The Effectiveness of Intervention Strategies on Severely Emotionally Disturbed Students

by
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Approval Page

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Abstract

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This research study analyzed the results of daily point sheets, referrals, and timeouts at an Excel program for students labeled *severely emotionally disturbed* in a southeastern school district. According to current classroom data, over one third of students in the Excel program had dropped at least 1 letter grade in history since the beginning of the school year, and the number of referrals and time-outs had increased significantly. Its purpose was to determine whether multicomponent interventions or individual token economies were more effective in minimizing off-task behaviors and maximizing students' academic achievement with students exhibiting serious emotional disturbances.

Specifically, this action research study had 3 main foci: (a) to decrease the number of off-task behaviors by at least 60%, (b) to decrease the number of referrals by at least 50%, and (c) to decrease the number of both in-class and out-of-class timeouts by at least 50%.

The following research questions were addressed:

1. How effective are individual intervention strategies?

2. How effective are multicomponent strategies?

3. What are the effects of individual intervention strategies in comparison to multicomponent intervention strategies?

A quantitative methodology was employed by the researcher to find answers to these research questions. The token economy alone reduced off-task behaviors marginally. However, the implementation of the multicomponent intervention strategy revealed the most significant decreases in off-task behaviors.

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Chapter 1: Introduction

The problem for this research study was that the number of students receiving Excel referrals has increased from August to December by over 600% (see Table 1). Furthermore, 35% of students in the history class received below-average grades (see Table 2) and negative marks on their Excel daily point sheet (see Appendix A). On average, students should be passing their classes at a much higher rate, and they should be receiving positive marks on the self-control, social, and academic domain of the Excel daily point sheet at least 80% of the time. However, during a 2-week span, students averaged positive marks at an average of only 74%.

Table 1

Monthly Excel Referrals From August-December 2006

	Period			
Month	1	2	3	Total
August	0	3	0	3
September	1	3	1	5
October	3	5	7	15
November	5	8	10	23
December	6	5	9	20

The setting selected for this study was a history class in an Excel program located in a northeast Florida school district. The Excel program may be defined as a school-based treatment program that provides intensive educational (diagnostic and prescriptive

teaching), therapeutic (individual, group, and crisis counseling), behavioral, and family services.

Table 2

History Grades

	9 weeks	
Grade	1	2
A	2	4
B	8	3
C	3	5
D	1	1
F	6	7

All students enrolled in the Excel program were identified as severely emotionally disturbed (SED), according to exceptional student education eligibility criteria. Students classified as SED typically have difficulty building or keeping satisfactory interpersonal relationships with classmates or teachers; seem unhappy or depressed; behave inappropriately under normal circumstances; exhibit excessive behavior; or may be hyperactive, aggressive, withdrawn, defensive, insecure, or disorganized. They reveal many challenging behaviors that may interfere with their ability to meet with academic, behavioral, and social success in the school environment. In many circumstances, these students exhibit severe types of behavior, which prevent them from successfully participating in the regular school environment.

The participants ranged in age from 14-21. An overwhelming majority of the

students were boys (37), and the remaining were girls (3). There were 19 Caucasians, 19 African-Americans, 1 Hispanic, and 1 other participating in this inquiry. Of the students, there were 16 freshmen, 14 sophomores, 6 juniors, and 4 seniors. Approximately 75% of the students were on a special-standards diploma track. Students on special-standard diploma track received instruction in the general curriculum with modifications and accommodations. They had to earn a minimum of 24 credits in specified courses, maintain a 2.0 grade point average, and meet the student performance standards for exceptional students for graduation (Florida Department of Education, Bureau of Exceptional Student Education and Student Services, 2005). The remaining 25% were seeking a standard diploma. The criteria that must be met for a standard diploma were to earn 24 credits in specified courses, maintain a 2.0 unweighted grade point average, and pass the math and reading portions of the Florida Comprehensive Assessment Test with a Level 3 or higher for graduation. Students on a standard diploma may receive accommodations; however, modifications are not permissible.

During the school day, students were on an A-B alternate class schedule. The alternate-day block scheduling is also known as AB, odd-even, and Day 1-Day 2. With AB scheduling, students take three or four 80-120 minute classes on alternating days for an entire school year (Lewis et al., 2003). Students in first and third period attend history class on A days, and students in second- and third-period classes attend history class on B days. As indicated by the Texas Education Agency Division of Research and Evaluation (1999), this type of scheduling theoretically reduces disintegration of instruction, accommodates more efficient teaching procedures, and develops chances for personalized teaching.

