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USING SELF-MONITORING TO INCREASE THE ACADEMIC  
RESPONSIBILITY OF EIGHTH GRADE MAINSTREAMED STUDENTS

by  
Solveig V. Jakobsen

A Thesis

Submitted in partial fulfillment of the requirements of the  
Master of Arts Degree  
of  
The Graduate School  
at  
Rowan University  
May 1, 2001

Approved by \_\_\_\_\_  
Professor

Date Approved 5/4/01

## ABSTRACT

Solveig V. Jakobsen

Using Self-Monitoring to Increase the Academic  
Responsibility of Eighth Grade Mainstreamed Students  
2001

Dr. Jay Kuder  
Master of Arts in Special Education

The purpose of this study was to investigate the impact of a self-monitoring program on the academic performance of eighth grade mainstreamed learning disabled students ages 13-14. Ten subjects underwent an intervention involving private conferencing on academic responsibility and use of self-monitoring using assignment books. Data was collected on frequency of using assignment books and homework completion for pre-intervention and post-intervention. Data was analyzed for increases in use of assignment books, homework completion, and correlations between self-recorded assignments and assignment completion. The major finding of this investigation was that there was a significant increase in completing assignments on time when self-monitoring was used.

## MINI-ABSTRACT

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Using Self-Monitoring to Increase the Academic  
Responsibility of Eighth Grade Mainstreamed Students  
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Dr. Jay Kuder  
Master of Arts in Special Education

This study investigated the impact of a self-monitoring program on the academic performance of mainstreamed learning disabled students. Data showed an increase in use of assignment books, homework completion, and strong correlations between self-recorded assignments and assignment completion. The major finding of this investigation was that there was a significant increase in completing assignments on time when the self-monitoring program was used.

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## **Chapter One**

### **Introduction**

Self-monitoring is an essential skill that needs to be mastered to attain independence. When students are classified, their needs are assessed and accommodations are considered to help them be successful. These accommodations often include reducing the amount of work assigned and extending time limits on work. If a student is included in a regular education classroom, a relationship needs to be established between the regular education teacher and that student's special education teacher to monitor the child's progress. In effect, a network of help is established to monitor the child and guide them through their academic and behavior tasks.

The regular education classroom is vastly different from self-contained classrooms. Without proper guidance, the transition can be very difficult and frustrating to a special education student. One difference is the number of students present in a class. The class size is larger in regular education, and there is usually only one teacher and no aides to facilitate. The presentation of materials is different in regular education with the expectations that students will be able to attend and use independent study skills. Directions for assignments may not be as explicit or personalized, and greater responsibility is placed on the student to make sure they get their part done. The grading procedure is more stringent in regular education with homework working into their grade for the course. Salend (1989) found teachers of learning disabled students rarely used homework to prepare students for regular



education classes. He suggested they implement a plan to gradually increase the workload, as well as teach skills to handle the work so that students will be prepared for their mainstreamed responsibilities.

The support network that is established for the student in school is often not existent after graduation. It is important to not only attend to the immediate success of the student but also prepare for this future environment. Practicality must be taken into account as well. In a large class of students with a large range of capabilities, a regular education teacher will not be able to monitor any given individual as much as a teacher in a special education class. Although requiring initial set-up time to train the student, self-monitoring offers a cost-effective tool. Teaching self-monitoring and independence skills will also allow the student to extend their success to adult responsibilities.

### **Problem Statement**

The purpose of this study is to investigate the impact of a self-monitoring program on the academic performance of eighth grade mainstreamed students ages 13-14. The self-monitoring program is defined as the procedure students are directed to follow to ensure their assignments are completed fully and on time. Mainstreamed students are defined as classified students who are placed in regular education classes with no in-class support. For the sake of this study, academic performance is defined as the completion of homework assignments. Performance is gauged in terms of assignment completion and turning the assignments in on time.

## **Hypothesis**

Self-monitoring is often used in relation to behavior modification plans. Much of the research available in the area of self-monitoring deals with behavior problems that are addressed with contracts and incentives. This study will focus on the impact of self-monitoring on academic performance. The hypothesis is that eighth grade special education students mainstreamed for science class, using the self-monitoring program, will exhibit significantly higher achievement in completion of assignments and in turning assignments in on time.

## **Statement of the Purpose**

The expected outcome of this study is that students will improve two academic skills: a system for checking their own work and turning their work in time. Currently these students are placed in a regular education science class. In some cases they have one class with their special education teacher. In other cases, there is a special education teacher that has that student assigned to their census to monitor but never has a scheduled meeting time with the student. That special education teacher contacts the regular education teacher on a weekly basis via a note to check on the students' progress. If the student is missing work, they are given a chance to make up those assignments with their special education teacher and turn them in late to the regular education teacher. Although the short-term goal of completing a course is facilitated this way, it is not providing skills that the student will be able to apply to other academic areas and other responsibilities. In addition to forming good academic habits, the homework serves the purpose of reinforcing and practicing what occurred in class. Without completing these assignments at the

correct time or even in the correct order becomes a serious disadvantage the foundation for the following lesson is compromised.

Once a student moves on to high school and to life after school, the close relationship and monitoring by teachers may not be present. Instilling a self-monitoring program can profoundly impact a student's ability to strengthen his/her responsibility and succeed academically. Self-monitoring extends toward future academics on college campuses where accommodations and resources may not be readily available. Job readiness skills will be easier to acquire if the student is capable of judging his/her own performance and planning out what tasks need to be done. Frustration levels will decrease with an understanding of how they need to manage their time and assignments. The larger implication being the students' independence and success may be improved.

### **Overview**

There is much research in the area of modifying student behavior. The second chapter will review findings on behavior problems and approaches since it is in this area modification programs began. It will also look at the role of homework in academic success and how self-monitoring can impact its completion. The third chapter will discuss the method and design of this study on self-monitoring of homework practices. The fourth chapter will share and analyze the results, including impact of intervention on students' practices and assignment completion. The fifth chapter will discuss the implications and limitations of the results with suggestions for further study.

## **Chapter Two**

### **Introduction**

There is a long history of research in management of special education students. There is less research on specific topics involving academics and specifically homework with special education students. As more and more special education students are placed in mainstreamed settings, their academic preparedness becomes a vital concern. Their ability to cope and succeed in a regular education environment is essential. The ultimate goal of this chapter is to review findings that will help special education students succeed academically in mainstreamed environments.

The research on management involves the use of interventions such as token economies, behavior modification plans and charting behaviors. Management techniques are either based on the whole classroom or on individual students. One type of individual management utilizes the student's capability to monitor themselves. This technique is more efficient and less time consuming for the teacher. A major research question is the efficacy of self-monitoring. In order to analyze self-monitoring behavior, problems and approaches must be addressed.

The goal of behavior management is to improve overall performance in school by eliminating distracting or disruptive behaviors. Special education students often have more severe and/or frequent inappropriate behaviors that detract from the ability to be academically successful. There are two approaches to help special education students: coping with behavior and academics. The first addresses the behaviors

themselves with the expectation that decreasing negative behaviors and increasing positive behaviors will lead to improved academic success. The second approach is to improve the students' focus on academics to provide the students with some success that will reduce frustration and therefore reduce negative behaviors.

This research review will begin with the overall scope of behavior problems and approaches. The focus will then turn to interventions and the area of self-monitoring. The efficacy of different types of self-monitoring will be evaluated. Also, the application of self-monitoring for behaviors and academics will be discussed. Research begins to become limited on the impact of self-monitoring outside the immediate classroom environment. The role and practices of homework assignments and the extension of self-monitoring for homework assignment completion are all discussed in the final sections of this review.

### **Behavior Problems and Approaches**

Classroom management is a skill that is integral to the success of a teacher and to the success of the students. The goal of classroom management is to establish a safe environment with minimum distractions where learning can transpire without any hindrances. The relationship between classroom management and behavior modification is strong because in order to establish a learning environment, behavior must be addressed. According to Gunter and Denny (1996) it is not easy to distinguish between classroom management strategies and classroom-based behavior management procedures, because each one focuses on the effect of altering the environment in order to produce a meaningful and lasting change in academic or

social behavior. Therefore, the main goal of the teacher is to increase positive behaviors and decrease negative behaviors.

The first issue discussed is the student with behavior problems, including causes and suggested modification plans. The second issue is the research on the impact of the behavior problems on academics and how the teacher can handle them in terms of the individual and of the class.

There are many possible causes and contributing factors for behavior disorders. One theory that has been studied extensively is how students relate actions and consequences. Behaviorally disordered children do not see a direct link between their actions and consequences. This greatly handicaps students in terms of academic and social functioning. Students will not feel the need to change their behaviors if they do not understand the relationship between actions and outcomes (Raine, Roger & Venables, as cited in Elliott, 1996). This is an underlying concept to all interventions.

