comparing the homework completion rates of Participant 5 to that of rest of the class yielded interesting results. Figure 4.5 shows that during baseline, Participant 5 was actually not far behind the overall class homework completion level. Still, she was identified for the study after the first six days of baseline, when she had only completed three of the first six assignments. Teachers were concerned about her homework completion and organizational ability, so she was included in the study. During the intervention, the homework completion rate of Participant 5 fell behind the rest of the class. Her rates of homework completion not only fell behind the rest of the class, they

also fell behind her own homework completion rates during the first baseline phase. The intervention was discontinued because of her refusal to complete the tasks of the intervention, her obstreperous attitude towards the researcher, and because her homework completion levels seemed to be worse during intervention than they had been without the intervention. In the final baseline phase after the intervention was withdrawn, this participant's performance was perfect. She did not miss a single one of the nine homework assignments following the withdrawal of treatment. Using the class average homework completion rate as the social standard, it is clear that use of this intervention was not only ineffective for this student, but it was the withdrawal of the intervention that yielded the best homework completion performance.

Subjective Measure of Organizational Ability

The Child Organizational Scale (COS; Zentall, Harper, & Stormont-Spurgin, 1993) and Child Organizational Parent Perception Scale (COPPS; Zentall et al., 1993) were chosen as a subjective measure of organizational ability. The intervention targeted organizational skills as a means to increase homework completion. It is therefore expected that there will be a positive relationship between increased organizational skills and homework completion rates.

In order to create the organizational scales, Zentall, Harper, and Stormont-Spurgin (1993) surveyed the literature, professional, and their own clinical experience regarding the issue of organization and what characteristics underlie it. Questions relating to planning and establishing routines were written, and graduate students aided in dividing items into two primary categories: organization of objects and organization of time. Both

parent and child versions of the scale were written, and some items were reverse-scored to prevent parent response bias. All items in the scales are presented in Appendices B and C.

This measure was chosen because it was the only available subjective measure of organizational ability. Because it was originally written to distinguish the difference in organizational ability between children with and without Attention-Deficit/Hyperactivity Disorder, it was not normed on a national sample, so reliability and validity information are not available.

All child participants and their mothers completed the appropriate Zentall et al. (1993) scale during the week prior to the intervention. At the end of the intervention phase, they completed the scale again for pre-intervention/post-intervention comparison. Results of the Zentall et al. (1993) COS and COPPS are presented in Figures 4.6 and 4.7. The greatest increase in self-ratings of organizational ability from pre- to post-intervention was by the student for whom there was the most successful increase in homework completion: she viewed herself as more organized after the intervention than before. The change in other students' self-ratings of organizational ability were minimal, with two other students reporting slightly more organizational ability and two students reporting slightly less organizational ability. Perceived increases and decreases did not correspond with whether the students' homework completion levels increased or decreased during the study. Parents' ratings of their children's organizational ability remained stable from pre- to post-intervention, perhaps indicating that they viewed their children's organizational ability as a stable trait rather than a malleable state.

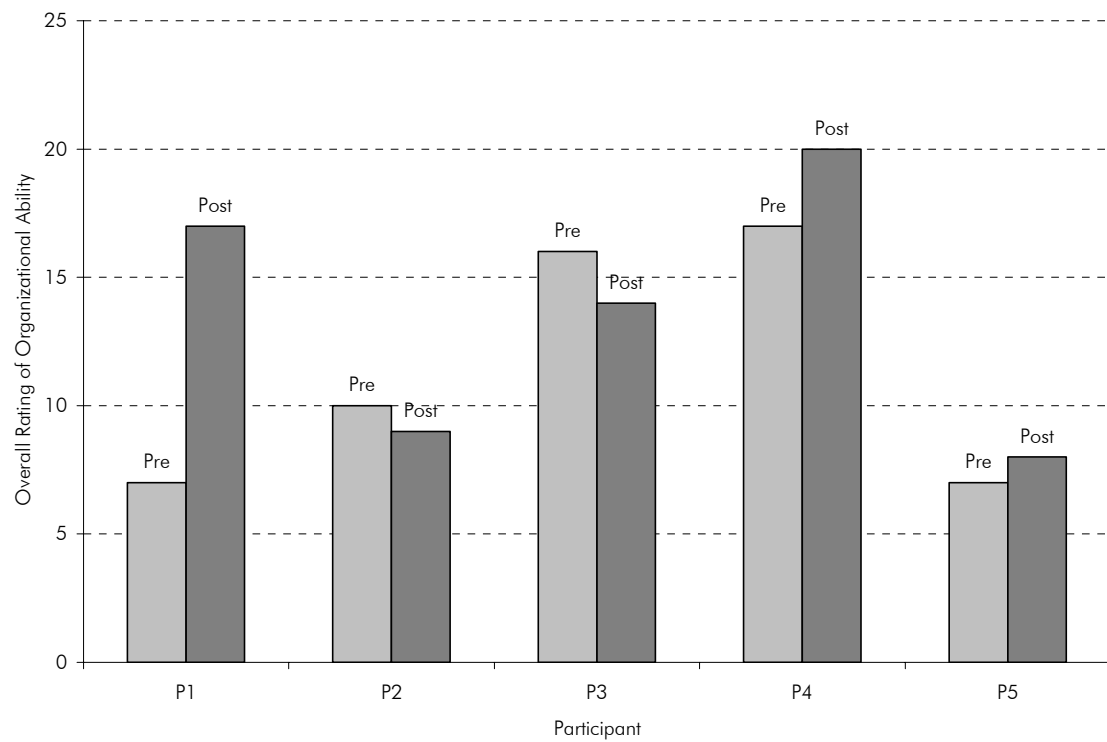


Figure 4.6. Student Participant Pre- and Post-Intervention Self-Ratings on Zentall, Harper, and Stormont-Spurgin's (1993) Child Organization Scale