In addition to block scheduling, class size plays an important role in the success

of the students in the Excel program. In accordance with the National Institute of Education (1978), larger schools report elevated incidences of aggression. Furthermore, it was noted that there is a correlation between smaller class size and lower levels of violence. Therefore, to ensure the safety of the students and staff, there were no more than nine students per class. Each class had a teacher and a paraprofessional. In addition, a prevocational teacher (job coach), therapeutic art and therapeutic music teacher, site director, lead interventionist, interventionist-paraprofessional, mental health therapist, psychiatrist, and clinical supervisor were employed on site. Unlike the other Excel programs, which were self-contained, this particular Excel program allowed students to change classes every 1 hour and 15 minutes.

The behavior management program employed is considered to be a positive motivational system. The Level 1, 2, 3, and 4 system is used to examine student progress. Students' privileges increase with student accountability as the students' need for structure decreases. There were only 4 students who had achieved Level 4 as indicated in Table 3. For example, students begin on Level 1 and progress upward to Levels 2, 3, and 4. As the student progresses through the levels, more behavioral responsibilities are expected. When the student meets the mandatory number of positive days for that level, the multidisciplinary team may assemble with the student to establish eligibility for advancement to the next level. Each level builds on the previous.

A study conducted by Filcheck (2003) assessed the effectiveness of the level system in comparison to traditional classroom management techniques. Filcheck discovered the level system to be more effective in controlling disruptive behavior than conventional classroom management strategies. Moreover, there were smaller quantities of time outs given during the operation of the level system in class when related to the

utilization of typical classroom management strategies. Furthermore, there were no negative effects on intrinsic motivation evident.

Table 3

Levels of Student Progress

	Period		
Level	1	2	3
1	1	0	5
2	3	2	2
3	0	2	1
4	2	2	0

There were several techniques that were in place in order to serve this specific type of student population better. For instance, a multidisciplinary method to school-based treatment was applied. Every 2 weeks, the multidisciplinary team met to discuss individual students' progress, program development, or in-service training. The multidisciplinary team consisted of each teacher, paraprofessionals, a mental health therapist, an interventionist, and a site director. At times, child guidance staff, parents, and a psychiatrist could participate in the meetings.

The key goal of the Excel program was to develop opportunities for individual students to display correct behaviors and experience emotional success. Secondary goals were to aid students in developing positive behavioral and social changes required to return to a less restrictive educational setting and help individuals in reaching their full potential and ability to function independently in the community through an

individualized academic and prevocational curriculum. Furthermore, the Excel program aimed to aid students in the development of social skills needed to contribute productively in the school, home, and community.

Nature of the Problem

The purpose of this study was to decrease the number of off-task behaviors. According to current classroom data, 35% of students dropped at least one letter grade since the beginning of the school year, and the number of referrals and time-outs increased significantly. Based on the comparison of the first 9-week grades to the second 9-week grades, referrals for off-task behaviors increased and student academic achievement decreased.

According to Sentelle (2003), off-task behaviors may be defined as not actively engaged in material presented by the instructor. Examples include talking to a neighbor, call outs, beating on the desk, sleeping, not being in a seat, and daydreaming. On-task behavior includes raising one's hand before talking, asking permission before leaving the seat, and participating in class discussions.

Based on classroom data from August 2006 to December 2006, grades declined and students' frustration levels had grown due to many class disruptions. Gest and Gest (2005) asserted that only a few students demonstrating unacceptable behaviors can upset and jeopardize effective instruction for all students. Furthermore, removing the few students from the classroom may cause a greater threat by contributing to even greater academic difficulties, which will, in turn, increase frustration with assignments and the possibilities for additional behavior problems and further omission from instruction (Gest & Gest). Therefore, an escalating cycle occurs (Scott, Nelson, & Liaupsin, 2001).

Purpose of the Study

The purpose of this study was to determine which type of strategy was the most effective in minimizing off-task behaviors and maximizing students' academic achievement with students exhibiting serious emotional disturbance who were placed in the Excel program. The target behaviors of interest were students' participation in class; amount of time on task; showing respect to themselves, peers, and teachers; and completion of class work (Sentelle, 2003). Based on Sentelle's study, it is believed that there will be a positive effect on students' behaviors in the classroom when intervention strategies are applied.