The concern of the researchers Ansari, Gouthro, Ahmad and Steele (1996) was the high drop out rate, unemployment rate and lack of interpersonal relationships associated with behavior disorders. Previous research indicates that many programs are unsuccessful in providing interventions that can be maintained once the program is complete. Residential programs tend to be more effective therefore the authors' focus was a residential eight-week behavior management program. The adolescents involved in this program displayed a range of conduct problems including truancy, running away, promiscuity, aggressive acting out, poor peer interaction, drug abuse, and depression (Ansari et al., 1996). The behavior modification program was a

system where points were earned for positive behaviors and lost for negative behaviors. The positive and negative points were analyzed separately and compared for each week completed. The success of the student's improvement was determined based on the difference between the initial weeks and the final weeks.

Several interesting implications resulted from this study. The students in this particular program were more successful than other programs occurring concurrently in this residential institute. Subjects who were healthier initially had greater improvement than those who were diagnosed more severely. One finding was different from previous theories; the age of onset contributed to the success of the subjects. Previously, children with a young age of onset were considered less likely to succeed with treatment, but this study found that children with an onset age of six or younger actually improved better than those with later onset years.

There are many behaviorally disordered children who are not placed in a focused residential setting and must learn to modify their behaviors while part of a more distracting environment where attention is required of academics, friends, and family. Even with such programs as discussed above, there is great concern over the long-term success of the participants. When returned to a normal setting the survival of positive behaviors or the ability to generalize them to fit the new environment are important issues. In addressing behaviorally disordered students, in conjunction with their environment, the teacher's role and classroom setting become important components.

The research discussed earlier reveals students with behavior problems do not see a relationship between the actions and consequences. Motivation is difficult if a

student does not see the end result relating to their work or think that the result will be poor regardless of their efforts. This can lead to a self-defeating attitude. The following study addresses student's academic performance, specifically with test taking.

According to Swanson and Howell (1996), research on test anxiety shows high levels of test anxiety contribute to the development of detrimental motivational, coping, and task strategies (i.e., proneness to cheat or make careless errors, and negative self-evaluation, difficulty concentrating, and off-task thoughts). This impacts the students' ability to learn and be a productive class member. Previous research has found different possible relationships between test anxiety and performance. One is students are so concerned with the evaluation that they are unable to focus on the material being tested and therefore are unable to successfully complete the test. Another theory is poor test results are not due to anxiety, but rather a deficit in study and exam-taking skills. The goal of Swanson & Howell (1996) was to clarify the relative influence of test anxiety on academic self-concept, cognitive interference, academic achievement, and study skills.

This study involved a pre-test survey, a test, and a post-test survey. Immediately prior to a test, the students completed a Task Anxiety Inventory (TAI) which is a self-report questionnaire with Likert scale responses. The students then complete the exam, followed by the Cognitive Interference Questionnaire (CIQ). Analysis of the results indicate that test anxiety was more closely associated with cognitive interference and study habits than it was with self-perceived intellectual, school abilities or academic performance (Swanson & Howell, 1996). The students'



focus on thoughts of poor performance led them to be off-task. This meant they did not concentrate on the test itself, and the test results were affected. Out of the four variables affecting test anxiety (Cognitive Interference, Study Habits, Academic Achievement, and Academic Self-Concept) Cognitive Interference had the greatest affect. Study Habits was in a far second place. Academic Achievement and Academic Self-Concept had no significant relation to test-anxiety. The authors concluded by stressing the impact of cognitive interference with both learning disabled and behaviorally disordered students must be considered to improve academic performance.

If a student is not performing well and knows this, there is little motivation to behave appropriately in the classroom setting. A single factor explanation for misbehavior is not accurate. There are multiple causes for inappropriate conduct. Since cause is still under study with no clear diagnostic factors determined, treatment is often researched independently of cause. Locus of control was a theory discussed earlier that stated a student with behavior and learning issues is less intrinsically motivated compared to the normal population. Motivation is a component of behavior management in that the student is awarded for positive behaviors and punished for negative behaviors. The following section looks at using what is known about causing learning problems to establish interventions. Ruth (1996) researched a behavior modification program that consisted of two components: goal setting and behavior contracting.

## **Interventions**

Goal setting and behavior contracting are two behavior modification techniques that have been used with students who have emotional and behavioral difficulties (Ruth, 1996). Goal setting is a technique that has been used mainly on an individual level. The four criteria involved in this technique are: 1) Goals must be specific and measurable, 2) Goals must be challenging and possible, 3) Goals must be accepted by student, and 4) Goals must use performance feedback.

Behavior contracting is more general and is geared towards populations of students rather than individuals (Ruth, 1996). Behavior contracting involves five components: 1) Main goal or behavioral objective, 2) Target behavior and type of modification, 3) Recording progress, 4) Feedback to visualize past performance and future goals, and 5) Reward contingency specifying the qualifications and rewards.

The purpose of Ruth's study was to combine these two techniques to determine whether the combination would produce a higher success rate than each technique individually. The combined ingredients were prescribed for increasing positive behaviors and decreasing negative behaviors. These combined ingredients were: 1) Goal Specificity: defining a target behavior in terms of its modification, 2) Goal Difficulty: standards for rewards on daily, weekly, and monthly levels, 3) Goal Acceptance: success is contingent on motivation therefore this was a volunteer program and students must agree to their goals, and 4) Performance Feedback: total scores were recorded and posted for each student.

Ruth found that the success rate for the participants of this combined method approach was high (86%). This success is credited to the clear goal setting and the

high motivation involved in the students' behalf. The goals were challenging, and the criteria for success were stringent, but the students persevered and the author accredits this to the technique involved. Also noted, this technique was successful for a wide range of students diagnosed with several different disorders (Ruth, 1996). This is a very important finding because it gives educators an option for behavior management.

Whether behavior management occurs in a residential setting discussed earlier, or in a classroom environment as researched by Ruth, there is an ongoing debate on effectiveness. This includes the length of maintaining positive skills once the program is completed, if the skills can be generalized to other situations, and if the skill is even significant as an important skill for social competence.

The intent of all this research is to benefit the student and prepare them for adult survival in social settings. The teacher is concerned with the individual's future needs. This is challenging because given an entire population of students to instruct, needs may be very diverse and time is limited when divided among all the students. Efficiency is a necessity. Skills must be relevant, practical, easily generalized and easily maintained to be of most benefit to the student. If the student is actively involved in modifying his/her own behavior, they are not only altering their performance, they are also developing the skill of self-awareness. Recruiting student involvement reduces the involvement of the teacher and allows for a more efficient plan. One way of managing this is self-monitoring. This next section will look at types of self-monitoring.

## **Types of Self-Monitoring**

Reid (1996) defines self-monitoring as the assessment and recording of whether a target behavior has or has not been met. Self-monitoring was initially used as a non-intrusive assessment tool. When it was used in this fashion, it was found to cause a change in behavior. As a result its application spread towards self-regulation. There are two types of self-monitoring. The first type is self-monitoring of attention (SMA). In self-monitoring of attention the subject is cued to record whether they are paying attention at that given time. The cue may be a recorded sound or a tap on the shoulder. The student would then be more aware of their time spent on task. The second type is self-monitoring of performance (SMP). This type deals with academic performance and often includes graphing students' results. Self-monitoring of performance is much more varied in its application. It can be used to monitor a student's productivity (how many questions were answered), accuracy (number of items correct), and strategy (if the student used a given guideline). It can be used during an instructional session or after the session was completed. Reid reviewed a large amount of studies on the use of self-monitoring in relationship to on-task behavior, academic productivity, and accuracy. All the studies involved students with learning disabilities (Reid, 1996).

In reviewing 23 studies dealing with on-task behaviors, Reid (1996) found that in 21 studies there was a positive relationship between self-monitoring of assessment and/or self-monitoring of performance with on-task behavior. Many of the studies showed a mean increase of within-subject on-task behavior from 50% to 100%. One study by Reid and Harris as cited in Reid's review (1996) included data

that allowed effect sizes to be measured. This showed an increase of .53 with self-monitoring of performance and .73 with self-monitoring of attention. An interesting finding showed self-assessment alone was not as effective as self-assessment coupled with recording. Differences in impact of self-monitoring of attention versus self-monitoring of performance were insignificant for on-task behavior. These results indicate that self-monitoring has a significant impact on on-task behaviors. The variety of the studies showed that this has global implications and it impacted a wide range of ages and settings (individual, small and large groups, self-contained, resource and mainstreamed classes) with on-task behaviors that were maintained for several months.

When the dependent variable of self-monitoring was academic productivity, the results were varied. In analyzing 17 studies, Reid found that the findings were mixed. The older studies had few consistencies in implementation of programs. Some studies introduced new materials throughout the treatment with no information on student mastery. New or difficult material can negatively impact productivity until fluency has been gained. This causes results to be variable along both baseline and treatment resulting in data that overlaps and does not show clear distinctions. Other studies used previously mastered tasks that may have been affected by boredom and fatigue. Newer studies were more consistent in their findings that self-monitoring positively affected academic productivity. Reid states that in 1986 Harris found increases in spelling practices using self-monitoring of attention and performance. These findings were supported when Harris repeated his study in 1994.