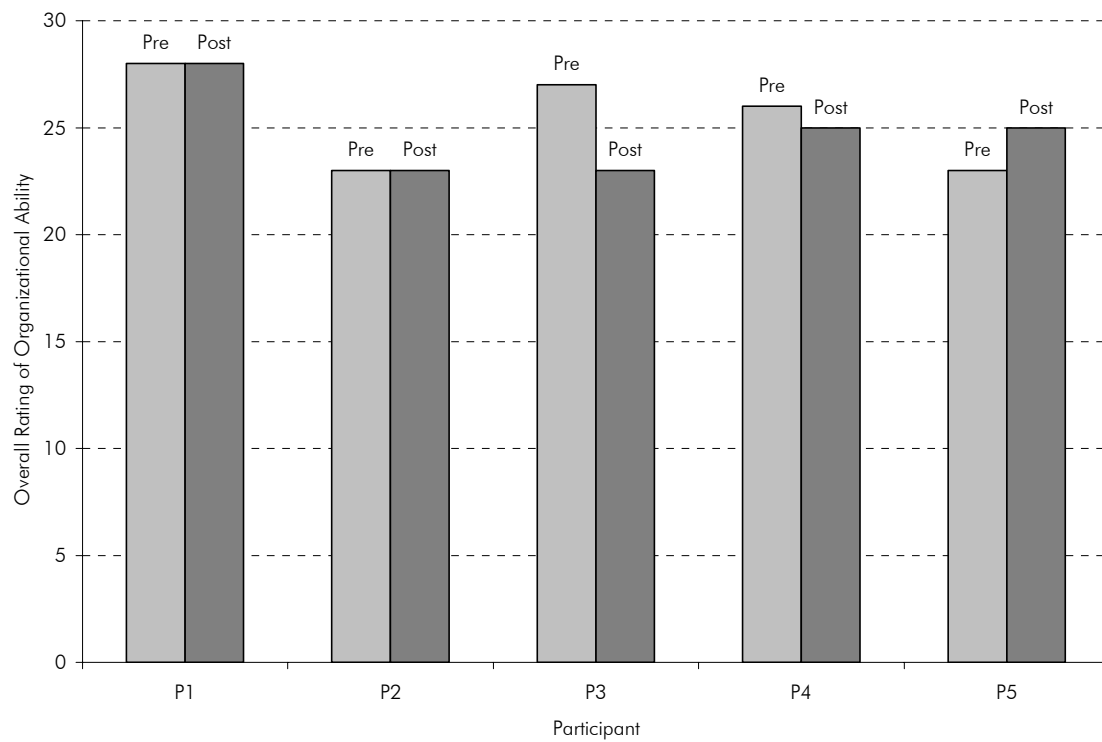


Figure 4.7. Mother Pre- and Post-Intervention Ratings of Student Participants on Zentall, Harper, and Stormont-Spurgin's (1993) Child Organization Parent Perception Scale

CHAPTER 5

DISCUSSION

When children with poor organizational abilities reach the middle grades, they have to adapt to a complex and less structured environment than they experienced in elementary school. They frequently fail to keep up with assignment details, deadlines, and materials. When children do not complete homework, it can lead to poor academic performance and school failure (Callahan et al., 1998; Cooper & Valentine, 2001). The original research questions this study proposed to approach were: (1) Can an intervention utilizing a homework support checklist increase homework completion in disorganized sixth graders? and (2) Can an intervention utilizing a homework support checklist increase child and parent scores on an organizational scale?

Homework is an important component of achievement, yet almost one-third of average students have problems completing homework assignments (Polloway, Epstein, & Foley, 1992). Organizational skills are an important key to improving rates of homework completion, especially during the difficult transitional years between elementary and high school. This intervention built on past findings, using a task analysis model to create a checklist of essential steps for successful homework completion. With adult support, daily homework routines using homework planners (see Bryan & Sullivan-Burstein, 1998, for a review) were established for disorganized students.

Review of the Methodology and Results

The effects of a homework intervention on sixth graders with organizational difficulties in an elementary classroom were examined using a withdrawal of treatment

(ABA) single-subject design (Kazdin, 1982). The intervention consisted of systematic daily adult support and prompting of student homework completion steps during school, including the use of a student homework planner to write down homework assignments. The study included a homework checklist to ensure all intervention steps were followed and as an important measurement of treatment fidelity.

Although the homework intervention presented here was effective for two students, the study did not show evidence for its effectiveness across participants. Instead, results are best characterized as mixed. Two students showed no significant changes in overall rates of homework completion. For one participant, the homework intervention actually coincided with a sharp decrease in overall rates of homework completion – exactly the opposite of the desired result. The organizational measure given to students and parents before and after the intervention phase of this study did not yield significant results.

Interpretation of Findings

It is, however, instructive to explore the particular students involved. For which students was this type of intervention effective and why? What features of both the students and the environments in which they live led to success? Furthermore, what was it about one student that led to a sharp decrease in homework completion when the intervention began? What in her situation made this intervention a poor fit? Finally, for the subjects for whom the intervention effected no change in performance, what outside factors meant this intervention was not appropriate or powerful enough to increase homework completion?

Student participants were identified as appropriate for this study based on low homework completion rates and by their teachers' nominations as having poor organizational skills. The student descriptions of their home lives suggested that there were considerable differences in personality and in the ecological systems of the homes among the five students. Perhaps it is the case that positive models in home environments show a child what it looks like to be organized and may provide motivation to be organized (Lockwood, Sadler, Fyman, & Tuck, 2004). Yet, even motivated students have trouble developing good organizational skills in the absence of consistent reinforcement. When children are in early elementary grades, they are more likely to be in one classroom over the course of a day (Rudolph, Lambert, Clark, & Kurlakowsky, 2001). Once a child reaches middle school, there is not one single teacher always present, watching to see if there is a consistent organizational system for backpacks or lockers.

Participant/Intervention Match

Several internal and external factors interact to determine a child's organizational abilities (Zentall et al., 1993). In addition to ability, the level of motivation a child has to organize work is relevant. The two children in this study whose homework levels increased during the intervention were the children who explicitly stated that they enjoyed the praise they received from the researcher when their homework was complete. The two children whose homework did not improve were the students who reported more complicated family situations which did not seem to value and support homework completion. More specific details about dynamics obtained from students' reports are included in the results section.

