Self-Management of Classroom Preparedness: Effects on Students with Attention Deficit Hyperactivity Disorder and Specific Learning Disabilities in Limited Resource Environments

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Kristen N. Wilson, M. Ed.

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This Master's Research Project has been approved

for the Department of Teacher Education

Dianne M. Gut

Dianne M. Gut, Ph.D., Associate Professor, Special Education

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John E. Henning, Ph.D., Professor and Chair of the Department of Teacher Education

Abstract

The purpose of this study was to determine the effects of a self-monitoring checklist on the classroom preparedness skills of upper elementary students. The study's participants included eight students in grades 4 and 5 identified with Attention Deficit Hyperactivity Disorder, and specific learning disabilities, receiving language arts instruction in a resource room. Students were instructed on the use of a daily self-monitoring checklist, as well as graphing their percentage of compliance with checklist items. The intervention's effectiveness was found to range from questionably to highly effective for the participants. Minimal generalization of skills to other times and setting was noted.

Table of Contents

Students with specific learning disabilities (SLD) and Attention Deficit Hyperactivity Disorder (ADHD) confront new struggles upon entering the middle school environment. Middle school places increased demands on students' organizational and study skills. Williams, Walker, Homes, Todis and Fabre (1989) stated, "Mainstreamed students may be exposed to physically less restrictive environments but more socially restrictive instructional environments." In the authors' survey, general education and special education teachers were queried on the most important skills for adolescents. Teachers' responses could be summarized into categories of behavior that reflect maturity, responsibility and self-control, more specifically they include compliant behavior, on-task behavior, completion of tasks and responsiveness to teacher questioning. Unfortunately, many of the survival skills required for the middle school environment do not match the skill set possessed by entering students with SLD and ADHD.

Langberg, Epstein, Mekibib, Molina, Arnold, and Vitiello (2008) found in their 36-month follow up of students with ADHD transitioning to middle school, evidence of maladjustment in higher incidences of delinquency and drug usage. They noted the middle school environment with its increased complexity and reduced structure exacerbated the symptoms of students with ADHD. They further found that medication did not prevent the manifestation of these symptoms because it did not instill study skills, time management skills, or organizational abilities. The authors stressed that interventions prior to middle school were necessary to lessen the impact of the transition on students with ADHD. Salend and Salend (1986) proposed a similar recommendation for students with SLD. They suggested that these survival skills be assessed in transitioning students, and a training program implemented if a skill deficiency existed.

The purpose of the following study is to determine the effectiveness of a self-monitoring intervention undertaken to improve the classroom preparedness behaviors of fourth and fifth

grade students with ADHD and/or SLD prior to their transition to junior high school during their sixth grade year. Due to the intervention's simple procedures and limited demands on time and financial resources, the findings of this research may assist special education and general education teachers interested in preparing their students with disabilities for a successful transition to middle school.

Literature Review

Characteristics of Students with SLD

Although students with SLD are a heterogeneous population, they are frequently characterized as poor information processors in the areas of language and related areas influenced by language such as reading and writing (Raymond, 2008; Swanson & Sachse-Lee, 2000). Many students in this population also experience difficulties in mathematics in areas such as memorization of basic facts, organization of numbers, learning and performing the steps in a multiple-step algorithm, and in the manipulation of numbers in their short-term memory (Raymond, 2008). Learners with SLD often share characteristics with students with ADHD, and in some instances ADHD is a co-morbid disorder. Some common characteristics include difficulty in focusing and maintaining attention and in organizing classroom materials (Barkley, 1997; Evans, Allen, Moore, & Strauss, 2005; Raymond, 2008; Zigmond, Kerr, & Schaeffer, 1998).

To improve the educational outcomes for students with SLD, authors, Zigmond, Kerr, and Schaeffer (1998) recommended that students with SLD be taught to bring the necessary supplies to class and attend class on time based upon their study of behavior patterns of high school students with and without SLD. Swanson and Sachse-Lee (2000) noted the largest effect

sizes for students with SLD occurred with interventions combining direct instruction and cognitive strategy instruction that included self-monitoring.

Characteristics of Students with ADHD

Attention Deficit Hyperactivity Disorder is divided into three main subtypes: predominantly inattentive, predominantly hyperactive/impulsive, and the combined type (Raymond, 2008: Turnbull, Turnbull, Shank, & Smith, 2004). Beyond the characteristics of inattentiveness, hyperactivity and impulsiveness, conditions such as low frustration tolerance, mood instability, poor self-esteem, lack of effort, temper outbursts, a seeming lack of personal responsibility, and oppositional behavior have been attributed to students with this disorder (Raymond, 2008). Distorted perceptions of time and procrastination are features that have also been noted (Turnbull, Turnbull, Shank, & Smith, 2004). Barkley (1997) noted that students with ADHD, in contrast to students with SLD, are slower to return to tasks once they have been distracted. Vile Junod, DuPaul, Jitendra, Volpe and Cleary (2006) found in their observations of students, with and without ADHD in the first through fourth grades, that students with ADHD had significantly lower rates of academic engagement and higher rates of off-task behavior. They also spent more time involved in disruptive and off-task behavior which prevented them from attending to and completing their academic tasks. Later in their school careers, this was associated with a lower grade point average (GPA) and higher drop-out rate. On the positive side, strengths such as creativity and hyperfocus are commonly demonstrated by students with ADHD (Turnbull, Turnbull, Shank, & Smith, 2004).

Disability Incidence and Educational Statistics

According to the National Center for Education Statistics (NCES) (2009), students with SLD comprised 39% of the students between the ages of 6 to 21 years served under the

Individuals with Disabilities Education Act (IDEA), Part B. Students in the Other Health Impairments (OHI) category, which includes students with ADHD, comprised 9.7% of this population. The combination of these two categories is approximately half of all of the individuals served by IDEA, Part B. A more sobering statistic provided by the NCES (2009), was the dropout rate of students exiting school during the 2006-2007 school year. Among students with SLD, 24.4% exited school through dropout. In the OHI category, 23% exited through dropout.

Classroom Survival Skills

Numerous authors have specified the skills necessary for success in the classroom. Gureasko-Moore, DuPaul, and White (2006) defined classroom preparation skills as, "…preacademic behaviors that enable students to meet everyday classroom demands such as attending classes promptly, paying attention during instruction, sufficiently completing teacher-assigned tasks, and handing in work on time." Snyder and Bambara (1997) and Creel, Fore, Boon, and Bender (2006) included bringing such items as a pen or pencil, paper/notebook, and textbook to the list of requisite skills. Gureasko-Moore, DuPaul, and White (2007) added preparations to begin class, such as eye contact with the teacher, being seated and remaining quiet.

The Impact of Homework

In all of the studies outlined above, the completion and submission of homework were included as essential classroom survival skills and common skill deficiencies for students with SLD and ADHD. Keith, Diamond-Hallam, and Goldenring Fine (2004) focused on the influence on high school grades of time spent doing homework out of school. They noted that time spent completing out-of-school homework had a large and statistically significant effect on senior

GPA. They further noted that time spent on out-of-school homework had a moderate and statistically significant effect on test scores. In summary, they encouraged school psychologists to develop interventions to promote homework completion.

School Interventions for ADHD

In 1997, DuPaul, George and Eckert performed a meta-analysis of the effects of school-based interventions for ADHD. They addressed two issues: the effectiveness of school-based interventions in changing disruptive behavior, off-task behavior, academic performance, and test scores in students with ADHD; and the variance in effect sizes based upon the type of intervention implemented. These included academic, contingency management, and cognitive behavioral interventions. They found significant behavioral effects regardless of the type of intervention employed. Cognitive behavioral interventions which include self-management were effective in improving academic performance, but were less effective in improving classroom behavior.