As stated by Sentelle (2003), the implementation of multicomponent interventions will contribute to increasing students' on-task behaviors, and their work production will thereby increase. The multicomponent intervention combined many behavioral management strategies with the goal of decreasing disruptive classroom behavior (Kehle, Bray, Theodore, Jensen, & Clark, 2000). The various components typically included token economy and response cost, precision requests, mystery motivators, antecedent strategies, classroom rules, and teacher movement (Willie, 2002).

Research Questions

This study addressed the following research questions:

1. How effective are individual intervention strategies?

2. How effective are multicomponent strategies?

3. What are the effects of individual intervention strategies in comparison to multicomponent intervention strategies?

Definition of Terms

The following terms are defined for this study:

1. *Multicomponent intervention* combines many behavioral management strategies with the goal of decreasing disruptive classroom behavior. The rationale for using a multicomponent intervention is based on the assumption that, although all of the components may be effective when used in isolation, they may be even more effective in reducing disruptive behaviors if they are combined.

2. *Inclusion* is educating students with disabilities in general education classrooms. The principle behind it is to educate students with disabilities in settings as close to the general education classroom as possible in which the appropriate program can be provided and the student can make satisfactory educational progress.

3. Token economy is a reinforcement system in which positive reinforcers in the form of tokens or points that participants can exchange for desired objects or privileges (e.g., use of a video game or access to a telephone) are given for specified desirable behaviors

4. Response cost is when students can lose points for noncompliance with classroom rules. Points are taken away as a consequence for engaging in disruptive behaviors and being noncompliant with teacher requests.

5. *Mystery motivator* is where an envelope labeled with a question mark is placed in a visible spot in the classroom. Inside the envelope is a card stating what the student will win (e.g., tutor time or teacher helper).

6. *Antecedent strategies* include the modification of events immediately preceding problem behavior. Examples include changes in the physical setting, curriculum, or schedule.

7. *Extinction* is the procedure in which a behavior that has previously been

reinforced is no longer reinforced. Extinction decreases (extinguishes) the frequency of behavior.

8. *Reinforcer* increases the probability that the behavior that precedes it will be repeated.

9. *Punishment* decreases the probability that the behavior that precedes it will be repeated.

Chapter 2: Review of the Related Literature

Introduction

The literature applicable to the interventions specifically used for students with emotional disturbances and their effectiveness is examined and discussed. As well, different sections of the multicomponent intervention are described. Literature involving multicomponent interventions and their effectiveness in reducing disruptive classroom behavior is also reviewed.

Osher, Osher, and Smith (1994) maintained that students with emotional behavior disorders require specialized behavior interventions in order to guarantee academic and social emotional success in school. Achieving this goal at times can be complicated. Quinn and McDougal (1998) emphasized, "Educating students identified as seriously emotionally disturbed is one of the most stressful, complex, and difficult challenges facing public education today, and perhaps one of the education system's greatest failures" (p. 192). When classroom time is spent managing students' behavior, there is a negative impact on students' academic performance. Most students who continuously behave inappropriately in the classroom are significantly behind their counterparts academically; the minimal amount of instruction further perpetuates the gap (Coleman & Vaughn, 2000).

Stormont, Lewis, and Covington Smith (2005) conducted a study that investigated opinions of childhood professionals in regard to the use of behavioral supports for students with difficult behavior problems. According to the study, many children who manifest challenging behavior at an early age will continue to have behavior problems throughout school. Those children who are at the greatest risk for serious and stable behavior problems are those who have patterns of negative behavior (e.g., aggression and

hyperactivity), social skills deficits, and poor family situations (Stormont; Walker, Colvin, & Ramsey, as cited in Lewis, Stormont, & Smith, 2005). Therefore, students who have the greatest risk for recurring behavior problems are those who lack age-appropriate social skills as well as inadequate consistent support for behavior change.

A considerable amount of literature (e.g., Cotton; Epstein, Kutash, & Duchnowski; Kameenui, & Darch; Kamps, Kravits, Stolze, & Swaggart; Mayer; Sugai, Horner, & Gresham, as cited in Sentelle, 2003) substantiates the use of methodical systems for teaching and providing appropriate behavior supports in children. As well, Rutherford and Sarup (2001) stated, it is imperative to put into practice strategies that are exclusively developed for students with emotional behavior disorders. Countless schools have recognized the importance of establishing the necessary positive behavioral supports in their schools.