Students Who Improved. The first student, for whom the homework intervention was successful, appeared very motivated by the project from the beginning. One of her teachers described her as “the parent” in her household and said that her mother was more interested in being a friend than a parent. This student liked attention and the idea of having some control over her homework performance. At the beginning of the intervention, she asked if it was acceptable for her to use the front page of her main math notebook instead of her homework planner to write down her assignments. The intervention had an immediate, positive effect on her rate of homework completion that was maintained throughout the intervention phase of the study. One of the only times during the intervention phase she was unsuccessful was when she missed class and forgot to get the homework assignment later. This participant seemed an ideal candidate for this intervention because the primary reason for her poor homework performance in the past was lack of organizational skills. This, coupled with a high need for attention and a need to please, meant that the intervention was an ideal fit for her.

The other student for whom this intervention was effective had a slower start. This student often relied on her memory for homework assignments instead of writing them down. At the beginning of the intervention, there were several times when she had thought she had turned her homework in but actually she had not. Another complication for this student was her frequent absences. Her math teacher did not typically remind students to turn in missed homework assignments following absences, so this student frequently received zeroes for those assignments.

Furthermore, this student had a very messy notebook and locker, making it difficult for her to find assignments. This student was intellectually sophisticated for her age and seemed to thrive on adult attention, so she enjoyed meeting with the researcher each day. She even stated at one time during the study that she loved “verbal praise.” Again, like the other successful students in this study, this participant needed support in developing organizational skills and enjoyed the attention from the researcher. These two qualities taken together made her another ideal candidate for this intervention.

Students Who Did Not Improve. There were two students for whom this intervention did not make a difference in their overall rates of homework completion. The first was a very intelligent and imaginative boy who was described by his teachers as “a bit spacey.” His parents were divorced and shared custody of him and his sister; however, he often did not know which home he was going to after school. This student typically relied upon his memory for homework assignments yet frequently guessed incorrectly about what his homework assignment actually was. Over the course of the study, there were a number of scenarios that led to this student not turning in his homework. Sometimes, he believed he had turned homework in when he, in fact, had not. On days when he missed school, he never remembered to call the Homework Hotline. When the teacher allowed time to do homework in class, he completed it and then misplaced it before the homework was collected. Several times during the study, he reported doing homework assignments multiple times and did not seem to think this was out of the ordinary. Another frequent occurrence involved not retrieving his backpack from the car when moving from one parent’s home to the other parent’s home. This participant did

seem to want to improve his homework completion but the combination of his chaotic visitation schedule, his disorganized notebook and locker, the teacher's irregular schedule, and his lack of focus made turning homework in very challenging for him even with daily structured adult support. On one occasion, he reported staying up until midnight playing video games and watching TV, even though he was not supposed to stay up late unless his homework was done. According to this participant, this rule was not one that was regularly enforced in either home.

The other student whose homework completion levels did not improve during the study reported parent behaviors that did not correspond to valuing of homework. For example, this child reported being able to participate in birthday activities and baseball practice whether his homework was complete or not. In contrast, he reported always having to complete his household chores before baseball practice. If this student report is accurate, then it would indicate that completing chores and extracurricular activities were more important than homework. This student stated directly that he did not care about homework and backed that statement up by repeatedly not bringing his homework planner or materials to school.

Frequently, instead of using his homework planner, he ripped a page out of the middle of the first notebook within reach then wrote the assignment illegibly upside down. On one occasion, he wrote "planner" across his forearm after the researcher reminded him to bring his planner from home. Since he did not exhibit interest in grades or school, and since there were no consequences for doing poorly and no models for doing better, it was not surprising that adult support made no difference in his homework

performance. Other variables simply yielded a stronger effect in supporting his low motivation to complete homework than the intervention could counteract. One might say that school in general, and specifically his responsibility to complete work at home and develop good study habits, were not priorities for his parents, nor had the child developed them on his own.

Student Whose Homework Completion Declined. For one participant, the onset of the homework intervention corresponded with markedly decreased homework completion rates. This participant was highly oppositional and rebellious. She often attempted to negotiate with the researcher, offering to do her homework if the researcher would bring her candy bars. This girl was one of the tallest in her class, very attractive, and her teachers described her as precocious. She was frequently brusque in her responses to the researcher without provocation, and on one occasion, she abruptly grabbed a pen out of the researcher's hand and refused to return it, adding, "I forgot my planner. I can't find it. Believe me, I'm not going to buy another one!" For this participant, the variables leading to her poor homework completion seemed to be various and complex, rather than a simple lack of organizational ability, which is the set of behaviors this intervention was designed to target. Instead, more complex externalizing behavior problems interfered with a successful outcome. Her poor homework completion history seemed to be part of a global personality style involving rebelliousness, manipulation, and controlling people (Loeber, Burke, Lahey, Winters, & Zera, 2000). Behaviorally speaking, it seems that this participant was more motivated to control the intervention than to improve her homework completion.

Classroom Variables

For all of the students who struggled with homework completion, the lack of structure in their math classroom proved challenging. The teacher frequently allowed students to complete homework assignments in class; however, this homework was not collected until at least one day later, sometimes two or three. For disorganized children, this allowed time for students to misplace their work. Homework was not assigned on a regular schedule. Sometimes there was only one homework assignment in a week while sometimes there were as many as three or four. There was often a gap of a few days between the stated due date and the day the assignment was actually collected, or a gap between when the homework was collected and when it was recorded in the grade book. When students were absent, they were expected to take the initiative to get their missed assignments from other students or from the Homework Hotline, and they were expected to turn those assignments in without reminders. Without regular routines, these disorganized children struggled to develop good habits around homework completion.