Later DuPaul and Weyandt (2006) separated school-based interventions into two categories: (1) antecedent which focuses on academic and organizational skills, and (2) reactive or consequence-based which addresses social and classroom behavior. They noted that multi-modal treatment was more effective than any treatment in isolation. Multi-modal treatments include medication, behavioral strategies, and accommodations. They further proposed the following guidelines for school-based interventions: (1) school intervention plans should include reactive and antecedent strategies; (2) interventions should employ multiple change agents in the intervention implementation; (3) assessment data rather than trial and error should be the basis for intervention planning; and (4) treatment plans should be evaluated and modified based upon the data gathered. In addition, they noted the importance of focusing on organizational and study

skills for secondary students due to difficulties with long-term projects and note taking. Self-management strategies were suggested due to the limited availability of teacher time at the secondary level.

Self-Management

Self-management has been the subject of many studies over the past four decades. Self-management encompasses a variety of procedures such as goal-setting, self-recording, self-evaluation, self-reinforcement, and self-instruction that allow students to accept primary responsibility for their own behavior change (Alberto & Troutman, 2008). Self-monitoring interventions did not initially target classroom preparedness. Hallahan and Sapona (1983) studied the effects of self-monitoring on the on-task behavior and academic productivity of a seven-year old boy with SLD using an ABABCD design. They found that self-monitoring attention during academic work led to increased attending behavior, and noted a similar phenomenon with academic productivity. In their intervention, they utilized a cue tone and recording procedure which they determined to be necessary at the inception of the intervention, but were features that could be faded after a period of time. In addition, they discovered that self-monitoring procedures can be utilized with no back up reinforcers. In their intervention, they found maintenance of its effects in a follow up 2 ½ months later. They further suggested that self-monitoring is more successful with tasks for which students already possess the requisite skills.

Snider (1987) studied the use of self-monitoring of attention on students with SLD. She found self-monitoring to be more motivational to students than external assessment. Another significant finding in her research was that self-monitoring had a greater effect when it was combined with instruction because students were taught to what they should attend. Self-

monitoring without the instructional component resulted in few academic gains. In her review of self-instructional strategies, she found them to be effective for tasks that were similar in nature, but the strategies did not generalize to significantly different tasks.

In DiGangi, Maag, and Rutherford, Jr. (1991) the concept of self-graphing of on-task behavior was added to the self-monitoring intervention. The rationale for the self-graphing feature was to increase student motivation and performance by demonstrating evidence of their progress. The intervention included two females with SLD, ages 10 and 11, in an inclusion math class. The variables studied were on-task behavior and academic productivity which included accuracy and productivity. The researchers used time sampling over six phases in a single-case design. After baseline, the first phase, various self-management procedures were added to each following phase. In the second phase, students performed self-monitoring. For the third phase, they added a self-graphing component. The fourth phase included an additional self-reinforcement procedure, and in the fifth phase students performed self-evaluation as well. The sixth phase involved fading the self-management procedures. The authors found that self-graphing made significant improvements to on-task and academic performance, but that self-reinforcement contributed little to the intervention's effectiveness if self-evaluation was not performed.

In Reid (1996), the author reviewed the literature on self-monitoring beginning with the Broden, Hall, and Mitts study in 1971. In that study and subsequent studies, he noted no differences in self-monitoring of attention versus self-monitoring of performance in increasing on-task behavior. He indicated that self-monitoring is not responsible for creating new behaviors, instead it relies upon behaviors that have already been introduced to students. He further introduced the concept of valence into the literature review. Valence measures the

desirability of a behavior. A desirable behavior would therefore have positive valence. He noted an increased effect size when students are required to monitor behaviors with positive valence as opposed to negative valence. Like Snider (1987), the author proposed that the combination of self-monitoring with a strategy was more effective than either alone. Reid finally concluded that an intervention's effectiveness be considered in terms of its suitability for the environmental conditions, such as, setting, task, and strategy; and the student's conditions, including maturity, self-efficacy, and metacognitive abilities. Comparisons of interventions with dissimilar conditions may lead to the potential to draw misleading conclusions.

Mathes and Bender (1997) studied the combined treatment of a cognitive behavioral intervention with medication. The study focused on the on-task behavior of three boys with ADHD in elementary school, ages 8 through 11. The boys were experiencing problems in their special and general education classrooms despite the use of their medication and were co-diagnosed with behavioral disorders . These problems included disruptive behavior, talking out in class, daydreaming, incomplete assignments, and noncompliance with teacher requests. The intervention included tape-recorded self-monitoring cues and a self-monitoring sheet for students to record their on-task behavior. The students' self-monitoring sheets were compared against the observer's whole-interval recording. After two fading phases in which the cuing tape and self-monitoring sheet were removed, on-task behavior still continued at a much higher rate than baseline.

In Shimabukuro, Prater, Jenkins and Edelen-Smith (1999), the study occurred in a private school setting. The authors studied the effects of self-monitoring on the attentional behaviors of students with SLD and ADD/ADHD. The study's participants were three students in a self-contained, mixed-grade class in a school for students with SLD. The intervention was

implemented during reading, writing, and math instruction. Students were assessed on their academic accuracy, academic productivity, and on-task behavior. The study included self-graphing and featured a multiple baseline across the three academic areas design. The authors noted that although self-monitoring of academic performance increased accuracy, productivity and on-task behavior, it produced its greatest effects on productivity.

In Reid, Trout, and Schartz (2005), the authors performed a meta-analysis on four self-regulation interventions including: self-monitoring, self-monitoring plus reinforcement, self-management, and self-reinforcement. They determined the four interventions to be effective for students with ADHD based upon the combined effect sizes being in excess of 1.0.

Self-Management Interventions for Classroom Preparedness

Olympia, Sheridan, Jenson, and Andrews (1994) studied the effects of a peer-mediated cooperative self-management intervention to promote homework completion and accuracy. The study included 16 sixth-grade math students who met any of the following criteria: the completion of less than 50% of assigned homework, the submission of homework assignments with less than 50% accuracy, earning an unsatisfactory grade in the previous grading period, or being assessed in the lower 50^{th} percentile in a mathematics achievement test. The intervention included self-monitoring, self-instruction, self-evaluation and self-reinforcement procedures. In the intervention, students were assigned to teams and the roles of coach, scorekeeper, manager, and team member. For comparison purposes, some teams set their own daily goals while other teams' goals were determined by the teacher. During the intervention, the team measured their individual and team homework completion and accuracy and provided reinforcement to team members meeting the daily goal. The authors determined the homework teams were effective in increasing homework completion and accuracy. A stronger effect was noted for teams striving

toward student-selected goals. The student-selected goal teams also maintained the treatment effects into the second baseline to a greater extent than the teacher-selected goal teams.

Snyder and Bambara (1997) studied the effects of self-management on the classroom survival skills of secondary students with SLD. The study included three male participants in grades 7 and 8. The classroom survival skills observed were: on-time arrival, readiness to begin class, possession of a writing instrument, paper and textbook; submission of homework and completion of homework. The intervention was found to be highly successful in increasing classroom preparedness behaviors. Study participants also generalized these skills into other classrooms where the teachers were not involved in the intervention. The authors noted that training by a special education teacher can be successful without adding to the secondary classroom teacher's responsibilities. In addition, one study participant commented that coming to class prepared permitted greater focus during class on the directions provided by the teacher.