The studies on academic accuracy reviewed by Reid did not just look at the number of items correct, but also in increasing the number of items completed. Overall, the findings compiled by Reid showed a significant positive impact on the amount of work completed. The data for accuracy is more ambiguous. The main limiting factor for reserving strong conclusions was the lack of research in this area. Also, monitoring itself does not provide the student with additional skills necessary to improve academic performance. It only allows the student to become aware of their processing and therefore cannot provide them with new behaviors, knowledge, or strategies. Although Reid's review showed that there are some limitations in current research, the information gathered so far shows that there is a positive impact of self-monitoring on student performance.

Lloyd, Bateman, Landrum and Hallahan (1989) took a multi-element approach for five subjects using self-monitoring of attention and self-monitoring of performance for math problems. The purpose of the study was to use this multi-element approach to provide enough information to compare the two strategies and measure their effects in the areas of performance and accuracy. The subjects were five elementary students who were classified as learning disabled, seriously emotionally disturbed, or both learning disabled and seriously emotionally disturbed. The students were selected by their teachers using the criteria that they did not complete their work when given the opportunity to work independently. Lloyd's design alternated the use of each type of monitoring. The sixty-minute class period was divided into three segments. During the first third of class, the students used one type of monitoring (either self-monitoring of attention or self-monitoring of

productivity) and during the last third of class they used the other method. The results showed an increase in productivity and accuracy for both types of self-monitoring. Not only were there significant improvements in productivity and accuracy, there was less variability in performance. These studies taken as a whole indicate that both types of self-monitoring positively impact academic productivity with neither one significantly more effective than the other.

Wall and Bryant (1979) examined the role of student input in a self-management plan. This self-management plan involved the implementation of an academic activity and testing on that assignment. The specific design allowed for teaching one group a self-management plan and teacher-set contingencies. In a second group, students were taught a self-management plan and how to design their own contingencies that they decided on before the activity began. The third group was similar to the second except contingencies were decided on after the activity took place. The fourth group was only taught the self-management technique. They set their own contingencies without any guidance or input from the teacher. The fifth group was the control in which the students utilized the self-management without contingencies in place. The findings of this study showed no increased performance with the student input. Teacher derived contingencies were just as effective. It did show in groups one through five, any situation with both self-management and contingencies, resulted in significantly higher gains in student achievement. This indicates that the presence of contingencies augments gains in a self-management plan and should be considered. However, it is just as effective for the teacher to

design the contingencies as it is for the student to design the contingencies. With teacher design, management of the plan can be more practical and efficient.

### **Self-Monitoring for Behavior**

Students with learning disabilities or emotional disorders often have a difficult time attending. They may also make disturbances that interfere with the attention of classmates. A common practice of teachers is to establish either a token economy where students earn points for appropriate behavior or behavior contracts where an individual goal is established and students are monitored. This can be very time consuming and reliant on teacher input and execution. Also, the students' goal is to obtain a prize unrelated to their actual success. Prater (1994) suggests that by establishing a self-management program, the students will be more intrinsically motivated. Other benefits are: it is not a complicated intervention, does not consume a large amount of the teacher's time and would not disrupt the students' work. Prater approaches self-management with two techniques: self-monitoring involving assessment and recording of behaviors and self-instruction involving a set series of tasks to handle new academic material.

Prater discusses a case study of a 13-year old male who is emotionally disturbed. He was in a self-contained class and had difficulties with on-task behaviors such as being prepared with materials, sitting in seat appropriately, looking at either the teacher or his work, and talking at appropriate times. Baseline data was collected on the frequency of the student's behaviors. Then the student was made aware of what behaviors are appropriate and a list of these behaviors were taped to his desk. The student is taught to record whether they are exhibiting the desired



behaviors at the time a recorded tone is sounded. Initially, the tone sounds every two minutes. As the student masters this skill, the interval between tones is extended and eventually extinguished. The self-management was accompanied by reinforcement. When the student successfully performed an on-task percentage of 80 or above for five out of eight days he had a choice of a reward. The results of this case study indicate the self-monitoring and reinforcement effect an increase in on-task behavior. The student's baseline on-task behavior was 47% whereas with self-monitoring it was 80%.

Self-instruction involves teaching the student a series of steps to follow when they are faced with either new information or a new situation they are not sure how to handle. Prater described a case study of a behaviorally disordered 15-year-old male student who was having problems with behavior outbursts. With solely self-monitoring, the frequency of outbursts decreased but they were still present. The intervention was then supplemented with self-instruction. This involved teaching the student coping steps of stop, count, think. These steps were placed on a checklist for him to follow. The result was that the outbursts were extinguished.

Hughes and Hendrickson (1987) studied self-monitoring for attending behaviors. They used two groups of elementary students in general education classes. Half the students were identified as at-risk and the other half was not at-risk. This allowed for the two groups to be compared. The self-management intervention resulted in a significant improvement in both groups.

The goal of special education is to provide the student with the least restrictive environment that will benefit the child. This is an ongoing continuum that will

ultimately prepare the child for the “real” mainstreamed world. Rhode, Morgan and Young (1983) consider self-monitoring a tool for improving behaviors in mainstreamed students. Self-monitoring is by nature non-intrusive and can function independently of the teacher and is therefore ideal in an academic environment where there are more students and the teacher is not able to have a highly individualized program. Self-monitoring is an independence skill that should aid in generalizing and maintaining appropriate behaviors.

Rhode’s et al. (1983) study was set in a regular education elementary school with the self-monitoring treatment specifically designed to aid generalization into the mainstreamed class. Regular education teachers referred students for behavioral issues. These students were then observed in the regular education classroom. They were evaluated and out of that group three were classified behaviorally disordered and had Individualized Education Plans prepared. Two were already in self-contained classes with behaviorally disordered children and one was part-time in both a regular education classroom and a self-contained classroom. Baseline data was collected with the students completing drill and practice exercises in varying subject areas. The teachers used basic management procedures such as praising. No token economy or rewards were used. A second phase was established when the teachers introduced and modeled classroom rules where they earned points for appropriate behavior and academic work which afforded them prizes. In this phase the teachers awarded the points to the students. In the third phase, the teachers asked the students to award themselves points while they continued to award points as well. The student and teacher would then compare ratings. If the child was within a point of the

teachers, they kept their points. If the points matched exactly, the child earned a bonus point. The intervals for rating were initially every 15 minutes, then every 20 minutes and eventually every 30 minutes. The students were told matching would stop in a fourth phase, however the teacher still monitored ratings privately. In a few instances when the students awarded themselves more points than were appropriate, the teacher would have a surprise matching.

Once a level of 80% appropriate behavior was reached for four consecutive days, the child was placed in the regular education classroom. The regular education teacher was trained on the rating scale and continued the same procedure the resource teacher used. Every thirty minutes, they would instruct the students to rate themselves and record it on their scorecard. The teachers kept ratings themselves and every few days had surprise checks where the students earned bonus points if their scores matched. The students would stop by the resource room at lunchtime to pick up their rewards. The intervals for rating were faded to every 60 minutes. This meant a longer period of time with appropriate behavior were necessary for earning points. The next phase reduced the number of times the students could exchange their points to every two days. Following this, point matching was phased out followed by eventually phasing out of the cards. At this final stage the students would verbally report their ratings to the teacher at the end of the 60-minute time period. The results were significant. The percentage of improvement in behavior for individual subjects ranged from 39% to 67%. This is a significant increase and is the value of their maintained levels in the mainstreamed classroom. This would indicate the self-monitoring greatly impacts the child's behavior and augments success in

mainstreamed environments. This plan did require a lot of teacher time and input initially, but the latter stages of the self-monitoring program were not as consuming with significant results.

### **Self-Monitoring for Academics**

Elliot's (1996) study cited earlier showed a history of findings that as a population, behaviorally disordered children do not see the relationship between their actions and the consequent outcomes. Arlin and Whitley (1978) take the concept of locus of control and apply it towards academics rather than behaviors. The idea is still that students with an internal locus take responsibility for their successes and failures whereas students with an external locus blame outside forces such as luck or the teacher. Arlin and Whitley hypothesize that if the student were to take part in their educational process, they will see their role and not place blame elsewhere. The purpose of their study was to find if the educational setting and perception of opportunities to self-manage the students' own instruction impacts their locus of control. They also wanted to determine if this relationship functioned in both directions. This means that a willingness to accept responsibility would lead to the perception that their academic success can be under their control.

There were a total of 566 subjects in grades 5-7. 258 were placed in an open classroom and 308 were placed in a teacher-managed classroom. The open classroom was designed as a continuum of academic work where the child was placed by the teacher into the appropriate spot and the child worked at their own pace. The teacher-managed classroom was a traditional class. Arlin and Whitley administered two measurements. The first was the Intellectual Achievement Responsibility intended to

measure the locus of control. The second was the Aptitude Toward Learning Processes instrument to measure the students' perception of opportunities for self-management. These assessments were administered in the beginning of the year and at the end of the year. The scores were analyzed for correlations. The authors point out that the findings were based on the students' perception of opportunity which may be inaccurate and has its own need for research. However, using the correlation between items Arlin and Whitley found that if the students at the beginning of the year think they are in a class where self-management of learning is encouraged, they are more likely to develop an increased willingness to accept responsibility for their success and/or failure.