Limitations and Implications for Future Research

The primary limitations of this study are the lack of a second intervention phase (see Kazdin, 1982) in the design, the exclusion of parents and teachers as interventionists, the use of the Zentall et al. (1993) scales as a pre- and post- measure of change in organizational skills over time, and the lack of structure and routine within the participating classroom. It would be desirable to reproduce this research in the future using either an ABAB design or a multiple baseline across participants design (Kazdin, 1982). Including the parents and teachers of the student participants would have a greater

impact on the system that supported poor homework completion habits in the first place. The development of a more state-focused (rather than trait-focused) measure of organization could more effectively measure change in organizational skills over time. Requiring participating teachers to utilize more regular routines – more frequent homework assignments on a more predictable schedule – might allow students and parents a greater chance to develop home routines, and it may provide more opportunities for positive reinforcement when homework is completed successfully.

Design Limitations

This study used an ABA single-subject design. In this design, homework levels were first recorded during a baseline phase while no intervention was present. This was followed by observations of homework levels during intervention. If the treatment was successful, there should be improvement of homework completion during the intervention phase. To show the improvement was the effect of the intervention and not maturation or history, the intervention was withdrawn while homework completion levels were still being measured. If the improvements in performance disappear, the research hypothesis (the intervention is the reason for the improved behavior) is supported.

This study could have been improved by the use of an ABAB design (Kazdin, 1982). This design adds another intervention phase after the second phase without treatment. Had this intervention been successful, adding another intervention phase would have been desirable because ethically, it leaves the participants with the benefit of a successful treatment. However, even though the intervention was not successful for all participants, the addition of a second intervention phase would have provided a

replication of the initial baseline-intervention comparison. Replication allows for a more complete interpretation of the pattern of data over time, which increases the overall experimental power of the research design. In ABAB designs, the observation of systematic changes (of means, levels, and trends) in data from phase to phase makes it possible to make judgments about the strength of the intervention (Kazdin, 1982).

Because homework was not assigned very frequently, the overall time for the intervention was considerably longer than expected. The end of the school year came before a final return to intervention phase could be completed. A second intervention can be used to confirm a strong intervention effect (Kazdin, 1982), although that was not done in this study because of the constraints of the school calendar coupled with the sporadic homework assignment schedule.

This study may also have been improved by the use of a multiple baseline across participants design (Kazdin, 1982). Interventions that affect study skills and organization may not be reversible. In other words, once they are learned, it may not be possible for children to “unlearn” them, so homework completion may not ever return to baseline levels. Multiple baseline designs make it possible to evaluate non-reversible interventions and demonstrate causal relationships by showing behavior is under experimental control. Parent support checklists could be used at home, teacher support checklists could be used at school, and students themselves could use a self-monitoring checklist similar to the parent and teacher checklists. Treatment components would be introduced at different times, and then comparisons could be made between the homework completion levels of those who have received that component of treatment and those who have not. If the

introduction of a treatment component were to correspond with behavior change across participants, then changes in participant behavior could be attributed to specific treatment components.

Exclusion of Parents and Teachers

Doing interventions with single children in a classroom is challenging. Ideally, this intervention would be placed in the hands of parents and teachers. However, as stated in Chapter One, it seemed important to ensure that this was an effective intervention before training adult members of potentially dysfunctional systems to use it.

In this study, the researcher was the facilitator of the intervention. The aim of this study was first to determine if the intervention itself was successful. An assumption at the outset of this study was that the systems in which children reside have a strong impact on their functioning (Bronfenbrenner, 1979). If an outsider to the system were able to successfully increase homework completion levels using a specific intervention, then perhaps the parents and teachers of this child could be trained in the same intervention. This study aimed to show the intervention could make a difference in homework completion levels.

Without parent involvement, teacher involvement, and good parent-teacher relationships (Vickers & Minke, 1995), there is unlikely to be any change in the dysfunctional systems that have maintained poor homework completion all along. Perhaps disorganized parents and teachers created disorganized systems. Those systems led to disorganized students. When there are students in a class like this, it may be more effective to intervene with an entire class, asking all parents to sign a contract at the

beginning of the year. An intervention such as this, which utilizes parents (who are part of the home environment) and teachers (who are part of the school environment) would be considered an ecological intervention.

Ecological interventions based on the work of Urie Bronfenbrenner (see Bronfenbrenner, 1979; Bronfenbrenner, 1989; Bronfenbrenner & Morris, 1998; and Patrikakou, 1996) take place in more than one environment in which a child participates, usually home and school. Multimodal interventions combine several treatments into one package to increase overall effectiveness. If the same treatment was used in two different environments, it would be an example of an ecological intervention that was not multimodal. Several types of treatment could be combined and delivered as one package in a single environment. This would be an example of a multimodal treatment that is not ecological. However, multimodal interventions for children often combine parent training with separate classroom interventions. This is an example of a multimodal intervention designed to have an effect on both the individual and the environment in which that individual functions (Kazdin, 1996), so it is an intervention that is both multimodal and ecological.

Ecological theory would indicate interventions addressing both the home and school environments are the best way to create change in a child's behavior. Specifically, mesosystems are the location at which two or more primary environments like home and school intersect and impact each other (Bronfenbrenner & Morris, 1998). This point of intersection between the two primary important contexts in a child's life plays a critical role in academic development. Homework is the most concrete example of what lies at

this critical intersection. Bryan, Burstein, and Bryan (2001) suggest using an ecological model that takes school, family, and student factors into account can help to increase the use of homework as a way to improve academic achievement in children.

Critique of the Zentall et al. (1993) Scales

The Child Organizational Scale and Child Organizational Parent Perception Scale (Zentall et al., 1993) served as important support for the social validity of the present intervention. The Zentall et al. (1993) scales were originally created to help empirically validate the claim that children with Attention-Deficit/Hyperactivity Disorder are more disorganized than other children. It is not used widely as a way to identify children who are disorganized, so there are no national norms or reliability information available. However, because the items on the scale relate to issues of organization of objects and time, a content analysis of the items indicated it would provide information about how organized students believed themselves to be and how organized their parents thought they were. All student and parent participants were given these scales at the beginning and end of the treatment phases of this study.

While the Zentall et al. (1993) scales were the best measure of organizational ability available, they were not designed to measure changes in organizational ability over time. Instead of measuring a changing state, responders to these scales seemed to report on the overall stable traits of organizational ability in the student participants. Development of a scale more sensitive to changes in organizational abilities over time could have improved the overall social validity of this study.