Creel et al. (2006) studied the effects of self-recording and self-evaluation on four sixth-grade students with ADHD attending a language arts class in a resource room. Students completed checklists of seven classroom preparedness behaviors and received edible reinforcers when criteria were met. The percentage of compliance with the classroom preparedness behaviors was considered the dependent variable. The students' general education teachers were surveyed pre- and post-intervention to determine if the classroom preparedness skills generalized to other classrooms. The authors found the intervention was highly effective and that students had generalized the classroom preparedness behaviors to other classrooms. Another benefit of the intervention was the simplicity of implementation. A significant limitation of the study was the inability to assess the maintenance of the behaviors over an extended period.

Gureasko-Moore, DuPaul, and White (2006) replicated the Snyder and Bambara (1997) study with the ADHD population. They evaluated the classroom preparedness behaviors of three seventh-grade male students with ADHD in the setting they are most commonly instructed, the general education environment (NCES, 2009). They found self-management to be effective in increasing the classroom preparedness behaviors of students with ADHD.

In Gureasko-Moore, DuPaul, and White (2007), the authors studied the effects of self-management on the classroom preparedness and homework completion of six male students with ADHD attending grades 6 and 7. Two of the six participants were being treated with medication for their ADHD symptoms. The authors compared the effects of the intervention on students receiving medication to those who were not. Although the organizational skills intervention was effective with the study participants, there was no appreciable difference between the results of students receiving medication and those students receiving no medication.

Langberg, Epstein, Urbanowicz, Simon, and Graham (2008) studied a combined intervention of skill training and self-management in the Challenging Horizons Program. In the intervention, students were taught organizational skills, study skills, and notetaking skills to improve grades and academic functioning. The study's 37 participants attended grades 4 through 7. Study participants focused on organizing their materials, complete and accurate recording of homework assignments and tests, and planning for long-range projects and tests during the eight-week intervention. The results of the study indicated students improved their organizational skills during the intervention and at the eight-week follow up. A small but significant increase in participant GPA was also noted. In addition, the participant's parents noted gains in academic functioning; however, teachers did not report comparable improvements. Similar to Creel et al. (2006) and Snyder and Bambara (1997), the authors reported on the simplicity of the

implementation. The intervention involved teachers initialing student assignment books, student completion of an organizational checklist, and the implementation of a behavioral point system. Although ease of implementation may have been a feature of the intervention, it should be noted that study participants met twice a week for 75 minutes each program day. This intervention was staffed by undergraduate students with a ratio of 3:1. The time and cost involved may be a factor for districts considering implementation.

Studies of the effects of self-management on the classroom preparedness behaviors and organizational skills of students with SLD and ADHD have primarily focused on students who were already in the process of transitioning to middle school. Salend and Salend (1986) and Langberg, Epstein, and Mekibib (2008) proposed these classroom preparedness behaviors be taught prior to the middle school transition to ensure better outcomes after the transition. Based upon these recommendations, additional self-management research and its effects on the classroom preparedness behaviors of pre-transitional students is indicated.

Method

The purpose of this study was to determine the effects of a self-monitoring checklist on the classroom preparedness skills of upper elementary students. The study's participants were students who would be entering junior high school within four to sixteen months. Rudolph, Lambert, Clark, and Kurlakowsky (2001) stressed the importance of self-regulation for students transitioning to middle school. The authors reported that elementary school students have considerable external control and guidance exerted over their lives in the form of parents and teachers monitoring their homework and class work to assure students understand the assignments given to them. This oversight by concerned adults however, may make the development of self-regulation skills less necessary in elementary school.

When these same students arrive in middle school, self-motivation and responsibility are required. Students who do not feel in control of their academic success, or attach little importance to it, may feel unprepared or overwhelmed by middle school's demands. Rudolph et al. (2001) recommended utilizing interventions that improve students' perceptions of control in an effort to lessen the maladaptive emotional and academic consequences occurring during the middle school years. For this investigation, three research questions were posed. First, does a self-monitoring intervention influence students' and teachers' perceptions of students' preparedness for class? Second, is self-monitoring effective in increasing the classroom preparedness behaviors and self-efficacy of students? Third, are differential effects from a self-monitoring intervention experienced by students identified with different disability categories?

Participants

Eight students were selected, using a purposeful selection, to participate in this research on the basis of grade level and eligibility for special education services. They were fourth and fifth grade students attending a rural elementary school in the Midwest. Seven students were in fourth grade, and one was in fifth grade. There was an even distribution of gender in this study with four females and four males. All participants received reading and math instruction in a resource room. Students were identified with SLD and/or ADHD. Parents and students provided consent for their participation in this study.

Instruments

Student self-monitoring checklist. For this research, a self-monitoring checklist was adapted from Creel, et al. (2006) to more accurately reflect the procedures and materials used in this particular resource room. The self-monitoring checklist included six items. Sample items include whether the student brought such items as homework and a reading folder to class,

completed tasks such as selecting an Accelerated Reading (AR) book before morning announcements; and began working when the teacher assigned class work. Students were asked to complete the self-monitoring checklist once a day for 10 days as they were beginning their school day. It took most students approximately two minutes to complete the self-monitoring checklist each day. See Appendix A for the self-monitoring checklist.

Teacher observation checklist. Additionally, a teacher observation checklist was developed using identical items from the student self-monitoring checklist. The researcher completed the teacher observation checklist daily for each of the eight students. The checklist was completed during the first 30 minutes of the school day while observing the students' arrival in the resource room. It was used to verify the accuracy of the student checklists. Each checklist took approximately one minute to complete for each student. See Appendix B.

Teacher surveys. Both pre- and post-intervention surveys were administered to the resource room teacher and the students' general education teachers to measure teachers' perceptions of the classroom preparedness of each student. The two surveys contained identical Likert scale items. The surveys' three items included ratings of items on a scale from "excellent" to "need a lot of help" regarding how well the student began classroom procedures without prompting, brought necessary classroom materials each day, and completed work with minimal prompting. The students' social studies and science teachers and intervention specialist completed these once for each student prior to the intervention and once following the intervention. Each student's survey took approximately one minute to complete. See Appendix C for the teacher pre-intervention survey and Appendix D for the teacher post-intervention survey.

Student surveys. Students also responded to a pre-intervention survey and a post-intervention social validation questionnaire. All of the aforementioned instruments were adapted from Creel et al. (2006).

Student pre-intervention survey. The three items on the student pre-intervention survey were similar to the teacher's pre-intervention survey. Students were asked to rate themselves from "excellent" to "need a lot of help" on such items as beginning work after hearing directions, bringing what is needed to class, and finishing work in class without being reminded to keep working. Each student completed this survey once prior to the intervention phase. It required approximately one minute to complete this survey. See Appendix E for the student pre-intervention survey.

Social validation questionnaire. Following the intervention, students responded to a social validation questionnaire containing five open-ended questions regarding the effects and value of the intervention. The questionnaire included such items as what the student learned from keeping the checklist; how the student would handle classroom preparedness responsibilities following the intervention, and what the student did and did not like about the checklist. These questionnaires required about five minutes to complete for each student. See Appendix F.

Study Design

An AB research design was used for this study. As the study took place near the end of the school year, time did not allow for treatment withdrawal, replication, or the establishment of a functional relationship.

Procedures

Following approval from the University Internal Review Board for the project and use of human subjects in research, as well as approval and support from the school administration, a parent consent form and letter explaining the study were sent home with prospective study participants. Once all parental consent was received, the researcher described the purpose and procedures of the study to the students and provided them with the opportunity to sign student assent forms.