Specialized behavioral support is presented to students who are having continued behavioral problems. These supports include strategies such as social skill instruction, mentoring, and self-management programs. Last, for students who are labeled SED and display chronic patterns of problem behavior, individual strategies are put in place.

Willie (2002) spoke of token economies and response cost. The author stated that individuals with emotional disturbances often have negative academic and social outcomes in school. Effective interventions in the classroom can provide teachers with the necessary tools for early intervention and potential prevention of future behavior problems. Token economies, for example, can provide contingencies (Waggy, 2002). Several key advantages of a token economy is that it significantly minimizes off-task behaviors, increases incentives for adhering to classroom rules and expectations, and compels faculty to provide opportunities to teach and focus on desired behaviors (Waggy,

2002).

Furthermore, Willie (2002) maintained that the fundamental principle of token economies is that individuals are informed that they will be given points for the amount of time in which they exhibit on-task behaviors. When used in conjunction with response costs, students will receive points for on-task behaviors and lose points for off-task behaviors. To establish a token economy, target behaviors must first be identified, contingencies specified, and exchange rules determined. Several advantages to a token economy are that it provides an effective means for delivering reinforcements (token delivery); contains a variety of contingencies (response cost), reinforcers, and schedules; allows management of an extensive variety of target behaviors; and bridges gaps between occurrence of target behaviors and delivery of reinforcement (Willie, 2002).

According to Higgens, Williams, and McLaughlin (2001), one of the most valuable approaches to improving classroom behaviors is through the implementation of token economies. Token economies may be used across populations and grade levels. Further research has shown that, when employed together, token reinforcement and response-cost interventions are associated with less disruptive classroom behaviors (Willie, 2002). Moreover, when token economies are combined with other strategies, they prove more advantageous that token economy systems alone (Musser, Bray, Kehle, & Jenson, 2001).

As noted by the Elementary and Middle School Technical Assistance Center (as cited in Tauber, 1998), there are five types of reinforcements:

1. Natural reinforcement. This type of reinforcement occurs naturally from the appropriate behavior. For example, a student who works cooperatively with a group in a class activity is likely to receive more invitations to join in such activities in the future.

For most students, the attention that the student receives for helping other students and cooperating is positively reinforcing. The goal should always be to move the student towards natural and intrinsic reinforcement (i.e., the reinforcement comes from within the child such as positive thoughts or feelings).

2. Social reinforcers. These are reinforcers that are socially mediated by teachers, parents, other adults, and peers. They express approval and praise for appropriate behavior. Comments, such as "Excellent work" and "I like the way you are working with your group"; written approval, such as "Way to go!"; and nonverbal expressions of approval, such as smiling, clapping, and nods of approval, are all very effective reinforcers. Sutherland (2000) conducted a study that linked the effect praise had on academic and behavioral progress for students with behavioral disabilities. The findings concluded that “The literature indicates that teacher praise has had positive effects on both academic and behavioral outcomes” (p. 111).

3. Activity reinforcers. Activity reinforcers are very effective and positive for students. Allowing students to participate in preferred activities (such as games, computer time, etc.) is a very powerful strategy.

4. Tangible reinforcers. This category includes edibles (food) and nonedibles, such as toys, balloons, stickers, and awards. These should be used with caution. Parents may have reason to object to certain reinforcement, and toys can make other students envious. However, tangibles can be in the form of awards, certificates, displaying work, and letters sent home to parents commending the student's progress. These are powerfully motivating reinforces and, for many students, are absolutely necessary when first implementing a reinforcement plan.

5. Token reinforcement. Token reinforcement involves awarding points or tokens

for appropriate behavior. These rewards have little value in themselves but can be exchanged for something of value that may be social, an activity, or tangible reinforcers as mentioned above. It is imperative to note the quality of the reinforcement that a student receives (Reichle et al., 1997). As indicated in Reichle and Wacker (1997), communicative alternatives to challenging behavior include integrating functional assessment and intervention strategies. When one event is more preferred than the other, the more preferred event has a higher worth in terms of reinforcement.

Behavioral Interventions

There are various behavior interventions employed to reduce or eliminate inappropriate behaviors. Behavior interventions may stand alone or are utilized in conjunction with other behavior interventions. The following describes in depth the various behavior interventions that may be used to tackle problem behavior.