The implications of this study are the students need to see that they have a role in their academic success. They need to see a relationship between what they do their academic outcome. If they are given an opportunity to evaluate and monitor their own progress it will shift their locus to an internal mode and possibly lead towards greater success.

Fuchs, Fuchs, Bahr, Reeder, Gilman, Fernstrom, and Roberts (1990) studied the effectiveness of self-monitoring on general education students who were identified as having difficulties with academics. The teacher assigned daily goals for the students. When the lesson began, students copied their goal onto their personal monitoring charts. Once they had completed the activity the students corrected their assignments and diagramed their results on a chart in terms of amount completed and accuracy. The third step of this self-monitoring was to evaluate whether the goal was met, and write a self-talk question with an answer reflecting on the desired behavior.

Although this study focused on monitoring academics, the results showed a decrease in problem behaviors and also a decrease in referrals to special education. This would indicate that any form of self-monitoring would have positive effects on the overall performance of the student because it raises their self-awareness and self-evaluation.

Self-monitoring is most often used for assessment and behavior. There is less research on self-monitoring solely for academics. Much of this limited research couples self-monitoring with student conferencing. The goal of Piersel's (1985) study was to determine the impact of self-monitoring as well as self-monitoring with conferencing. The subject was a child in elementary school who had already been through counseling with the administrator and with parents. A token economy with a reward system was also attempted with no success. This never had a completion rate of assignments surpass 40%, although the work he completed had an accuracy of 80%. A time series design was used. The student's assignments were monitored. He typically had between four and nine assignments a day. In order to qualify as complete they need to be 80% done.

Piersel established a baseline by observing the child and his assignments for ten days. The school psychologist had a conference with the child and taught him how to self-monitor himself. The self-monitoring consisted of the child recording the completed assignments on a chart supplied to him as he turned the assignment in to the classroom teacher. This phase of self-monitoring and conferencing took place for four weeks. A second baseline was established when both the chart and conferencing were terminated for a week. The child was told the psychologist was unavailable.

The fourth phase reinstated the chart without conferencing. The child delivered the completed charts to the secretary. The fifth phase consisted of conferencing without the charts. The child was told they ran out of forms. The final phase consisted of ten days with both charts and conferences.

During the initial baseline, the child only completed 33% of his assignments. The second phase with both self-monitoring and conferencing, the child completed 75-100% on any given day. When both the chart and conferencing were terminated, the rate decreased to 0-30%. The chart without meetings still caused an increase to 70-100%. No self-monitoring chart with conferencing in the fourth phase caused a reduction in assignment completion to 20-40%. The final phase with both charting and conferencing brought the results back up to 60-100%.

This study indicates that a charting device is an important variable in self-monitoring. Having that chart as a visible reminder prompts the child to check himself and monitor his progress. Piersel cites the research of Nelson, Lipinski and Boykin (1978) which showed that children holding counters in their hand were more effective in self-monitoring than children keeping the counters in their pockets. Conferencing influenced the success rate, however, the greatest factor was the charting of completed assignments. In this particular study of Piersel's, data was collected on the maintenance of the child's self-monitoring. The charting continued with weekly conferencing with the classroom teacher resulting in a completion rate ranging from 83% to 100% on a daily basis. This again supports the impact of self-monitoring especially for academics.

Regular classroom strategies for managing behavior and academics are often group plans or token economies. Self-monitoring is more often used in a laboratory setting or in the special education classroom. Earlier a behavioral self-monitoring program designed by Rhode's et al. (1983) was specifically geared towards facilitating mainstreaming. This program design called for a lot of time and planning on the part of the classroom teacher to facilitate the transfer. Holman and Baer (1979) conducted a study to look at increasing on-task behavior using self-monitoring for academics in a laboratory setting with the goal of generalizing to the mainstream classroom without further teaching. They were also interested in measuring the durability of the self-monitoring training.

Holman and Baer (1979) used six subjects, three were regular education students and three were special education students with learning difficulties, academic problems and inappropriate behaviors including defiance, aggression and hyperactivity. Self-monitoring took place for four days in a separate classroom after which the child was placed back in the regular classroom. Baseline data was collected when child was observed when given a task to work on for five minutes. Data was collected on 10-second intervals for five minutes. The child was rated as being on-task, off-task or disruptive. The child was then asked to complete work with the experimenter and self-monitor their progress on a beaded bracelet. The work consisted of assignments on handwriting and math problems. The bracelet was made of red beads with a white bead placed at a certain point based on baseline data. The student was to move the red beads as they completed a task with the goal being to reach the white bead. The child was then placed back into the regular classroom with



the bracelet. There was no reward system in place other than verbal praise given by the classroom teacher at the end of the work session. Post-treatment data was collected to check for maintenance. Data was collected two times a week for three months followed by summer break and then an additional three months on the students that returned.

The result of Holman and Baer's study was an average increase in appropriate behaviors between regular education and special education students was 55%. Disruptive behavior in the regular education students decreased from 20% to 5% and in the special education students from 35% to 10%. Off-task behaviors were reduced to less than half for the regular education students but were not affected for the special education student. There was an interesting interaction between two of the students. One special education child tried to engage the other in disruptive behaviors. The child responded to these urgings when he was not wearing his bracelet. When he had his bracelet on, he did not join the initiating child's disruptions but continued with his work, causing the instigator to default towards his work as well. In measuring student achievement in the handwriting and math skills, self-monitoring did not cause an increase in math but did cause an increase in handwriting. The children's accuracy in self-monitoring was measured to be accurate 90% of the time with errors usually on the side of underestimation. Teacher attention was measured during baseline and treatment and was ruled out as a variable. The bracelet served to remind the children to work, to complete certain amounts of work, to measure their progress and to seek out reinforcement in the form of verbal praise and recognition from the teacher when they were done with their task. This has great

implications in that it shows significant increases in academic focus. It also shows that there are programs that can be designed to be minimally invasive for the general classroom with little education for generalization.

### **Role of Homework in Education**

According to Gajria and Salend (1995) increasing amount of time on homework results in an increase in grades and scores on achievement tests. His research shows this relationship is particularly strong in junior and senior high school regardless of content area. Studies in homework have shown that increase in homework show positive results in attitude, study habits, understanding and retention of skills, and parent involvement. Homework that is graded by the teacher and has feedback has a greater impact on the students than homework that is merely collected and returned with no comments. Homework assignments are especially important for disabled students for review, individual instruction, increasing time on task and providing additional practice. Individual instruction is important in focusing the students' locus on control internally motivating them towards successful attitudes. Trammel, Schloss, and Alper (1994) also note that increasing homework completion results in increased academic performance for learning disabled and emotionally disturbed students in mainstreamed classes. Gajria and Salend (1995) cite a study of 500 high school seniors done by Gregory, Shanahan, and Walberg in 1986 that found learning disabled students did a significantly less amount of homework than their peers. They also found that learning disabled students had a negative attitude towards homework, spent only one to three hours a week on homework (as opposed to three to four hours a day watching TV each day) and that 85% of teachers with learning

disabled students said they had problems getting the students to complete their homework. Gajria and Salend speculate that homework completion is so low for learning disabled students because they have lower motivation, higher levels of distraction and that there is often little teacher feedback on homework assignments.

This review of perceptions and previous research on homework assignments and learning disabled students led Gajria and Salend (1995) to study the perspectives of both learning disabled and non-disabled students on homework. 48 learning disabled students and 48 non-disabled students in grades six through eighth were chosen by their teachers to take part in this survey. The Student Survey of Homework Practices consisted of 27 statements on homework related problems, attitudes, study skills and habits that the students responded to using a Likert scale. The results reveal that learning disabled students had more negative scores than their non-disabled peers. Learning disabled students reported significant factors that interfered with completing their homework. These included: need to be reminded of work, complain, uncertainty of which assignment to complete first, inability to estimate how long assignment should take to complete, quitting if a task was too hard, failure to break large tasks into smaller units and taking too long to get started. Both learning disabled and non-disabled students indicated problems remembering what was assigned and considered homework unimportant. Both groups admitted to starting homework assignments without making a list or planning study time.

Gajria and Salend (1995) made several recommendations based on their findings and previous research. They encouraged educators to vary the types of assignments that were given, discuss the relevance of the homework and impact on

grades, provide feedback and use homework contracts. Additional suggestions were peer tutoring, teaching students to use self-management techniques, establishing routines for assigning, collecting, grading and returning assignments, involving parents, and assessing and monitoring the students' homework practices.

This study supports the need to find methods to aid students with the study skills and practices. Self-monitoring goes along with instilling self-management techniques and also monitoring students' homework practices in a manner that does not take away from instructional time. The following study by Jayanthi, Sawyer, Nelson, Bursuck and Epstein (1995) analyzes the role of communication in homework completion of mainstreamed students.