Pre-intervention phase. Following the consent and assent procedures, the researcher gathered a baseline of classroom preparedness behaviors over four days for each student in order to compare the percentage of overlap between the baseline and intervention phases. The baseline data was collected in the resource room at the beginning of the school day for 30 minutes utilizing the teacher observation checklist in Appendix B. After gathering the baseline data, a pre-intervention survey for each student was distributed to the students' social studies, science, and intervention specialist teachers. Their written responses to the survey were returned to the resource room on the following day when the intervention began. On this date, students began the school day in the resource room by scoring their own classroom preparedness using the student pre-intervention surveys. Their written responses were collected prior to beginning the intervention.

Intervention phase. When the intervention phase began, the researcher showed the students an example of the self-monitoring checklist. She described the items and behaviors that would be checked on the list. She gave each student a copy of the checklist covered in a sheet protector and asked that students keep the checklist in their homework folders to serve as a reminder at home as they were gathering their belongings for school. Students were also told

that over the next 10 school days they would receive a copy of the checklist to complete while waiting for announcements at the beginning of the school day. She then explained that the checklist had a percentage of compliance listed at the bottom. The percentage of compliance was calculated by dividing the total number of items completed, by the total number of items possible. Students were also told that some items would not apply to every student on every day. Exceptions included wearing glasses and bringing homework to class which was not assigned every day. She then demonstrated some percentage of compliance calculations on the whiteboard. After the demonstration, students were shown a graph and told that the information from the checklist would be used to graph how well they were doing in meeting their weekly goals. She asked students to indicate the percentage of compliance on the y-axis and the date on the x-axis using a blank sheet of graph paper. She requested students draw a goal line at 80% across the first five days listed on the graph. Each day students met their goals, they were praised and given reinforcers such as highlighters, dry erase markers, decorative pens and pencils, stickers, stationery and magnetic clips.

During the second week, the target rate of completion was raised to 90%. Students were invited to attend a pizza party following the study if they met their goals for both weeks. To corroborate the data on the students' checklists, the researcher completed the teacher observation checklist at the beginning of the school day while the students were completing their own checklists. Comparisons were made between the student and teacher checklists with differences noted and corrected to ensure the percentage of compliance graphs reflected accurate information.

Post-intervention phase. On the day the intervention ended, post-intervention surveys were distributed to the students' social studies, science, and intervention specialist teachers. This

was the only post-intervention occasion that teachers were surveyed, as there were only 14 days remaining in the school year. Teachers returned their written responses to the resource room within one to two school days. The surveys were reviewed to determine whether the students' self-monitoring skills had generalized to the social studies or science classrooms or to their math instruction in the resource room in the afternoon. At the beginning of the school day on the day following the intervention, students were interviewed by the researcher using the social validation questionnaire. The eight student interviews took approximately 40 minutes to conduct. Students verbally responded to questions about the intervention's perceived benefits, their plans for future self-monitoring, and problems encountered with the intervention. Verbal responses were requested to encourage more detailed answers and to provide the opportunity to make necessary clarifications to questions and responses. This was the only occasion this questionnaire was completed.

Data Analysis

The baseline data collected using the teacher observation checklist was compared with the intervention data collected using the same instrument focusing on the percentage of overlap between the two phases. Data from the teacher's pre- and post-intervention surveys was analyzed to determine changes in the ratings for individual students on each item. The students' pre-intervention surveys were reviewed and compared with their social validation questionnaires to determine if students perceived any benefits from completing their self-monitoring checklists.

To answer the final research question regarding whether differential effects of a self-monitoring intervention were experienced by students identified with different disability categories; a mean percentage of overlap for students identified with ADHD was compared against the mean percentage of overlap for students identified with SLD. Some students were

identified with both SLD and ADHD, and their individual percentage of overlap was included in both groups.

Results

The findings reported in this section are from data collected using the teacher observation checklists and the student self-monitoring checklists. The percentage of non-overlapping data (PND) is shown for the eight individual students as well as the mean for each disability category. Data from the teacher pre-and post- intervention surveys and student pre-intervention surveys are reported for each student. Comments from the student social validation survey are also reported to note commonalities.

Task Completion

Baseline and intervention data are graphed for each participant. The baseline consisted of four data points for students present each day of the baseline phase. Ten data points were recorded for students during the intervention phase. Figures 1 through 8 reflect the participants' individual data.