Precision requests. Precision requests can be used to initiate student compliance, stop disruptive behaviors, and prompt appropriate behaviors (Rhode, Jenson, & Reavis, 1994). Precision requests are a series of commands given by the teacher to stop a behavior. The teacher gives commands in a calm, quiet, and unemotional tone while maintaining eye contact (Rhode et al.). There is a 5-second wait between each command so that the student has the opportunity to be reinforced. If the student is not reinforced after the series of requests, a reductive technique (i.e., time-out) is dealt (Willie, 2002). Moreover, teachers should refrain from nagging and only command twice.

According to Barkley (2000), it is more efficient to tell students to complete a task rather than to ask them to complete a task. Kehle et al. (1996) stated that, in order to increase compliance, make reprimands and requests. Furthermore, it is imperative to be precise. Staff should make the behavior explicit and teach the behavioral expectations

(Cartledge & Loe, 2001). Being specific enables the student to recognize expectations without having to interpret the intent or meaning of a command. Freeman et al. (2000) stated that it is necessary to intervene before problem behavior has a chance to occur by physically or verbally prompting the student.

Mystery motivators. According to Rhode et al. (1994), mystery motivators are incentive techniques intended to provide chance rewards for appropriate behavior. The first step to implementing the mystery motivator is to decide on the basic rewards for the student. Second, one of those selected rewards is written on a slip of paper and placed it into a sealed envelope, keeping the student unaware of what is inside. Third, an objective target behavior is identified. A chief component of this type of intervention is the excitement that the teacher creates for the reinforcer.

In addition, Rhode et al. (1994) claimed that unidentified reinforcers are effective at reducing disruptive behavior. According to Garrison, Howard, and Sprick (1998), mystery motivators are used to target specific misbehaviors. Once effective, fading can occur during the 2nd month, which will create fewer chances for an extrinsic reward. There has been little current research on the single use of mystery motivators. On the other hand, several studies (Willie, 2002) found mystery motivators to be highly effective in increasing compliance. For example, Moore, Waguespack, Wickstrom, Witt, and Gaydos (1994) applied the mystery motivator with third and fifth graders in a rural public school and university-based lab school. The data presented encouraging results. Furthermore, the authors indicated how to adapt the intervention to include a surprise factor for reinforcing the student or the reinforcer itself.

Antecedent strategies. The intention of antecedent strategies that control positive behavior in the classroom is to replace problem behavior (Luiselli & Cameron, 1998).

Examples of antecedent strategies include teacher movement, which allows for increased opportunities for compliance, assigned seating, and the public posting of positively stated classroom rules. Antecedent strategies increase the opportunity to emphasize replacement behaviors and observe off-task behaviors. A large number of antecedent interventions that are utilized to decrease problem behavior have proven successful (Munk & Karsh, 1999).

In addition, research (Rhode et al., 1994) showed that rule posting and teacher movement increase compliance of students as well. According to Dunlap (as cited in Baker et al., 1991), intervention strategies, including modifications to the curriculum or task presentation, should be implemented along with a student's individual academic goals and objectives.

Freeman et al. (2000) stated that antecedent strategies may also be frequent facets of an environment, which may include time of day, physical characteristics, presence of specific individuals, or particular forms of activities. The intention of antecedent strategies is to control positive behavior in a student's environment as a strategy by replacing problem behavior. As mentioned by Baker et al. (2000), positive behavior supports involve changing the environment in ways that prevent problem behaviors.

Most antecedent intervention strategies involve adjusting the activities that engage students or altering the presentation. As well, the authors suggested selecting activities that generate immediate reinforcement. By doing so, it can lead to an increase in academic achievement and decrease in negative behavior (Munk & Repp, 1994).

Carr et al. (2002) advised teachers and researchers to stress the revamping of the educational environment in intervention rather than to center solely on reducing behavior. *Revamping* is defined as developing general changes that affect how a person behaves

(Horner, Albin, Sprague, & Todd, 2000). To handle challenging behaviors in the classroom, changes to the environment and instructional components of the classroom can be made to treat problematic behaviors successfully. It is imperative to realize what antecedent events are linked when behavior difficulties are nonexistent (O'Neill et al., 1997). Various intervention strategies desire a change in the student's environment by introducing antecedents coupled with desirable behavior (Horner et al.).