Classroom Setting Limitations

As was stated previously in this chapter, the lack of routine and structure in the classroom where the study was conducted, proved challenging for study participants. Science Fair, field trips, and school assemblies certainly add to the overall quality of the school learning experience, but often, they interrupt the routine of the class. Interruptions can get in the way of teachers' attempts to create organized, meaningful classroom environments and, according to teachers, can be a serious problem (Leonard, 2001). When classrooms do not operate on a predictable schedule and instruction is frequently interrupted, it may be difficult for students to clearly understand what is expected of them when they bring work home. For some students, lack of structure and frequent distractions make academic expectations unclear. During the course of this study, there were a number of interruptions in school routine. These included Science Fair, teacher and student absences, special school schedules and assemblies, and guest speakers.

Middle school classrooms and elementary classrooms can be very different (Rudolph, Lambert, Clark, & Kurlakowsky, 2001), so for students making the transition, the external classroom context can be even more difficult to navigate. Middle school classrooms are environments that emphasize control and discipline more than elementary school classrooms (Guthrie & Davis, 2003). In middle school classrooms, there are fewer opportunities for self-management and decision-making. Teacher-student relationships at the middle school level tend to be less personal and positive than at elementary school level. As students approach junior high school, teachers are more likely to evaluate work publicly using higher standards of judgment, and to use between-class ability grouping.

These changes often lead to worries about evaluation, a sense of competitiveness, and more social comparison (Akos, 2002). These changes can have negative effects on children's academic motivation (Eccles et al. 1993). Unlike fifth grade classrooms in the same school building, students in the participating sixth grade classrooms were expected to navigate several class changes, including the transportation of necessary class materials between classes and their lockers.

The students in this study were not successfully navigating this complexity of middle school. Lost worksheets, messy lockers containing difficult-to-find class materials, and failure to write down assignments in an accessible location were organizational challenges that prevented assignments from being turned in on time. Teachers expected students to navigate these challenges effectively with less direct support than they had during elementary school. The added complexity and raised expectations combined with the social comparison typical of middle school meant poor homework completion from student participants.

The classroom environment can strongly impact students' ability to understand the lessons being taught and interfere with their ability to encode important information about homework assignments and academic expectations. This challenge becomes even greater for children transitioning from elementary classrooms to middle school classrooms. Once students encode and hopefully write down information about homework assignments, they are then responsible for bringing that information, along with the correct materials for homework completion, home to an environment that may be very different from the school environment.

With changing schedules and a lack of routine, students are not clear about the teacher's expectations regarding homework, and they are not able to practice good habits (Rosenberg, 2004). An intervention which structures the homework routine for an entire class may have a greater effect on homework success, especially for children who are disorganized.

Implications for Practice

Findings from this study of homework completion suggest that increasing homework completion is not a simple task with a single cause. Rather, homework completion may be affected by a myriad of internal and external factors. Given the limitations of the current study, there are several important implications for practice to be considered.

Best practice would indicate that it is important to do a thorough assessment of academic and emotional needs before selecting this or any intervention to increase homework completion. The intervention had a negative impact on the homework completion of one participant, perhaps because she exhibited the symptoms of oppositional defiant disorder. Rather than focusing on increasing the total output of homework, it would have perhaps been advisable to establish an alliance with her. There were perhaps more powerful factors in determining the ultimate outcome of her performance. In other words, poor homework performance was perhaps a result of emotional, rather than organizational issues.

Another important issue for assessment is academic. One participant seemed to exhibit behaviors consistent with a learning disability, despite the fact that the presence of

a learning disability was not a concern for his current teachers. Unfortunately, the behavior of some children with learning disabilities may be interpreted as simple lack of motivation. Although this participant may have had the adequate intelligence to understand and discuss the content of the assignments, his reading and/or writing skills were perhaps a barrier to his ability to produce homework of adequate quality. Instead of doing his homework, which was a frustrating and embarrassing experience, he chose to avoid homework in favor of more comfortable and pleasant activities, such as baseball.

Anecdotal evidence collected during this study led the researcher to believe that children for whom this study was most effective were children who were primarily motivated by positive attention and who already possessed the academic ability to do the work. In other words, this intervention was most effective for children whose primary deficit was in the area of organization. A disorganized home environment is likely to have a greater affect on a child's ability to organize work on a daily basis than does a brief meeting with a researcher. At worst, a disorganized home environment may even sabotage a child's best efforts. For example, one participant with divorced parents rarely knew which home he would be going to after school because his visitation schedule was so inconsistent.

Although the development of a pre-intervention measure could help screen for children who were most appropriate for this sort of intervention, in the case of the children who participated in this study, a thorough psychoeducational evaluation was necessary. Early attempts to screen children for this study relied on teacher's subjective

impressions, and, while useful, they were not thorough enough to catch subtle learning disabilities and emotional issues.

Conclusion

In summary, this treatment approach could be improved by a number of features. First, it seems important to complete a comprehensive needs assessment on the specific classroom environment itself. The experience of this study indicates that although this sixth grade classroom appeared fairly typical initially, a number of factors emerged as the study progressed that would have suggested that a more systemic intervention would have been needed. The intervention used here might not have been the first choice had the level of internal chaos and parental support been more carefully assessed. If the particular intervention of this study were to be repeated, it would be essential to locate a classroom with higher intrinsic organization, homework regularity, and perhaps more general parental involvement. Another option would be to repeat this study with a greater focus on the classroom itself, using a very different intervention – one designed to involve both teacher and parents in homework completion as a priority in their children's development.