Figure 1 -- *Student 1 Percentage of Task Completion*

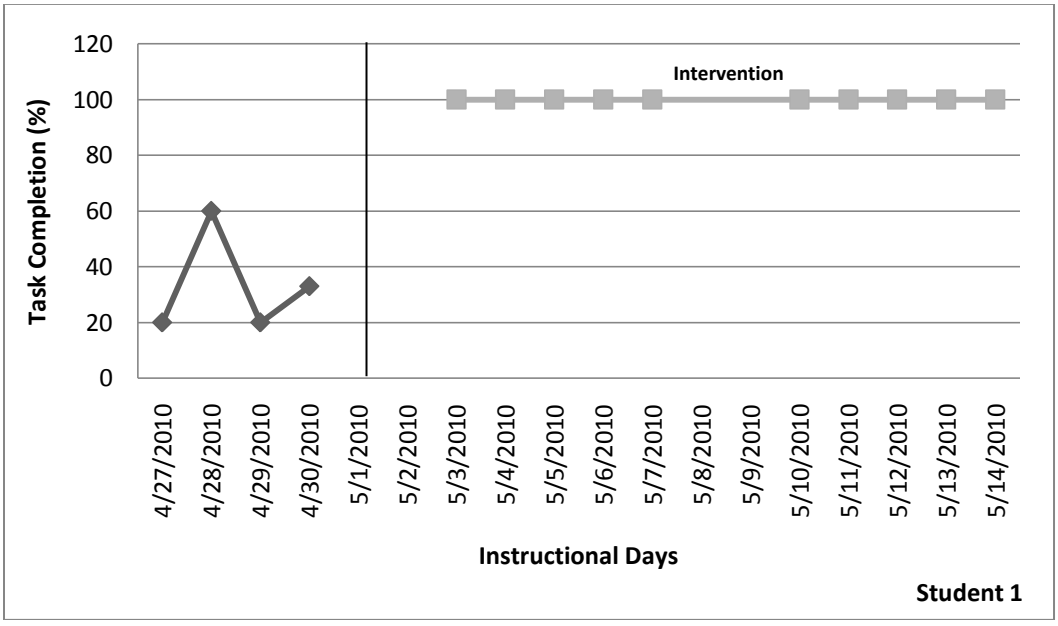


Figure 2

Student 2 Percentage of Task Completion

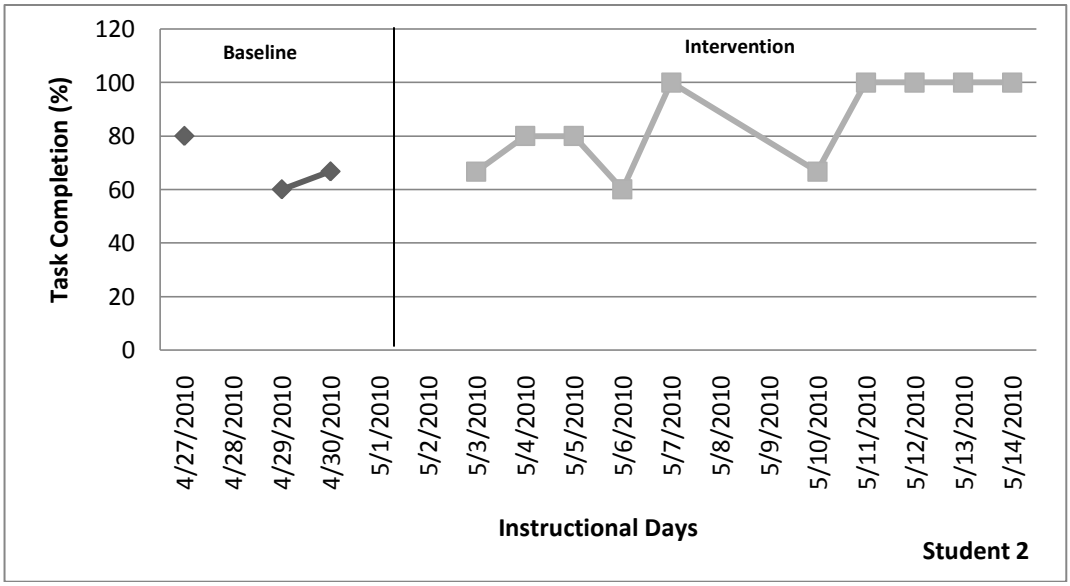


Figure 3

Student 3 Percentage of Task Completion

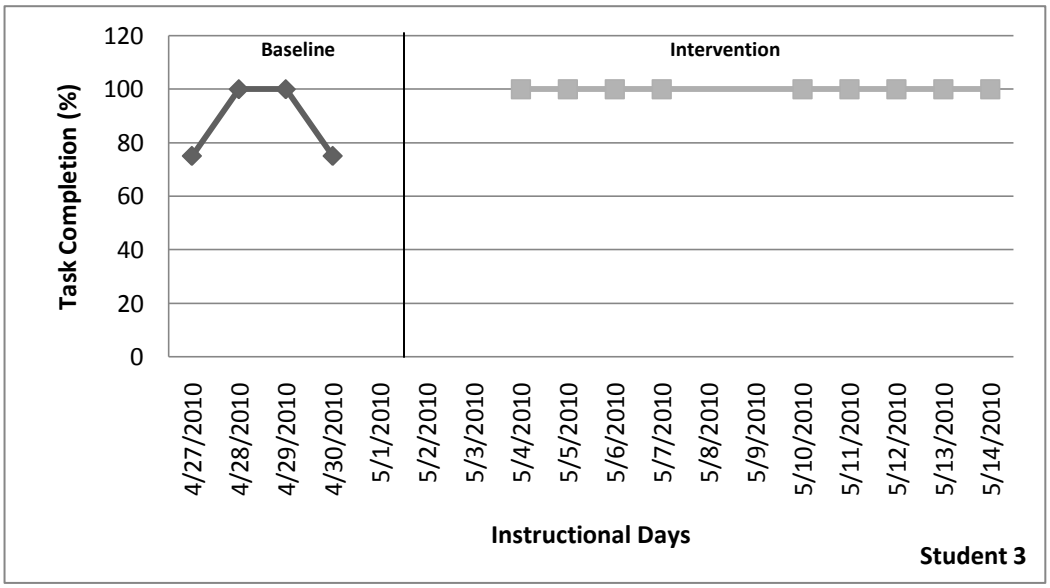


Figure 4

Student 4 Percentage of Task Completion

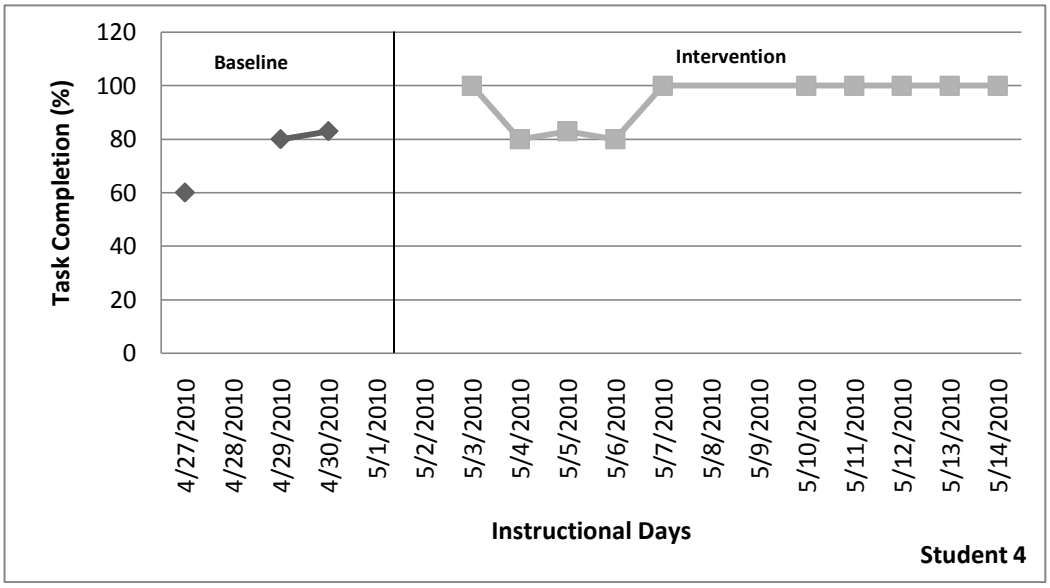


Figure 5

Student 5 Percentage of Task Completion

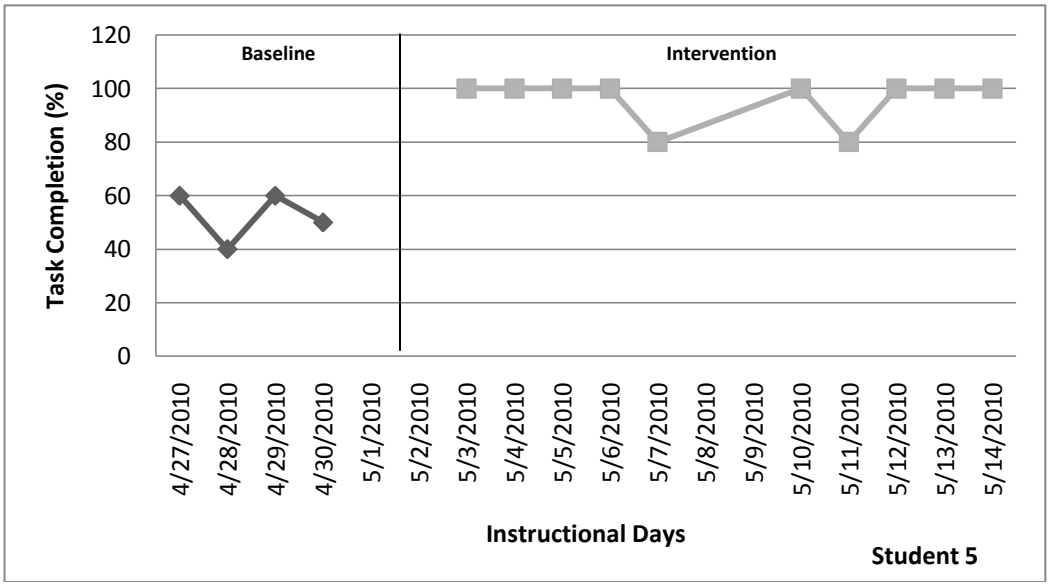


Figure 6

Student 6 Percentage of Task Completion

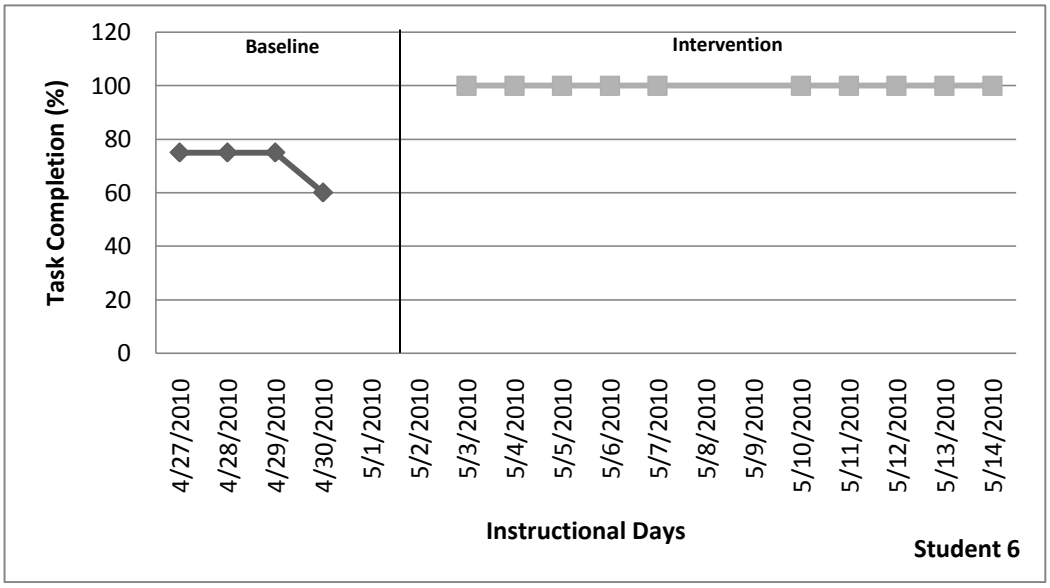


Figure 7

Student 7 Percentage of Task Completion

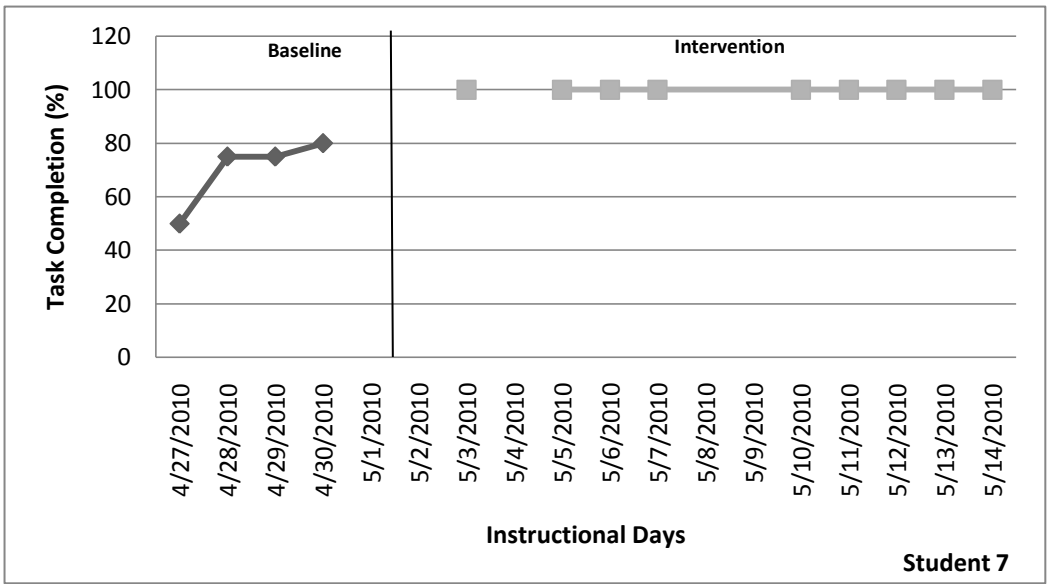
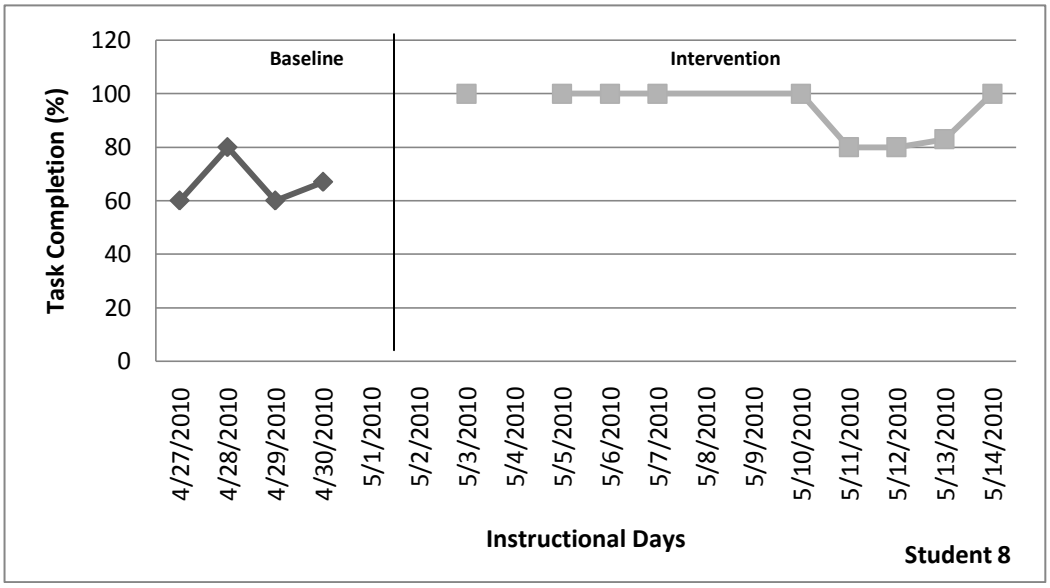


Figure 8

Student 8 Percentage of Task Completion



Non-Overlapping Data Results

Percentage of non-overlapping data (PND) was calculated to determine the intervention's effectiveness. Didden, Duker, and Kordilious (1997) interpreted PND results utilizing the criteria below: When PND > 90%, the treatment is regarded as highly effective; when 70% < PND < 90%, the treatment is regarded as fairly effective; when 50% < PND < 70%, the treatment is regarded as questionable and; when PND < 50%, the treatment is regarded as unreliable.

Employing the above criteria, Table 1 shows the PND for each student, the intervention's effectiveness on the individual, the mean PND for each disability category, and the intervention's mean effectiveness for each disability category. The PND for student 3 is shown; however, it is not included in the disability category mean. This PND is considered an outlier value.

All students receiving reading instruction in the resource room were included in the study. The pre-existing organizational skills of each individual student were not a factor in selecting the study participants. Student 3 attained 100% task completion on two data points of the baseline phase which prevented the intervention from demonstrating any degree of effectiveness. With this outlier removed, the intervention was determined to be fairly effective for students with ADHD and highly effective for students with SLD.