Furthermore, Codon and Tobin (2001) stated that, in order to prevent disruptive behavior, provide additional assistance, adjust assignments to fit skill levels, and become aware of when problem behaviors are likely to occur. In addition, change the context to make the problem behaviors unnecessary. Explain rules and expected behavior to the entire class, construct a written agreement with students, and adjust seating arrangements and classroom routines.

As declared by Alter and Conroy (2005), the single best way to tackle students with demanding behaviors is to assure that they never occur. Although there is no unanimous answer to preventing behavior problems in children, several expansive intervention strategies were recommended by Alter and Conroy. They declared that the arrangement of the classroom environment, scheduling, and execution of rituals and routines will thwart or minimize challenging behaviors.

Bennett and Smith (1992) conducted a study that explored the effects of several antecedent strategies--response-specific prompts, prompts identifying long-term and short-term consequences, a combination of long-term and short-term consequences, and a combination of short-term consequences and response-specific prompts--on the reduction of destructive behavior. As said by the authors, the response-specific prompt that connected the short-term and long-term consequences was effective.

Manning (2001) completed extensive research on effective teaching and strategies for improving student behavior. The majority of the research (e.g., Walberg; Porter & Brophy; Doyle; Good & Brophy, as cited in Manning, 2001) focus on "with-it-ness," productive time on task, informing, teaching, monitoring, and putting learning first. With-it-ness means that teachers work at becoming as aware as possible of all events and student behaviors in the classroom and closely monitor classroom activities.

Specific behaviors that teachers use that demonstrate with-it-ness consist of confronting potentially disruptive problems, observing all classroom activities, and positioning students where they can be seen at all times (Manning, 2001). Therefore, students recognize that their teacher is attentive of their behavior and inappropriate behaviors will be identified early and accurately. The teacher may demonstrate with-it-ness by introducing antecedent strategies that prompt appropriate behaviors and academic success into the classroom.

As declared by Manning (2001), there are a number of strategies that have resulted in reduced classroom disruptions. For example, rules and procedures should be planned in advance and established when needed. Students must be allowed to take responsibility for their actions. Teacher and student cooperation should be encouraged as well. Disruptions and delays should be minimized by planning independent and group lessons.

A number of researchers (Carr & Carlson; Dunlap et al; Umbreit & Blair, as cited in Romaniuk & Miltenberger, 2001) have also employed multicomponent intervention that included a major choice component consisting of opportunities to choose which activities to perform with students receiving special education services. Findings from studies conducted by these researchers revealed dramatic decreases in disruptive behavior

and increases in appropriate behavior in participating students. These findings suggest that the opportunity to make choices in combination with other treatment factors has a substantial impact on students' behavior.

Multicomponent interventions. The multicomponent intervention incorporates a variety of behavioral management techniques with the purpose of minimizing disruptive behaviors. This intervention normally includes token economy and response cost, precision requests, mystery motivators, and antecedent strategies (Waggy, 2002). The underlying principle for utilizing multicomponent interventions is that these strategies when combined will be even more effective in reducing behaviors than if they were used in separation (Waggy).

Smith (2002) conducted a study to determine how effective an intervention program with multiple components would be on students who exhibited severe behavior disorders; the components of the study consisted of counseling, social skills instruction, and mentoring. Smith found that the overall intervention program had a positive impact on the behavior of the students. A recent study by Musser et al. (2001) was employed to reduce disruptive classroom behavior among three SED African American students, 2 male and 1 female. The multicomponent intervention implemented consisted of precision requests, mystery motivators, classroom rules, teacher movement, token economy, and response cost. Because a single-case multiple baseline design was utilized, the results are difficult to generalize.

Results indicated that apparent treatment effects were evident for all of the students involved. Toward the end of the multicomponent intervention, teacher ratings of behavior decreased to within the normal range on all factors. Students and teachers alike indicated their satisfaction with the intervention (Musser et al., 2001). It was suggested

that a multicomponent intervention that involves precision requests, mystery motivators, token economy and response cost, and antecedent strategies is useful as a classroom-based intervention for reducing disruptive behaviors in students with emotional and behavioral disorders. In addition, this type of intervention is not only teacher friendly, but it is also cost-effective.

Another study by Waggy (2002) examined six behavior-disordered males between the ages of 11 and 13. These students exhibited an array of behaviors, including depression, attention-deficit hyperactivity disorder, aggression, self-abuse, and sexual acting out. Points were earned for on-task compliant behavior that could be used to buy token store items. In addition, a response-cost system was in place and points were taken away for off-task behaviors. Moreover, students were allowed to self-monitor as well.