The purpose of Jayanthi's et al. (1995) study was to generate recommendations for improving communication among the parents, classroom teachers and special education teachers of mainstreamed students. There have been two phenomenon taking place in education during recent history. One is an increase in mainstreaming students (1987 reported 27% and 1991 reported 34%). The second is an increase in education reform gearing towards excellence and a more rigorous program to parallel other countries' practices. By coupling the placement of students who already have difficulties with assignments in more rigorous educational settings it is making it even more difficult for them to cope and succeed. The authors point out that a proven relationship in education is that student success increases with parent involvement with the extension that this may be a possible solution towards helping this type of student. Jayanthi et al. (1995) used eight parents, 13 special education teachers and 11 classroom teachers of students in grades 5-12 to form six

focus groups. There was one group of satisfied and one group of dissatisfied subjects for each category of people. Data was collected from their discussions and analyzed by two observers to check for reliability. There were five categories of recommendations: technology and opportunity, knowledge, attitude and ability, bypass and other.

Technology and opportunity recommendations included the use of answering machines, progress reports and scheduling conferences in the evening when parents are more available. Knowledge was concerned with the how and when of contacting teachers. Attitude and ability suggested communicating as much as possible so that points of contact were not always negative. Also, both parents and teachers state students need to be more responsible and act as a contact person between home and school. Parents can be concerned, but the students should be proactive in asking the teachers for assignments. Bypass included suggestions for eliminating the need for communication by eliminating the presence of homework assignments, modifying how homework was graded and using peer tutors. The other category including changing the format for IEP meetings, using an assignment book on a consistent basis, involving the families in homework assignments, encouraging communication between the child and parent, and providing consistent parent-teacher contact.

Salend and Schliff (1989) examined the practices of teachers of learning disabled students for clues on how homework and learning disabled students interact. They briefly review previous findings that if homework policies are clear and good, it can be an important and effective teaching tool for learning disabled students. Good homework policies include: specific objectives, reasonable amounts of work,

individualizing assignments, providing explanations, and encouraging parent involvement. Salend and Schliff's (1989) study intended to find the extent to which teachers of learning disabled students used these policies. 88 teachers were surveyed using a questionnaire. 85% of the participants reported they were having problems getting their students to complete homework assignments. Motivation may be low due to lack of feedback, grading assignments or involving parents. Often, homework was not used as a criterion for final grades or discussed on report cards. The participants did not involve parents in the process with only 10% requiring parents to sign homework and 41% seeking input from parents on homework preferences. The purpose of using homework as a preparation for mainstreamed classrooms was only practiced by 8% of the participants. The authors state that this is an important practice. They recommend that special educators should approximate the homework demands and practices of regular education classes to prepare their students. They should also wean the students off of special strategies used in the special education classroom that may not be available in general education classrooms such as tangible rewards.

Epstein, Polloway, Foley and Patton (1993) compared teachers' and parents' perceptions of homework problems experienced by students with behavior problems, learning disabilities and non-disabled students. There are many concerns with students' practices with homework but there is very little research in this area, especially for special education. Heller et al. (1988) is cited in Epstein, Polloway, Foley and Patton's (1993) study that his survey revealed there is a great variety in homework policies and procedures in special education. Also cited were two studies

by Rosenberg (1989) that found using a structured approach to assignments with learning disabled students improved their effectiveness and provided additional learning time. In considering the criteria for classifying students with learning disabilities and behavior problems they are at a disadvantage with academic deficits, organizational deficits including time management skills, difficulty with paying attention, self-monitoring behavior, needing training to develop strategies for learning tasks, and difficulty accepting responsibility with an external locus of control.

As homework becomes an important curriculum component in the mainstreamed classroom and greater numbers of students with disabilities are being mainstreamed, it is essential to address this issue. Epstein, et al. (1993) surveyed the parents and teachers of 82 students with behavior problems, 112 students with learning disabilities and 114 students who were not disabled. The survey was a Homework Problem Checklist with a Likert scale. The results supported the authors' hypothesis that both categories of special education students would have greater difficulties with homework was significantly supported by the parents' and teachers' perceptions as stated on their surveys. There were significant differences between the special education students and the general education students, but very little difference between the learning disabled students and behaviorally disordered students.

The major implication of this study is that educational interventions must be considered. Specific interventions that address specific homework difficulties such as organization, time management and study skills need to be taught to the child. Targeting these skills must take place early in the child's career to avoid failure in

this regard. Homework assignments must be relevant to the child and should be discussed in this manner by the teacher and the parents. The authors also suggest that homework should not be complicated or based on new material the child is solely responsible for learning. Teacher efficiency must be considered. Individualized homework may not be possible at all times, however feedback should always be supplied. Epstein, et al. (1993) cite Coopers' (1989) review of research that finds the impact of homework is negligible during the elementary years in terms of achievement. However, they are important in forming good study habits and positive attitudes. Therefore, homework should still be a part of elementary education. The assignments at this level should be simple, short and gear the student towards successful experiences. Additional suggestions from the authors are: there should be a classroom procedure in place for the assigning of homework, homework should be taught as a routine, and students should be provided with assignment books that are routinely used. If a child is experiencing problems, the teacher can institute a plan where he/she would initial the book to make sure the assignments were recorded and the parent can sign off on the book to ensure they have seen the assignments. It is advantageous to collect the homework immediately and check for at least completion to instill an importance for getting the work in on time. Parents need to be involved by providing an environment conducive to working at home as well as providing encouragement and possibly rewards. Time allocated on homework in special education classrooms should build up to match that of general education classes to prepare the student for transition. Teacher preparation should include training on homework practices.



Epstein, et al. (1993) summarize their investigation by reiterating their suggestions above and stating that trends toward mainstreaming call for additional monitoring and research in the areas of homework practices.

### **Self-Monitoring with Homework**

The majority of research on self-monitoring is for assessment and behavior. There are growing resources of data on self-monitoring for academics but of this, there is little specifically dealing with homework. Trammel, et al. (1994) conducted a study on self-monitoring of homework for students with learning disabilities. They reiterate in their discussion the many contributing factors that make completing homework assignments difficult for learning disabled students as discussed above. They also point out that secondary students, who deal with the greatest amount of assignments, are at a stage in their development where they may resent adult interference of reminders and assistance. This supports a case for self-monitoring. Self-recording and self-reinforcement techniques would be appropriate to instruct learning disabled students in because they are outside the environment of the teacher and must exert self-control to complete their assignments. Trammel, et al. (1994) cite Rosenbaum and Baker's (1984) explanation of self-control as a student's responses that effectively maintain behaviors directed toward a goal when they are not in a supportive environment such as the classroom. Self-control encompasses the three skills of self-monitoring, self-evaluation, and self-reinforcement.

The participants in Trammel, Schloss and Alper's study were eight secondary students (six male and two female) with learning disabilities. They were in grades seven through ten and were mainstreamed for seven of their classes. The basis of

selection was their record of not turning in completed homework assignments and parental interest. Baseline data was collected with classroom teachers reporting to resource teachers if assignments were missing or completed. The resource teacher maintained a log of this information. The treatment involved the student recording their daily assignments on an assignment sheet. They would receive an assignment sheet on Friday for the week to come. They would bring the sheet to their classes and record their homework. The resource teacher would obtain the assignments also and check the sheet for accuracy. Every day the student had the sheet filled in completely and correctly they received verbal praise and a piece of bubble gum. The child would indicate on the assignment sheet if they turned the assignment in by circling a check mark. If the assignment was incomplete or not turned in, they would circle an "X" and if there was no assignment due they would circle an "O". In order to qualify as complete by the teacher the assignment must be 70% correct which would be a grade of C. Resource teachers would confirm students' accuracy in recording assignment completion by checking with the classroom teacher.

The resource teachers started the second phase of this study by teaching the students how to graph their homework completion. The graphs were displayed in the resource room. The assignment completion for the previous three days were on the chart and the child had to set a goal for the upcoming three days. The only restriction on their goals was that it needed to be higher than the average of the three previous days. Following the first goal, a second goal had to be set at either the same level or at a higher level. The third phase eliminated the graph and requirement of the assignment sheet. Students were able to fill in the assignment sheets on their own

with no reminders or rewards. Data on assignment completion continued to be collected by the classroom teacher.

Reliability was checked with resource teachers, mainstream teachers and the student. Baseline data indicated that the fewest assignments turned in by a student was zero for the day and the highest was four. During treatment, the lowest was four and highest was six in a day. During the goal setting phase, only two students did not meet the final goal of five or six assignments. Maintenance was accomplished in the final phase when the assignment sheet and graph requirements were removed for all students producing between four and six assignments a day.

This study indicates that self-monitoring does positively impact homework assignment completion. This effect is augmented with the addition of self-graphing and goal setting. Teachers reported increases in positive behaviors and higher daily grades. Parents reported pleasure in their child's achievements. Trammel, et al. (1994) state that this study supports previous research but needs replication before generalizations can be made. Other ages, backgrounds, educational histories need to be look at in order to validate these results. They offered suggestions to look at the role of self-monitoring on social skills, vocational skills and independent living skills.