Table 1

Intervention's Effectiveness on Individual and Disability Category

Disability/Student	PND	Effectiveness
ADHD		
Student 1	100	Highly
Student 2	50	Questionable
Student 4	80	Fairly
Student 7	100	Highly
Student 8	77.8	Fairly
ADHD Category Mean	81.6	Fairly
SLD		
Student 1	100	Highly
Student 3	0	Unreliable
Student 5	100	Highly
Student 6	100	Highly
Student 7	100	Highly
SLD Category Mean	100	Highly

Pre- and Post-Intervention Survey Results

Survey results from the student pre-intervention survey and teacher pre- and post-intervention surveys are summarized for each student in Table 2. The numbers in the table represent the numeric responses to the Likert-scale type questions regarding the students' classroom preparedness. A rating of one (1) denoted that little assistance was required in the specified domain and five (5), the highest ranking, indicated that extensive assistance was needed. For example, student one received a rating of four (4) from the science teacher both before and after the intervention for item one, which asks how much assistance a student needs in the area of beginning classroom procedures without prompting.

Based upon the identical ratings for both pre- and post-intervention, it appears skills in beginning classroom procedures without prompting did not generalize to the science classroom setting. The situation appears to be similar in social studies. The responses from both pre-intervention and post-intervention surveys did not change. The intervention specialist in the resource room rated this area as a five on the pre-intervention survey and a four on the post-intervention survey which shows some generalization of this behavior across times. The student rated this item as a two for pre-intervention indicating little help was needed in this area. Students did not receive post-intervention surveys ranking their classroom preparedness so the students' perceptions of change cannot be noted from this survey.

In survey item two, the student has classroom materials each day; similar results and generalization patterns were shown. The student rating was quite different from the other responses indicating no assistance was needed in this area. For survey item three, the student completes work with minimal prompting daily; there were similar results and generalization patterns when compared to items one and two. The student's pre-intervention rating of two

demonstrated the student felt she needed less assistance than her three teachers perceived. Survey items are further described in Appendix E.

Table 2

Pre- and Post-Intervention Survey Results

		Science Survey		Social Studies Survey		Resource Room Survey		Student Survey
Student/ Survey Item	**Disability Category**	**Pre**	**Post**	**Pre**	**Post**	**Pre**	**Post**	**Pre**
Student 1:	ADHD/SLD							
Item 1		4	4	5	5	5	4	2
Item 2		3	3	5	5	5	4	1
Item 3		4	4	5	5	5	4	2
Student 2:	ADHD							
Item 1		3	3	4	3	2	4	2
Item 2		2	3	2	2	3	4	1
Item 3		3	3	3	3	2	4	1
Student 3:	SLD							
Item 1		4	4	5	4	5	4	2
Item 2		2	2	4	3	4	4	2
Item 3		2	3	5	4	5	3	1
Student 4:	ADHD							
Item 1		1	1	1	1	1	1	2
Item 2		1	1	1	1	1	1	2
Item 3		1	1	1	1	1	1	3
Student 5:	SLD							
Item 1		5	4	5	NR	5	3	3
Item 2		3	3	3	NR	5	3	1
Item 3		3	3	3	NR	5	4	4
Student 6:	SLD							
Item 1		2	3	1	1	1	1	3
Item 2		2	2	1	1	1	1	1
Item 3		3	3	1	1	1	2	3
Student 7:	ADHD/SLD							
Item 1		3	3	2	1	4	4	1
Item 2		1	2	1	1	4	4	3
Item 3		1	2	2	1	4	4	4
Student 8:	ADHD							
Item 1		4	4	5	5	4	4	1
Item 2		3	4	5	4	4	4	2
Item 3		4	3	5	4	4	3	3

Social Validity

In general, the data showed the intervention was effective in developing classroom preparedness behaviors in the study's setting. However, teacher post-intervention surveys did not seem to indicate that student organizational skills had generalized to other settings. According to the pre-intervention survey, students regarded their organizational skills as needing less improvement than their teachers perceived. In contrast, the student responses in the social

validation survey noted more post-intervention improvement in organizational skills than the teacher post-intervention survey suggested. Student responses to the social validation survey can be found in Table 3.

Table 3

Student Reponses to Social Validity Survey

Student	Question	Response
Student 1	Do you feel that your checklist helped you? Why or why not?	Yes, because it helped me keep my stuff organized.
	What did you learn by keeping your checklist?	I learned to bring glasses, folder, AR book and everything I needed.
	How will you keep up with your responsibilities when you don't use your checklist anymore?	I can make my own checklist.
	What did you like about the checklist?	I liked everything, especially the prizes.
	What didn't you like about the checklist?	Nothing
Student 2	Do you feel that your checklist helped you? Why or why not?	It helped me because I would remember my homework.
	What did you learn by keeping your checklist?	I learned not to forget my homework.
	How will you keep up with your responsibilities when you don't use your checklist anymore?	I will keep my checklist at my house and use it there.
	What did you like about the checklist?	I like that I didn't forget my homework, and I liked seeing the graph with all of the 100's.
	What didn't you like about the checklist?	Nothing
Student 3	Do you feel that your checklist helped you? Why or why not?	Yes, because it helped me get more organized.
	What did you learn by keeping your checklist?	The value of getting organized
	How will you keep up with your responsibilities when you don't use your checklist anymore?	I'll write what I need each day.

	What did you like about the checklist?	I liked the prizes.
	What didn't you like about the checklist?	Nothing
Student 4	Do you feel that your checklist helped you? Why or why not?	It didn't really make a difference.
	What did you learn by keeping your checklist?	Working toward a goal
	How will you keep up with your responsibilities when you don't use your checklist anymore?	I will check to make sure I have everything.
	What did you like about the checklist?	I like doing the graphs to see how I was doing with my goal.
	What didn't you like about the checklist?	Nothing
Student 5	Do you feel that your checklist helped you? Why or why not?	Yes, it did because I brought almost everything to class every day.
	What did you learn by keeping your checklist?	To always bring my stuff to class that I need
	How will you keep up with your responsibilities when you don't use your checklist anymore?	I will probably program it in my head so I will know what to bring.
	What did you like about the checklist?	I liked the prizes.
	What didn't you like about the checklist?	Nothing
Student 6	Do you feel that your checklist helped you? Why or why not?	Yes, because I met my goal.
	What did you learn by keeping your checklist?	Nope
	How will you keep up with your responsibilities when you don't use your checklist anymore?	I will try to remember on my own.
	What did you like about the checklist?	It was fun.
	What didn't you like about the checklist?	None
Student 7	Do you feel your checklist helped you? Why or why not?	I think it helped a little bit because it helped to remember my stuff.

	What did you learn by keeping your checklist?	To be responsible about my stuff
	How will you keep up with your responsibilities when you don't use your checklist anymore?	I'll double check to see if I have my stuff, my folder, homework.
	What did you like about the checklist?	I got prizes and a pizza party.
	What didn't you like about the checklist?	Nothing
Student 8	Do you feel your checklist helped you? Why or why not?	It didn't help me because I kept forgetting my glasses. I did get better.
	What did you learn by keeping your checklist?	It didn't anything because I never forget things.
	How will you keep up with your responsibilities when you don't use your checklist anymore?	I will keep using my checklist at home.
	What did you like about the checklist?	I liked prizes and doing my graph and the pizza party.
	What didn't you like about the checklist?	I liked everything.

In reviewing the PND calculations for students in each disability category, it appears the intervention was highly effective for all students identified with SLD. For students with ADHD, the effectiveness of the intervention ranged from questionable to highly effective. The mean for the disability category was fairly effective. Teacher perceptions of classroom preparedness experienced less positive change. For the survey results in general, little to no change was perceived by the classroom teachers. Some of the slight changes denoted both improvements and diminishments to classroom preparedness behaviors. Data from the intervention specialist was more variable; however, there was no general trend of improvement.