The study that examined six behavior-disordered males employed a multicomponent intervention because of the various behavioral strategies utilized at once (Waggy, 2002). This allowed for more student interaction. As their behaviors changed, on-task behaviors increased, and off-task behaviors decreased. Therefore, the multicomponent intervention applied was effective in reducing off-task behaviors and is consistent with the study by Musser et al. (2001).

Bohanon et al. (2006) conducted a case study on the schoolwide application of positive behavior support in an urban high school. A total of 111 studies was employed for the 7-year period of 1997-2002. In this review, recent assessment-based intervention research involving the problem behavior of school-age individuals with disabilities was examined. The positive behavior-support strategies that were reiterated the most during the studies were the teaching of replacement skills, prevention of the probability of the problem behavior through antecedent strategies, and application of a multicomponent

intervention. Multiple interventions in comparison to a single intervention were generally reported. According to the data, 78.4% of the studies utilized more than one type of intervention and up to five interventions. There were two studies that reported using five of the seven intervention categories: Carr et al. and Dunlap and Fox (as cited in Fox, 2002). As stated by Carr et al. (1999), the most recurrent combinations of interventions were skill training along with positive consequences (19 studies); antecedent strategies plus positive consequences (18 studies); skill training, antecedent strategies, and positive consequences (12 studies); and all of the prementioned strategies along with professional development (7 studies). The research outcomes were substantial. At least 97.0% of the studies described reductions in behavior problems. In addition, 55.0% of those studies described increases in appropriate behavior.

The study by Stahr, Cushing, Lane, and Fox (2006) investigated the effects of a function-based intervention implemented on a student who had the following disabilities: attention-deficit hyperactivity disorder, behavioral problems, and a speech and language impairment. Data indicated that his off-task behavior continued due to attention (positive reinforcement) and escape from tasks (negative reinforcement). The researchers employed a number of behavior interventions that consisted of a communication system, self-monitoring element, and extinction. An overall improvement was displayed in the student's behavior.

Replacing problem behaviors. Warger (1999) asserted that challenging behavior of students is caused by systems, classroom settings, and lack of skills; in order to change behavior, the focus should center on these causes. An important strategy in positive behavioral support is to replace a student's problem behavior with new social and communication skills (Freeman et al., 2000). As well, teaching students how to utilize an

alternative response is a valuable strategy for minimizing behavior problems (Carr; Carr & Durand; Durand & Carr; Horner & Day; Horner, Sprague, O'Brien, & Heathfield; Mace & Roberts, as cited in Freeman et al., 2000).

Another way to ensure the efficiency of the new communication response involves decreasing the reinforcement a student receives while engaging in problem behavior (Reichle & Johnston, 1993; Shirley, Iwata, Kahng, Mazaleski, & Lerman, 1997). Sometimes it is difficult to prevent the student from obtaining the desired outcome when he or she engages in problem behavior (Reichle & Johnston). Decreasing the frequency and intensity of problem behavior sets the stage for strategies that involve increasing the time spent before a student engages in a communication response (Wacker et al., 1996).

Self-management strategies are defined as strategies that help students to achieve undertakings independently while changing their behavior (Bauer & Shea, 1999). Strategies that allow individuals to control their own behavior are considered necessary (Alberto & Troutman, 1999; Maag, 1999). Self-management strategies are proactive and may be implemented before the target behavior occurs. Furthermore, self-management strategies are effective in improving academic performance and time on task and decreasing behavior problems (Callahan & Rademacher, 1999; Hogan & Prater, 1993). Self-management interventions for students with disabilities tend to focus on self-control. The following are examples of self-management interventions: self-monitoring, self-reinforcement, and self-instruction

Self-monitoring typically entails the student monitoring, recording, and graphing his own behavior in order to detect growth (Maag, 1999). Self-monitoring can also be employed to assess on-task behavior (DiGangi, Maag, & Rutherford, 1991). According to

DuPaul and Stoner (1994), self-reinforcement is considered an internal activity as it "requires students to not only monitor their behavior but also to evaluate and reinforce their own performance" (p. 118). External self-reinforcement may include free time, socializing with friends, and free computer time. Self-reinforcement has allowed students to interact appropriately with peers, has increased on-task behaviors, and is attributed to increasing academic achievement among students with behavior disabilities. The beginning stage of self-management begins with the student developing a list of reinforcers to work towards achieving. Furthermore, as stated by Maag, when employing self-management strategies, it is vital to take notice of self-reinforcers that are applied in terms of the immediacy and quality of reinforcement. Self-management strategies are usually implemented as an element of a multicomponent intervention plan.