Flores, Schloss and Alper (1995) take that step by investigating the effect of using a daily calendar on meeting the responsibilities of secondary special needs students. They cite several recommendations given by Harchik, Sherman, and Sheldon (1992) that included: identifying entry-level skills necessary to self-monitor, finding specific methods that would work in different settings, finding responses that work best with self-monitoring, finding reinforcers that aid self-monitoring, and

applying research results to training people with disabilities. Independence skills such as responsibility completion are necessary for self-advocacy and adult success. The authors considered a daily calendar appropriate for secondary students who were ages 17 to 18. There were eight subjects enrolled in a public school. They were in a vocational program where part of the day was spent in school and part was spent on a job.

Before any treatment was introduced, the students were asked to make a list of their daily, weekly, biweekly and monthly events. These events included activities for school, work, social life and home life. The students were then scheduled to meet weekly with the facilitator who discussed their list of events. The facilitator then contacted the students' job coach, teacher and parents to determine if their responsibilities were met. This served as baseline data that was calculated as a percentage of obligations met.

The intervention began with the students selecting a calendar of their choice. The only restriction was it had to be laid out with a week on each page with room to fill in their obligations. The facilitator checked at various times in a two-week period to monitor whether the students were carrying their calendar (which earned them one point) or not (which earned them zero points). In the next phase, the facilitator returned the initial list of obligations to the students and discussed the importance of recording obligations in their calendar. This discussion stressed carrying the calendar, recording events on the calendar and using the calendar to fulfill their obligations. In addition to checking if they were carrying their calendars, in this phase the calendars were checked to see if events were recorded. The last five days

were maintenance days in which calendar checks were eliminated. Data was still collected on whether the students fulfilled their obligations.

When carrying the calendars, obligations were met an average of 31% which was the same as the baseline. When required to record events the three females recorded 92% of the time and the males recorded 80% of time with one recording 88%. The range of individual percents on meeting obligations ranged from 29% to 100%. Each person reached 100% at least two times during the intervention. The final three weeks produced an average completion percentage of 88% with the range being 83% to 92%. Maintenance phase resulted in 100% in carrying the calendar and recording obligations with obligations being met with a range of 90% to 97%.

This study showed the use of a daily calendar greatly impact completing personal obligations. There were many positive comments from teachers, employers and students. This study was unique in that it transpired in many locations and environments. The impact of such a self-monitoring program is immense due to its applications towards life skills and meeting adult responsibilities.

### **Summary**

Teachers' greatest concerns are the education and well-being of their students. Teachers try to address these concerns by designing approaches that convey information in a way the students can make that knowledge their own. Teachers need to overcome many obstacles to ensure learning is taking place. There are added complications when special education students are mainstreamed. The research discussed in the chapter has shown what some of these difficulties are, and how self-monitoring is an effective tool in helping the learning process.

Reid's (1996) compiled findings found a significant positive impact of self-monitoring on the amounts of student work completed. Lloyd, Bateman, Landrum and Hallahan (1989) conducted a study with elementary students using self-monitoring for attention and self-monitoring for performance with math problems. Their results show that there was a significant increase in productivity and accuracy. In 1979, Wall conducted a study comparing self-monitoring programs designed by the teacher and those designed with student input. He found that both were equally successful, although groups with planned contingencies resulted in significantly higher gains.

Prater (1994) encouraged self-monitoring as an intervention that is not complicated, does not take a lot of teacher time and does not disrupt the student's learning. His case study with a 13 year-old emotionally disturbed male showed the use of self-monitoring and reinforcement increased the child's on-task behavior 33%. Hughes and Hendrickson's (1987) study with both at-risk and not at-risk elementary students showed that self-monitoring for attending behaviors resulted in increases for both groups. Rhode, et al. (1983) examined self-monitoring specifically designed to aid the generalization of special education students into the mainstreamed setting and found significant gains with the percentage of improvements ranging from 39% to 67%. These values were maintained in the mainstreamed classroom and did not require a lot of teacher time.

Arlin and Whitley (1978) studied the role of self-monitoring for academics. Their findings were that students using self-monitoring have an increased willingness to accept responsibility for their success; it increases their ability to see that they have

a role in their academic success. Fuchs et al. (1990) looked at the role of self-monitoring for general education students for academics. They found that not only were academics positively impacted, off-task behaviors decreased as well. Piersel (1985) found that self-monitoring in the form of the student charting assignments and conferencing increased the student's performance. The impact of charting and conferencing were also analyzed separately showing self-charting has a greater impact. Holman and Baer (1979) studied a self-monitoring program with regular and special education students and found there was an increase in appropriate behaviors for both groups of students. Their results showed significant increases in academic focus and that a self-monitoring program can be designed to be minimally invasive in a general education classroom.

Gajria and Salend (1995) reported that homework has a significant role in education. Increasing the amount of time spent on homework results in an increase in grades and scores on achievement tests. Gajria and Salend found that learning disabled students complete a substantially lower amount of homework than their non-disabled peers and as Trammel, et al. (1994) noted if learning disabled students increased their homework completion their academic performance in mainstreamed classes also increased. Gajria and Salend conducted a study on the perspectives of learning disabled and non-disabled students on homework. They found learning disabled students had lower scores and reported many factors that interfered with homework. Both groups indicated problems remembering what was assigned and considered homework unimportant. Jayanthi, et al. (1995) conducted a study to determine what aides may help students succeed especially in a time when more

special education students are being mainstreamed. A general recommendation was made that communication needed to increase among the parent, student and teacher. Proposals included: making use of assignment books on a consistent basis, involving families in homework assignments, and encouraging communication between parent and student. Salend and Schliff (1989) studied the practices of teachers of learning disabled students for clues as to how homework and learning disabled students interact. They found a large majority of teachers had difficulties with getting students to complete homework, often teachers did not grade the assignments, parents were not involved and only 8% used homework to prepare students for mainstreamed classes. Epstein, et al. (1993) share that students are classified learning disabled because they have deficits in academics, organization, time management, paying attention and accepting responsibility, all of which impact homework practices. The authors called for specific interventions that address these issues including: making homework relevant, using homework as review and reinforcement of skills, having a classroom procedure for assigning homework, making it a routine, and making use of assignment books.

Trammel, et al. (1994) conducted one of the few studies on self-monitoring and homework completion with mainstreamed learning disabled students. They claim self-monitoring is ideal for increasing homework completion because it does not involve adult intervention and it can easily be done outside the classroom. The treatment involved the use of an assignment sheet that is reward with verbal praise and a piece of gum. A phase added graphing goal setting to the treatment. The results indicated that self-monitoring positively impacted homework completion with



self-graphing and goal setting augmenting the impact. Behaviors and grades were also positively affected. Flores, et al. (1995) investigated the effect of using a daily calendar on meeting the responsibilities of secondary special education students. These responsibilities were extended beyond academic tasks and involved communication with job coach, parents and teachers to determine if responsibilities were met. The results showed a significant increase and maintenance of completing responsibilities.

All the research reviewed shows that self-monitoring is an effective intervention for both behavior and academics. It is convenient, low budget, requires minimal preparation and time on the part of the teacher, is non-intrusive, and promotes a skill that can be generalized to many areas of life. Homework is a substantial component to education and academic success. It also requires many of the skills learning disabled students are deficient in, such as organization and difficulty paying attention. Using self monitoring to help these students is especially ideal with mainstreamed special education students because it does not interrupt the learning environment, does not stigmatize the learner, requires little time and can have significant positive results motivating the student further. The next chapter discusses how this study implements an intervention using self-monitoring to increase student responsibility with homework assignments.

## **Chapter Three**

### **Subjects**

Ten students (4 male, 6 female) participated in this investigation. The students were all eighth grade students in an urban middle school that contains sixth through eighth grade. Two students were mainstreamed for all subjects, six were mainstreamed for just Science and History with a resource teacher for English, Reading and Math, and two were mainstreamed for Science, History and Math with resource teachers for English and Reading. These students made up the total population of mainstreamed students that all had the same science teacher.

### **Setting**

The observation and intervention of this study took place in the students' science class. The class met for a double period every other day. Some weeks they met twice, some weeks they met three times.

### **Design and Procedure**

This investigation was an A-B-A within-subject design. Changes in the same subjects over time were recorded. Data was collected before any intervention. Pre-intervention data consisted of recording the subjects' homework completion. Categories of data were: 1) assignments turned in on-time and complete, 2) assignments turned in on-time and incomplete, 3) assignments turned in late and complete, 4) assignments turned in late and incomplete and 5) assignment never turned in. The assignments mostly consisted of review and reinforcement of topics discussed in class. They may be answers to four "Checking Understanding"

questions, looking up definitions of vocabulary, or completing a review worksheet. A total of 13 pre-intervention assignments were tracked.