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APPENDIX A

Homework Completion Checklist

Name of Student: _____
 Class: _____ Block: _____
 Assignment Detail: _____
 Date: _____ M T W Th F

	<u>Initials</u>	
	Researcher	Child
Last night's homework was turned in on time.	_____	_____
Student's answer (Y/N) _____		
Teacher's answer (Y/N) _____		
No HW was due (check if applicable) _____		
Today's entire homework assignment is written down in the student planner.	_____	_____
Check if applicable:		
Student did already with no prompt _____		
Student did with prompt _____		
No need because no HW assigned for the night _____		
In the student planner, all necessary materials for homework completion are listed. (For example, textbook, handouts, notebooks, folder, and supplies).	_____	_____
Check if applicable:		
Student did already with no prompt _____		
Student did with prompt _____		
No need because no HW assigned for the night _____		
Locker and book bag check. The researcher verifies that the student planner, as well as all required materials listed, are placed in the book bag.	_____	_____

Notes:

APPENDIX B

Child Organizational Scale Items

Zentall, Harper, & Stormon-Spurgin (1993)

1. I have trouble finding my school supplies when I need them.*
2. I forget to do my jobs at home.*
3. When I can't find something I need, I quickly get upset.*
4. I show up on time for school.
5. I make plans for what I am going to do after school.
6. I put my books in the same place when I come home from school.
7. I do my homework but can't find it when it's due.*
8. I have difficulty getting to classes on time.*
9. I have a plan for deciding which homework assignment to do first.
10. I put my homework in the same place in my notebook or book.
11. At the end of the day I hang up my clothes or put them away immediately after I take them off.
12. I am one of the first people to be at a meeting place with my friends.
13. I'd keep my room messy, if I were allowed.*
14. My family puts things where I can't find them.*
15. When I have several things to do in a day I make a list or put notes around.
16. I make plans for what I'm going to do at recess or lunch.
17. I lose things at school.*
18. After I use something I put it back right away where it belongs.

APPENDIX B (cont.)

Child Organizational Scale Items

Zentall, Harper, & Stormon-Spurgin (1993)

19. Other kids lose my things at school.*
 20. I start projects, but have a hard time finishing them.*
 21. I have trouble remembering where I put things at home (like keys).*
 22. I often act or say things before I think.*
 23. I don't realize that I have forgotten something until I'm already at school.*
 24. My clothes are crumpled and messy.*
 25. I keep my school stuff in my desk messy.*
 26. Kids at school mess up my stuff.*
- Note: Items with asterisks are reverse coded; a high score is equivalent to "never."

APPENDIX C

Child Organizational Parent Perception Scale Items

Zentall, Harper, & Stormon-Spurgin (1993)

1. I allow my child to have certain areas of the house or certain times of the week to be messy. (high score = never)
2. I get upset when my child returns the family's objects to the improper place. (high score = always)
3. If my child organizes his/her room in a manner which I feel is improper, I will make him/her redo it. (high score = always)
4. I get upset if my child is late for a meeting or planned activity. (high score = always)
5. I get upset when my child moves objects around after I have organized them. (high score = always)
6. If my child has a time commitment, I help him/her get ready on time. (high score = always)
7. I feel that my child organizes his/her time well. (high score = never)
8. I suggest that my child make lists when he/she is presented with different tasks/jobs. (high score = never)
9. I feel my child organizes his/her toys, clothes, and homework papers well. (high score = never)

APPENDIX C (cont.)

Child Organizational Parent Perception Scale Items

Zentall, Harper, & Stormon-Spurgin (1993)

10. If my child is not able to find certain objects (for example, toys, clothes, homework), I look for them for him/her. (high score = always)
11. If my child is not able to find certain objects (for example, toys, clothes, homework), I teach him/her to retrace his/her steps or to put them in a place where he/she can find them next time. (high score = never)
12. I feel my child plans ahead for important activities/events or assignments. (high score = never)
13. I get upset when my child places objects in an order that does not make sense to me. (high score = always)

ABRA CARROLL NARDO

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EDUCATION

- 1998 – Present Indiana University, Bloomington, IN
Ph.D. Candidate in School Psychology. Degree will be conferred August 2005.
GPA: 3.99
- 1994 – 1997 Georgia State University, Atlanta, GA
Fifty-three Psychology credit hours earned as a postbaccalaureate student. GPA: 4.0
- May 1992 Oberlin College and Conservatory of Music, Oberlin, Ohio
B.A. in Philosophy and B.Mus. in Vocal Performance
GPA: 3.37

CLINICAL EXPERIENCE

- Intern Sept 2004 -
University of Tennessee Professional Psychology Internship Consortium, Aug 2005
Memphis, TN

Completed a one-year APA-approved predoctoral internship. UTPPIC consists of a number of cooperating agencies offering direct clinical training experiences during three 4-month rotations. Additional add-on experiences included (1) training in Crisis Intervention at the Memphis Police Academy followed by an 8-hour ride-along with a specially-trained Memphis City police officer (Supervisor: Tom Kerchberg, Ph.D.) and (2) meetings with a local clinical psychologist in private practice about business and licensure issues (Supervisor: Shirley Leach, Ph.D.). A weekly comprehensive seminar was taught by local Psychologists covering topics such as custody evaluations, licensure issues, psychotropic drugs, cultural diversity, and professional and legal/ethical issues. Program Director: Billy Murphy, Ph.D.

- Intern April - August
Exchange Club Family Center, Memphis, TN 2005

Completed a major rotation as part of the UTPPIC. Worked with adults and children who have experience domestic violence. Activities included individual counseling with adults, family therapy, parent training, child custody evaluations, evaluation of adolescents in a local children's home, and behavioral evaluations of children. Co-led a group of underprivileged 4-7 year-olds who have witnessed domestic violence and a Female Anger Management group. Supervised Parent Aides from the AmeriCorps program. Presented anger management principles locally. Supervisor: Charlotte Freeman, Ph.D.

Intern
Memphis City Schools Division of Exceptional Children and Health Services,
Memphis, TN

Sept 2004 -
Aug 2005

Completed a major rotation as part of the UTPPIC. Worked as part of a team of School Psychologists and Social Workers serving both the mental health and special education needs of all Memphis City Schools high schools. Participated in individual, group, and family therapy; psychoeducational and personality assessment; IEP and placement meetings; consultation with teachers and parents; and emergency services at eight local high schools. Supervisor: Princess Coleman, Ph.D.