Discussion, Recommendations, and Conclusions

Evaluation of Results

Survey Data. For this investigation, the first research question inquires about the influence a self-monitoring intervention has on students' and teachers' perceptions of students' preparedness for class. Based upon the survey data, the intervention had little influence on the teachers' perceptions of students' preparedness for class. In order for the survey to indicate significant changes following the intervention, greater differences would need to be noted between the pre-intervention and post-intervention ratings for individual teachers. This lack of noticeable change in ratings also suggests the intervention did not generalize to other settings or times of day. However, student perceptions did appear to change following the intervention. The comments of students 1, 2, 3, 5, and 6 seemed to indicate the intervention had helped them with organizing and remembering to a significant extent. Student 7 suggested the intervention had been slightly helpful, and student 4 felt the intervention had no noticeable effect. In reviewing the teacher pre-intervention ratings for this student, it was noted that all three teachers rated the student as needing no assistance in the area of classroom preparedness. Interestingly, the student's graph of the intervention's two phases did show improvements from baseline to intervention. However, extenuating factors outside of school may have influenced the data collected for this student during the baseline phase.

Student 8's comments reflect ambivalence about the effectiveness of the intervention. One factor affecting the student's percentage of compliance was the student's lost eye glasses. Bringing eye glasses was an item on the student's checklist, but he was unable to locate them for three days due to a disorganized bedroom.

When comparing the student and teacher perceptions and generalization of classroom preparedness behavior to previous studies, one similarity with this study is noted. Langberg, Epstein, and Urbanowicz (2008) observed differences in perception in that parents perceived improvements in academic functioning while teachers did not. On the other hand, an important difference from previous studies was found. Creel et al. (2006) and Snyder and Bambara (1997) noted generalization of classroom preparedness behaviors in the general education classrooms. Snyder and Bambara (1997) incorporated a second intervention into their study that specifically trained and directed students to generalize their classroom preparedness skills to a designated classroom. In Creel et al. (2006) this process appeared to occur spontaneously.

PND. To address the second research question regarding whether self-monitoring is effective in increasing the classroom preparedness behaviors and self-efficacy of students, the PND data were examined. After excluding one outlier score, the intervention was found to be highly effective for four of the seven remaining students. For two additional students, the intervention was fairly effective, and for the remaining student it was questionable.

Disability categories. The final research question asks whether students identified with different disability categories experienced differential effects from a self-monitoring intervention. In this particular study, differential effects were observed. Students identified with SLD appeared to experience greater effects from the intervention than students with ADHD. All of the intervention phase data from students identified with SLD showed 100% of non-overlap with the baseline, suggesting the intervention was highly effective. For the ADHD category, the data was more variable, but the mean for the group was 81.6% designating the intervention as fairly effective. This intervention data appeared to support the effectiveness conclusions drawn from previous studies of the effects of self-monitoring on classroom preparedness behaviors.

Limitations

Conducting this study late in the school year led to some limitations for the results. First, with only 14 days remaining in the school year after the intervention phase was completed, it was not possible to study maintenance of the interventions effects or establish a functional relationship through a return to baseline and subsequent intervention phases. This particular period during the school year also has more variability in the school day than earlier months. It includes more field trips and other activities, making the schedule less standard and the assignment of homework less consistent. Teachers also commented during the study that by May students had lost their focus on school and had begun to direct their attention to summer vacation.

Another limitation of the study was its isolation to one school year. The intervention was designed to assist students in their transition to junior high school through improving their classroom preparedness behaviors. Unfortunately, this short term study did not measure the long term post-transition outcomes for its participants.

Recommendations

As a successful transition to middle school is important to the long term outcomes of students with disabilities (Langberg, Epstein, Mekibib, 2008); Salend & Salend, 1986), it is recommended that future studies be conducted with these younger populations at earlier points during the school year to determine the significance of the intervention's timing. Longitudinal studies should also be conducted to note whether classroom preparedness behaviors are later maintained at the middle school level once addressed by elementary school interventions.

Implications for Practice

While the studied intervention was not as successful as Creel et al. (2006) and Snyder and Bambara (1997) in generalizing classroom preparedness behaviors, it was effective in improving these behaviors in the intervention setting. Educators in the future may enhance the intervention's effectiveness through specific instruction as Snyder and Bambara implemented or employ multiple change agents to promote generalization as DuPaul and Weyandt (2006) suggested for school-based interventions. Efforts to prepare students with disabilities for success at the middle school level through skills training should continue to be important. It is one of the many ways that educators contribute to positive post-school outcomes for students with disabilities.

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Appendix A

Student Self-Monitoring Checklist

My Daily Checklist

Date _____

Name _____

`

Did I bring these to class?

- My homework ☐
- My folder ☐
- My glasses if I wear them ☐

Did I take care of these before announcements?

- Getting an AR book if needed ☐
- Going to the restroom if needed ☐

Did I begin working when Mr. Fisher asked? ☐

Appendix B

Teacher Observation Checklist

Teacher Checklist

Date: _____

Prepared for: _____

	Mon.	Tues.	Wed.	Thurs.	Fri.
Did the student bring these to class?					
Homework					
Folder					
Glasses if worn					
Did he or she take care of these before announcements?					
Getting an AR book if needed					
Going to the restroom if needed					
Did he or she begin working when Mr. Fisher asked?					
Percentage of Compliance	_____	_____	_____	_____	_____

Appendix C

Teacher Pre-Intervention Survey

Classroom Preparedness Rating Scale: Pre-Intervention Survey

Attention teachers: Please fill out the following rating scale to the best of your ability for the student below. This information will be vital in assisting me in evaluating each student's strengths and weaknesses and will hopefully help me determine ways to help each student succeed in this area. Thank you for your assistance.

Student Name: _____

For the student above, rate the following behaviors on a scale from 1 to 5. 1 indicates that no help is needed in this area, and 5 indicates that the student needs a great deal of help in this area.

Begins classroom procedures without prompting	1	2	3	4	5
Has classroom materials each day	1	2	3	4	5
Completes work with minimal prompting daily	1	2	3	4	5

Comments:

Appendix D

Teacher Post-Intervention Survey

Classroom Preparedness Rating Scale: Post-Intervention Survey

Classroom Teachers

Attention teachers: Please fill out the following rating scale to the best of your ability for the student below. This information will be helpful in determining whether any improvement has been noted in classroom preparedness behavior outside of the resource room. Thank you for your assistance.

Student Name: _____

For the student above, rate the following behaviors on a scale from 1 to 5. 1 indicates that no help is needed in this area, and 5 indicates that the student needs a great deal of help in this area.

Begins classroom procedures without prompting	1	2	3	4	5
Has classroom materials each day	1	2	3	4	5
Completes work with minimal prompting daily	1	2	3	4	5

Comments:

Appendix E

Student Pre-Intervention Survey

Classroom Preparedness Rating Scale: Pre-Intervention Survey

Students

Student Name: _____

How well do you think you do in these areas? Please circle the best answer.

I begin my work right after hearing the directions.

Excellent Good OK Need Some Help Need A Lot of Help

I bring what I need to class each day.

Excellent Good OK Need Some Help Need A Lot of Help

I finish my work in class without being reminded to keep working.

Excellent Good OK Need Some Help Need A Lot of Help

Appendix F

Social Validation Questionnaire

Social Validation Questionnaire

Name _____

Do you feel that your checklist helped you? Why or why not?

What did you learn by keeping your checklist?

How will you keep up with your responsibilities when you don't use your checklist anymore?

What did you like about the checklist?

What didn't you like about the checklist?