The intervention began with a private conference with the student. This took place towards the end of the second marking period of the school year. Conferences were held with all students to discuss their progress and grades as the rest of the class worked in groups on an assignment. This made the subjects at ease since they were not the only students being spoken to. The discussion with the subjects began with open-ended questions as to how they thought they were doing and if they felt they were having any difficulties. Students were asked: how they felt they were doing so far this year with their schoolwork, if they were having a hard time with anything such as tests or homework, if they did any schoolwork outside of school and when, if they remembered they had homework, but forget what it is, if they sometimes started their homework, but found it too difficult so they did not finish it or turn it in, and how often they use their assignment book. At this point, their assignment books were examined and both teacher and student counted occurrences of recording assignments. The students were reminded of the classroom routine already established (assignment always written on the right side of front board with a running log on bulletin board in case of absences). The students were asked if they thought using the assignment book in every class would help with their homework and they were asked to try their best to monitor themselves on which assignments they need to complete. And finally they were asked to check them off when they were completed. They were informed that their assignments books may be viewed by the teacher just to see how they were doing. The students were encouraged to do their best in

remembering to do their homework. If they were having difficulty with a particular assignment and could not seek the help of the teacher before the assignment was due, they were encouraged to turn in as much as they could possibly do to receive partial credit.

Post-intervention data involved the teacher continuing to record data on homework completion as in the pre-intervention. There were 13 similar assignments in the post-intervention. Occasionally, in the beginning of the post-intervention, which was also the beginning of new marking period, the teacher reminded the whole class to write assignments down in their agenda books. Praise and encouragement were given with private notes and stickers on completed homework assignments. At the end of the post-intervention period, private conferences were held again with the subjects, and their assignment books were examined to tabulate which assignments had been recorded.

### **Variables**

The independent variable in this investigation is the students' use of the agenda book to record assignments and self-monitor assignment completion. The dependent variable was academic performance (the amount of assignments turned in on-time).

### **Analysis of Data**

There are four sets of data. This data includes frequency of writing in assignment books in pre- and post-intervention as well as the information on homework assignment completion discussed above. These data will be analyzed to determine whether the intervention resulted in an increase in self-monitoring using

the assignment books. Also, it will be analyzed to determine whether there was a significant increase in the number of assignments turned in on time. Statistical analysis will determine if there is a correlation between whether a particular assignment is recorded and if that assignment is completed.

## Chapter Four

The purpose of this study was to investigate the impact of self-monitoring on the academic performance of eighth grade mainstreamed students. Pre-intervention included collecting baseline information on the homework assignments turned in by the students. The intervention consisted of a private conferencing session with each individual student. The conversation consisted of the student's homework practices, academic difficulties they had, if they felt lack of homework was due to academic frustration or being disorganized and plans for improving their academic performance (involving use of their assignment books). At this time their assignment books were examined to measure the frequency of recording assignments. Post-intervention involved a continued collection of information on their homework assignments. At the end of the study, a post-conference was held with the student where the assignment book was reviewed and data on assignments recorded was collected.

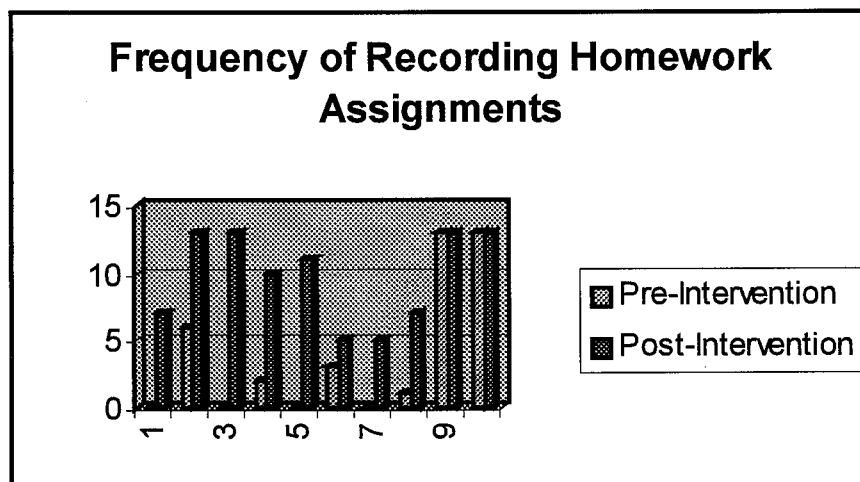
The frequency of writing in assignment books was collected at the time of the intervention and at a final conferencing at the end of the intervention. It was noted which assignments were or were not written in their assignment books. Before the intervention took place, the frequency of writing in assignment books ranged from 0 to 13 times with a mean of 3.8. Post-intervention had a frequency range of 5 to 13 with a mean of 9.7. This gives a mean increase of 5.9 recorded assignments.

**Table 1: Frequency of Recording Assignments**

<b>Subject</b>	<b>Pre-Intervention</b>	<b>Post-Intervention</b>
<b>1</b>	0	7
<b>2</b>	6	13
<b>3</b>	0	13
<b>4</b>	2	10
<b>5</b>	0	11
<b>6</b>	3	5
<b>7</b>	0	5
<b>8</b>	1	7
<b>9</b>	13	13
<b>10</b>	13	13

The results, as shown in Table 1, indicate that 8 out of 10 students increased the amount of assignment recording in their assignment books. Two subjects recorded all their assignments in both conditions. The smallest increase was with Subject 6 who only increased from 3 assignments to 5 assignments. Also, Subject 7 increased from 0 to 5 assignments. Other subjects include one increased by 6, two increased by 7, and one increased by 8. The most significant gains were by Subjects 5 and 3 showing an increase by 11 and 13, respectively. They both started with writing no assignments in their books. There were no situations where frequency of writing decreased.

**Figure 1**



As seen in Figure 1, all students increased their frequencies except for two who maintained writing all their assignments down. The most substantial increases were by Subjects 3 and 5.

Initial data collected for assignments included a tabulation of the homework assignments turned in by the students. The assignments were recorded as complete/on time, incomplete/on time, complete/late, incomplete/late, or never turned in. Post intervention data was collected the same way for assignment information. There were a total of 13 pre-intervention assignments and 13 post-intervention assignments giving the total of 130 possible assignments for all 10 subjects in each condition.

**Table 2: Pre-Intervention  
Frequency of Homework Assignments Turned In**

<b>Subject</b>	<b>On-Time Complete</b>	<b>On-Time Incomplete</b>	<b>Late Complete</b>	<b>Late Incomplete</b>	<b>Never</b>	<b>Total Turned In</b>
<b>1</b>	3	0	8	0	2	11
<b>2</b>	4	0	7	0	2	11
<b>3</b>	5	0	6	0	2	11
<b>4</b>	3	0	4	0	6	7
<b>5</b>	5	0	7	0	1	12
<b>6</b>	3	0	3	0	7	6
<b>7</b>	0	0	12	0	1	12
<b>8</b>	2	0	8	0	3	10
<b>9</b>	12	0	0	0	1	12
<b>10</b>	13	0	0	0	0	13
<b>Total</b>	50	0	55	0	25	105

According to Table 2 all the subjects except for one turned in at least half of their assignments. However, only two subjects turned in more than half of the assignments on time/complete. Eight out of ten turned in a majority of assignments late. Subject 7 was the most extreme case with zero assignments turned in on



time/complete and 12 assignments being turned in late/complete. Subjects 4 and 6 had the largest number of assignments never turned in.

**Table 3: Post-Intervention  
Frequency of Homework Assignments Turned In**

Subject	On-Time Complete	On-Time Incomplete	Late Complete	Late Incomplete	Never	Total Turned In
1	7	1	1	0	4	9
2	9	0	4	0	0	13
3	9	2	1	0	1	12
4	5	2	1	1	4	9
5	11	1	0	0	1	12
6	5	2	1	0	5	8
7	7	1	1	0	4	9
8	5	1	3	1	3	10
9	10	0	1	0	2	11
10	13	0	0	0	0	13
<b>Total</b>	81	10	13	2	24	106

Data on assignment completion was collected in the same manner for the post-intervention condition. Table 3 shows that the total number of assignments turned in, out of a possible 130, was maintained with 105 in pre-intervention and 106 in post-intervention. However, there was a significant increase in the total assignments turned in on time with a rise from 50 to 91. Out of the 91 assignments turned in on time, 81 of them were complete. Late assignments decreased from 55 to 15.

Eight subjects had an average increase of 5 assignments turned in on time. Subject 7 had the largest increase of on time assignments with a rise from 0 to 8. Subject 5 also had a marked increase from 5 to 12 on time assignments. One subject maintained turning in all 13 assignments on time/complete in both situations. Another student decreased slightly from 12 assignments completed to 11 assignments completed.