Intern
UT Center of Excellence (COE) for Children in State Custody, Memphis, TN

Sept - Dec
2004

Completed a minor rotation as part of the UTPPIC. The UT COE is a referral center dedicated to increasing services to children in or at risk of state custody. Answered referral questions by completing file reviews; interviewing children, adolescents, and caregivers; and completing direct clinical evaluations. Developed care plans with specific treatment and placement recommendations in conjunction with a multidisciplinary team. Supervisor: Janet Todd, J.D., Ph.D.

Intern
UT Adult Outpatient Psychotherapy Clinic, Memphis, TN

Jan - August
2005

Completed a minor rotation as part of the UTPPIC. Engaged in direct therapy with adult outpatients, observed and participated in weekly clinical intakes, and attended a psychotherapy seminar with current psychiatric residents. Supervisor: Robert Kores, Ph.D.

Student Clinician and Assessment Consultant
School Psychologist Private Practice, Bloomington, IN

2000 – 2003

Worked with parents, children, and teachers in a variety of intervention and assessment situations, including individual counseling; family systems therapy; group counseling (leading an adolescent girls' group); academic, cognitive, and personality testing; and consultation with parents and teachers. Supervisor: Marsha McCarty, Ph.D., H.S.P.P.

Assessment Consultant
Martinsville Public School District, Martinsville, IN

Fall 2001

Assessed children in Kindergarten through 12th grade as part of their three-year re-evaluation process for Special Education. Supervisor: Eileen Schellhammer, Director of Special Education

Student Clinician
Riley Child Development Center, Indianapolis, IN

Fall 2001

Served as a clinician for children and adolescents with Traumatic Brain Injury in an outpatient clinic at Riley Hospital for Children. Completed intake interviews, psychoeducational assessments, and reports that included recommendations for interventions in the home and school. Supervisors: Angie Tomlin, Ph.D. and Steve Koch, Ph.D., H.S.P.P.

Student Supervisor Spring 2001
Institute for Child Study, Indiana University, Bloomington, IN

Supervised second-year School Psychology graduate students on both school-based and clinic-based cases. Faculty Supervisors: Russ Skiba, Ph.D. and Karen Gavin, Ph.D.

Student Clinician 1999 – 2000
Institute for Child Study, Indiana University, Bloomington, IN

Assessed children, consulted with teachers and parents, completed direct interventions at Clear Creek Elementary School and in the clinic, and led social skills groups in a second grade general education classroom. Director: Russ Skiba; Supervisor: Jack Cummings, Ph.D.

School Psychology Practicum Student Spring 1999
Indianapolis Public School #74, Indianapolis, IN

Worked in an inner-city school assessing children, performing classroom observations, and writing psychological reports for Special Education eligibility determinations. Supervisor: Ron Branca, Ed.D.

Summer Day Treatment Program Counselor 1995 – 1997
Emory Clinic Center for Learning and Attention-Deficit Disorder, Atlanta, GA

Worked for three summers with 6 to 12 year-old children with behavior disorders in a structured six-week program using a token economy. Taught social skills, coded behaviors, completed Functional Behavior Assessments, co-led parenting groups, trained new counselors, and worked closely with a team of counselors to develop behavior goals for the children. Camp Director and Supervisor: Ann Abramowitz, Ph.D.

Teacher 1996
Walden Early Childhood Program, Atlanta, GA

Taught in a therapeutic toddler classroom in which one-third of the children were diagnosed with autism. Employed incidental teaching techniques to increase language use, social interaction, and self-care skills. Program Director: Gail McGhee, Ph.D.

RESEARCH

Principal Investigator, Dissertation Research Current
Indiana University School of Education, Bloomington, IN

“Intervention Package to Increase Homework Success among Sixth Graders with Organizational Deficits.” Dissertation defended May 12, 2005. Director of Dissertation Research: Sam Odom, Ph.D, Dissertation Chair: Jack Cummings, Ph.D.

Research Assistant
Indiana University Psychology Department, Bloomington, IN

1997 – 1999

Assisted a clinical psychologist in the Social Development Lab with the Child Development Project. This ongoing, multi-site, longitudinal study investigated children's social development and adjustment by following 585 children from two cohorts recruited in consecutive years, 1987 and 1988, from Nashville and Knoxville, TN, and Bloomington, IN. Data were collected from multiple informants, including children, parents, teachers, peers, observers, school records, and court records. Supervised undergraduate assistants and directed lab administration. Factor analyzed an extensive parent interview protocol. Designed a lab web site. Administered parent and child interviews in Bloomington and surrounding areas. Traveled to New York, New Jersey, and West Virginia to interview cohort member who had moved to these states. Principal Investigator: John. E. Bates, Ph.D.

Research Assistant
Georgia State University Psychology Department, Atlanta, GA

1996 – 1997

Assisted a Developmental Neuropsychologist in the Developmental Neuropsychology Lab with two projects: (1) Administered a series of standardized and experimental tasks at three local schools as part of a study of attention in preschoolers. Scored, compiled, and analyzed all data using Excel and SPSS. (2) Coded reproductions of the Rey-Osterrieth Complex Figure (a figure designed to assess spatial construction, planning, and memory) of typical children and children with Attention-Deficit/Hyperactivity Disorder using the Boston Qualitative Scoring System. Principal Investigator: Natacha Akshoomoff, Ph.D.

Research Assistant
Georgia State University Psychology Department, Atlanta, GA

1996

Assisted two Cognitive Psychology graduate students with their dissertation projects. Coded responses of brain-injured children and children in a control group to a social knowledge interview. Coded real and non-real words from the Turgeson battery as read by brain-injured adults and adults in a control group. Faculty Supervisor: Mary Morris, Ph.D.

Research Assistant
Georgia State University Psychology Department, Atlanta, GA

1995 – 1996

Assisted in the Developmental Lab with a study of coordinated and joint attention in toddlers with autism. Coded affect and engagement of approximately 56 mothers and their 20-month old children (half with a diagnosis of autism) in videotaped play scenes conducted in the lab. Each Communication Play contained 8 scenes designed to encourage interacting, requesting, commenting, and narrating. Of primary concern was how often symbols infused the child's states of engagement with people and objects and how this related to language acquisition. Principal Investigator: Lauren Adamson, Ph.D.