**Figure 2**

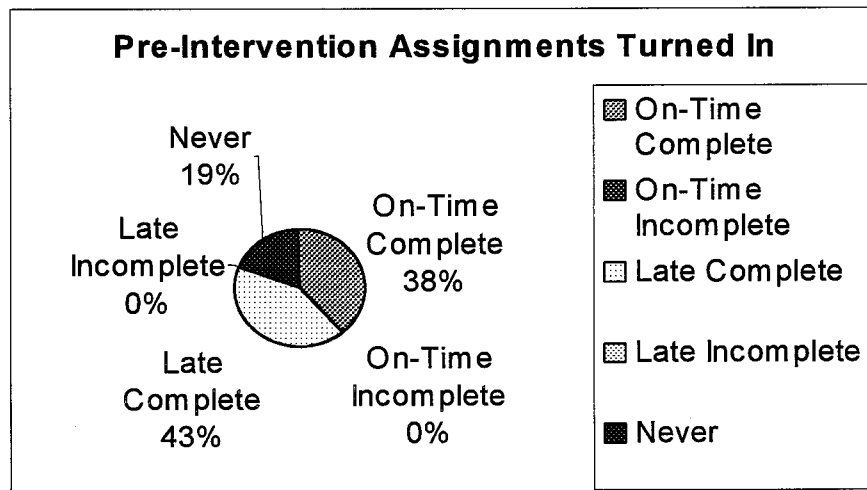
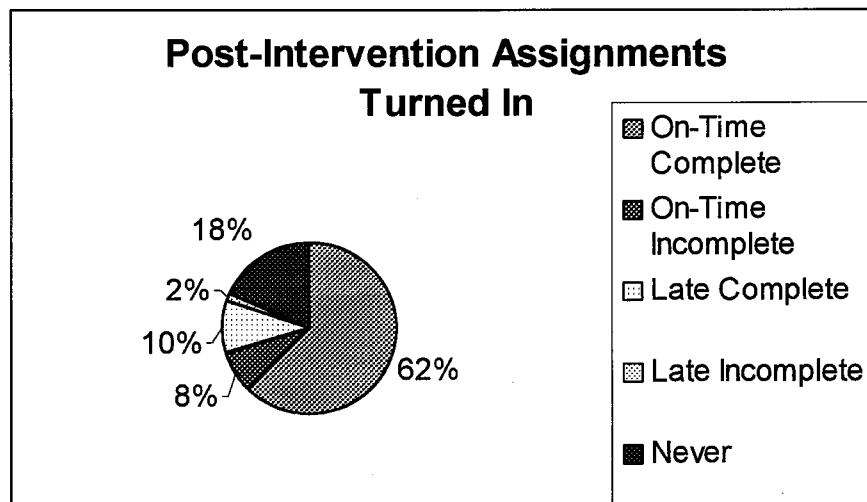


Figure 2 shows that prior to the intervention only 38% of homework assignments were completed on time/complete. None were turned in on time/incomplete, 43% were turned in late/complete, and 0% was turned in late/incomplete. 19% were never turned in. According to Figure 3, after the intervention the total number of assignments turned in on time/complete rose from 38% to 70%, with 62% being on time/complete and 8% being on time/incomplete. Late/complete assignments decreased to 10% and late/incomplete rose to 2%. Assignments never turned in decreased slightly to 18%.

**Figure 3**



**Table 4**  
**Correlation Between Writing in Assignment Book and Assignment Completion**

	<b>Correlation</b>	<b>F-Value</b>	<b>P-Value</b>
<b>Pre-Intervention</b>	.747	10.094	.0131
<b>Post-Intervention</b>	.606	4.639	.0634

In conducting statistical analysis of the data, the correlation between writing in the assignment book and assignment completion was similar in both pre- and post-conditions with correlations of .747 and .606 respectively. This shows that there was a relationship between the assignment being recorded in the students' assignment books and the assignment being completed. The F-Value in the Pre-Intervention was 10.084 with a P-Value of .0131. The F-Value in the Post-Intervention was 4.639 with a P-Value of .0634.

## **Chapter 5**

### **Review of Research Question and Hypothesis**

The purpose of this study was to investigate the impact of a self-monitoring program on the academic performance of eighth grade mainstreamed students ages 13-14. For the sake of this study, academic performance was defined as the completion of homework assignments. Performance was gauged in terms of assignment completion and turning the assignments in on time. This study focused on the impact of self-monitoring on academic performance. The hypothesis was that eighth grade special education students mainstreamed for science class using the self-monitoring program would exhibit significantly higher achievement in completion of assignments and in turning assignments in on time.

### **Findings**

The results of this study showed that self-monitoring could have a strong, positive impact on homework completion. When the students began to record their assignments in their assignment books, the number of assignments turned in on time increased 32%. All students are given an assignment book in the beginning of the year. In pre-intervention, there were only two subjects who used it on a consistent basis with four that did not use it all. At the end of the post-intervention, six subjects were using it consistently. Statistically there was a strong correlation found, showing a relationship between recording their assignments and completing the assignments.

Previous studies showed similar findings when self-monitoring was used with behavior and academics. Flores, et al. (1995) investigated the use of a personal

calendar to increase high school students' meeting their obligations. These obligations included academic, social and athletic events. The students were taken out to purchase a calendar of their choice. The teacher would keep up contact with the family, coaches and job supervisors to determine if the students were increasing meeting their obligations. This study was similar to the current investigation in that it promoted self-recording of events to promote students' response. However, this study was with specifically mainstreamed, learning disabled eighth graders using assignment books that all students carried with the intention of increasing the number of homework assignments they turned in on time.

Trammel's, et al. (1994) investigation was the most similar to this one. Their students were mainstreamed learning disabled students and involved improving homework completion. However, their students ranged from grades seven through ten and it took place in a suburban setting whereas the students in this study were just in eighth grade in an urban setting. Instead of using an assignment book provided to all students, Trammel et al., used an assignment sheet the students would receive each Friday. The resource teacher obtained all their assignments from the students' classes and checked their assignment sheets. If the students completed the sheets accurately, they received a reward. The students indicated the assignments were complete by circling an "O" or an "X" on their assignment sheets. With this current study, self-monitoring was considered a practical intervention that can be done with minimal adult intervention by the mainstream teacher. The only class data formally recorded was from the subjects' science class. There were no short-term rewards for writing in the agenda book except for occasional verbal praise. Written praise was given to

students on their homework assignments. The subjects were encouraged to check off their assignments as they completed them, however this was not enforced or maintained. Trammel et al. installed a second phase to their study with graphing and goal setting. In this study, the goal was presented at the time of the intervention to do better with getting homework assignments in. Specific benchmarks were not set. This is mainly due to the realistic setting of a teacher having 130 students total and trying to implement skills that will help those mainstreamed students in real world situations. The routine for assigning homework did not change for the sake of this study. The homework was always written on the front board and a log was always kept on the bulletin board in case a student was absent. Any verbal reminders to write down homework were given to the whole class, just as they had been prior to the intervention. However, once the private conferences took place, the students “heard” the reminder much easier and took that reminder as a cue to take out their assignment books and actually write in them. Prior to this it was common for them to say they would write it down later, they would remember, they would call the homework hotline, or they would get the assignment from a classmate later. The act of writing it down gave them a physical memory that they have something that needs to be completed.

### **Implications for future research**

Future research could expand the scope of this current investigation. It would be useful in conducting with special education students who are still in their self-contained classes. It can be completed with the whole population of students, special

and regular education. A component of parent involvement can be added since the assignment book is a convenient communication between school and home.

### **Limitations**

There were a couple of limitations to this study. One student had several absences in a row during the post-intervention. The assignments she missed were counted as on time if she completed them in the time frame she was given at her return. Another limitation was that two students lost their assignment books. Fortunately, they informed the teacher quickly and were issued new ones. In each condition, pre- and post-intervention, one assignment was just to get a parent signature on a progress report. This perhaps should have been eliminated as a homework assignment because it was not an academic endeavor. However, since the goal was to improve responsibility it was included. It was, in both conditions, the assignment that most subjects did not turn in.

### **Implications**

This study has great implications. The fact that the design and intervention were simple, yet rendered considerable results, showed that a similar school-wide plan can greatly help not only its special education population, but most likely the general population as well. Some straightforward changes could be an addition to the IEP or accommodation plan of the child to include use of the assignment book. A simple modification that can be implemented in all classrooms is to have the homework posted in the same location everyday so the students can develop a routine across all their classes. In conducting this investigation and looking at the subjects' assignment books, several of them had all their history assignments recorded. When

asked about this, they said their history teacher collected them unannounced and gave a quiz grade for them. This was a great motivator for the students and helped them boost their grades. When the students in this study began bringing in more homework on time, their self-esteem was truly boosted and they were excited to announce that they remembered to do their homework. By encouraging them to try their best and informing them it was their remembering and effort that was most important, it took some pressure off of having perfect assignments.

A slightly more involved expansion of this study would be to design a workshop or unit of lessons on academic skills that can be taught to self-contained students in preparation for mainstreaming. It would be interesting to have it taught by a mainstreamed teacher who could testify to what life is like in that type of classroom and what the expectations would be for the student. These are all suggestions that would not require additional funding or staffing, especially since the assignment books are already provided by the school district.

### **Conclusion**

In conclusion, this investigation showed the strength of self-monitoring for academics. The value of homework in academic success has been established in previous research. It is also known that learning disabled students have a difficult time with homework because it requires the precise skills they have difficulties with: organization, paying attention, self-motivation. This simple intervention produced positive results for all the subjects in this study. There was a strong relationship demonstrated between self-monitoring with the assignment books and completing homework assignments.



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