PROGRAM EVALUATION

Evaluation Consultant
Indiana Center for Evaluation, Bloomington, IN

2001 – 2002

Projects: (1) Indiana Youth Initiative – Evaluated day-long LINK (Linking Indiana Neighbors and Kids) workshops throughout Indiana, Project Coordinator: Ron Beghetto, Ph.D. Candidate; (2) Fullinger Foundation – Interviewed homogenous groups of parents, children, teachers, principals, and school support personnel in five Fort Wayne Public Schools about the impact of recent diversity training based on the work of Ruby Payne. Project Coordinator: Dan Henry, Ph.D. Candidate; (3) Ohio's Key Effective Practices – Conducted telephone interviews with teachers in Ohio about recently-adopted school improvements, Project Coordinator: Aaron Kercheval, Ph.D. Candidate

Evaluation Consultant
Rockman et al., Bloomington, IN

2002

Interviewed sixth graders in the Indianapolis Public Schools about their satisfaction with school-issued laptops for the Tech-Know-Build Project, a project funded by a U.S. Department of Education Technology Innovation Challenge Grant. Project Coordinator: Chris Matthews

TEACHING

Associate Instructor, Department of Curriculum and Instruction
Indiana University School of Education, Bloomington, IN

2001 – 2004

Taught E/M300: "Teaching in a Pluralistic Society for Education Majors" for three academic years. Taught both elementary and secondary versions of the course. Devised syllabus and all assignments, facilitated and chaperoned corresponding field experience in the Indianapolis Public Schools, lectured, lead class and online discussions, maintained an active class web site, and administered grades. Mentored new teachers of this course. Faculty Supervisor: Barbara Korth, Ph.D.

Associate Instructor,
Department of Counseling and Educational Psychology,
Indiana University School of Education, Bloomington, IN

1999 – 2001

Taught "Educational Psychology for Education Majors" for two academic years. Taught both elementary and secondary versions of this course. Devised syllabus and all assignments, facilitated corresponding field experience, lectured, facilitated and led all lab meetings, facilitated class and online discussions, maintained an active class web site, and administered grades. Mentored new teachers of this course. Faculty Supervisors: Jonathan Plucker, Ph.D.; Curt Bonk, Ph.D.

SAT Preparation Teacher and Tutor
Princeton Review, Bloomington, IN

1998

Tutored high school juniors in math, verbal, and general test-taking skills in preparation for taking the SAT. Substituted as a teacher for an SAT class in Indianapolis.

Teaching Assistant
Georgia State University Psychology Department, Atlanta, GA

Spring 1997

Assisted a professor in teaching “Psychological Research Methods for Psychology Majors.” Instructed undergraduate students in APA writing style, led weekly lab meetings and discussion section, input and analyzed class data using SPSS software, graded all written work and determined final grades. Faculty Supervisor: Frank Haist, Ph.D.

PUBLICATIONS AND PRESENTATIONS

Diversity Panelist and Guest Lecturer 2002 – 2003
Indiana University School of Education, Bloomington, Indiana

Participated in several diversity panels in the School of Education at Indiana University. Discussed the experience and meaning of Whiteness in a diverse world. Guest lectured for Russ Skiba’s graduate seminar on cultural diversity.

Guest Lecturer and Panelist 1999 – 2003
Indiana University School of Education, Bloomington, Indiana

Presented information and answered questions about Attention-Deficit/Hyperactivity Disorder (ADHD) in 25+ undergraduate and graduate education classes. Spoke at an orientation for new camp counselors working with children with ADHD during two consecutive summers. Presented personal experience, typical symptomology, assessment and treatment, and offered suggestions for working with children with this diagnosis. Presented alone or as part of a disability panel.

Skiba, R. J., Michael, R. S., Nardo, A. C., & Peterson, R. (2002). The color of discipline: Sources of racial and gender disproportionality in school punishment. *Urban Review*, 34, 317-342.

Nardo, A. C. & Reynolds, C. (2001). *Social, Emotional, Behavioral, and Cognitive Benefits of Yoga for Children: A Nontraditional Role for School Psychologists to Consider*. Paper presentation at the National Association of School Psychologists’ annual convention, Chicago, IL.

Skiba, R. & Nardo, A.C. (2000). *The color of discipline: Sources of racial and gender disproportionality in school punishment*. Paper presentation at the National Association of School Psychologists’ annual convention, Washington, D.C.

AWARDS

Alumni Dissertation Research Fellowship 2003
Oberlin College, Oberlin, OH

Outstanding Associate Instructor Award Nominee 2003
School of Education, Indiana University

M300: Teaching in a Pluralistic Society for Secondary Education Majors. Nominating Faculty Member: Barbara Korth, Ph.D.

Outstanding Associate Instructor Award Nominee 2002
School of Education, Indiana University

E300: Teaching in a Pluralistic Society for Elementary Education Majors. Nominating Faculty Member, Barbara Korth, Ph.D.

Outstanding Associate Instructor Award Nominee 2001
School of Education, Indiana University

P251: Educational Psychology for Elementary Education Majors. Nominating Faculty Member, Curt J. Bonk, Ph.D.

University Graduate Fellowship 1998
Indiana University, Bloomington, IN

RELEVANT VOLUNTEER WORK

Pathways International, Inc., Bloomington, IN 2001 – 2003
Corporate Executive Secretary & Board Member

Pathways International is a nonprofit organization dedicated to the success of primary school students in rural West Africa.

Reading Tutor 2000 – 2001
VITAL (Volunteers in Tutoring Adult Learners) Program,
Monroe County Public Library, Bloomington, IN

Tutored adult learners, both new readers and adults preparing for their GED. Solicited donations for and monitored a Silent Auction.

Student Mentor 1999 – 2001
Indiana University School Psychology Program, Bloomington, IN

Mentored entering students, introducing them to the School Psychology program and graduate life in general through regular meetings.

PROFESSIONAL MEMBERSHIPS

American Psychological Association
National Association of Multicultural Educators
National Association of School Psychologists