DuPaul and Eckert (as cited in Willie, 2002) conducted a meta-analysis of school-based interventions for students frequently exhibiting off-task behaviors. They found that contingency management and academic interventions were more effective than cognitive-behavioral systems in developing positive classroom behavior. Token reinforcement, contingency contracting, response cost, and time-outs are all examples of contingency management interventions (DuPaul, 1991, p. 87). It is best for these techniques to be implemented in the exact setting in which the negative behavior occurs. As indicated by DuPaul, significant improvement is noticed in self-management of behavior, academic achievement, and attention span when these techniques are employed simultaneously with other behavior management strategies. As stated by Gnagy and Pelham (1999), contingency management approaches when implemented correctly produce significant behavior changes in terms of on-task behavior in students with behavior difficulties as well. Approximately 63 outcome studies were incorporated in the meta-analysis. The

majority of the participants were male students who participated in inclusion classes at least 50% of the school day. It was found that, regardless of the experimental design utilized, school-based interventions had a significant impact on the students' behavior. The findings were further substantiated by Chronis, Pelham, and Wheeler (1998) and Gnagy and Pelham. Both reviews affirmed that behavior therapy and behavioral classroom interventions met criteria for treating students with attention-deficit hyperactivity disorder, which is a disorder for students who consistently display off-task behaviors.

Brown et al. (1999) created an intervention known as the classroom-centered intervention. It is a widespread intervention that centers on the improvement of teachers' behavior management strategies and academic enhancement. Weekly meetings are held for teacher collaboration and problem solving. As well, the family-school partnership intervention provides professional development in the way of communication and building partnerships. Teacher involvement is high. Teachers are required to complete at least 60 hours of training. They also receive an instruction manual on how to carry out each intervention correctly. The classroom-centered intervention has the most impact on increasing academic achievement and improving behavior.

The school intervention component of First Steps to Success, Contingencies for Learning Academic and Social Skills (CLASS; Hops & Walker, 1988), takes 30 days to implement and is consultant driven. CLASS is aimed at assisting students in overcoming behavior problems such as high magnitude disruptions or frequent off-task behaviors in the classroom. The program begins by awarding points to the student for exhibiting appropriate behaviors. Next, the consultant's function slowly fades out, and the teacher gains responsibility for awarding points. Then, the child's rewards consist of praise and

recognition. Eventually, the need for external rewards and points is phased out. The success of this program is attributed to the extensive amount of training that the consultants undergo. Walker, Severson, Feil, Stiller, and Golly (as cited in Hunter, 2002) asserted the program establishes positive behavioral results and the students convey extreme levels of satisfaction with CLASS.

Schoolwide programs have been increasingly effective in combating disruptive behaviors. For example, Nelson (1996) developed a schoolwide program intended to improve teachers' ability to work successfully with students with behavior disorders. Not only did the program goals center on the schoolwide organization, but they also focused on classroom management and individualized student behaviors. Results revealed apparent developments in school climate. There were considerable decreases in referrals following program implementation. Teachers reported that they were better equipped to work with students who displayed disruptive behaviors.

Chapter 3: Methodology

A quantitative methodology approach was utilized to address the dramatic increase in referrals during the 2005-2006 school year and overwhelming number of students receiving negative marks in self-control, social, and academic domains of the Excel daily point sheet as well as receiving below-average grades on report cards and progress reports. The quantitative methodology approach employs strategies of inquiry, such as experiments, and collects data on predetermined instruments that yield statistical data (Creswell, 2003).

The quantitative methodology approach uses unbiased approaches as well as standards of validity. Furthermore, it identifies the dependent and independent variables to study and verifies theories. Moreover, the quantitative methodology approach applies pre- and posttest measures of off-task behaviors. In addition, the problem identifies the interventions that will influence outcomes. The quantitative methodology approach is also effective for the purpose of observing and measuring off-task behaviors numerically. The quantitative methodology approach was used to answer the previously mentioned research questions (Creswell, 2003).

Participants

The participants for this study were selected using a nonrandom convenience sample. They consisted of 40 students whose primary label was SED, according to the Florida exceptional student education eligibility criteria. Male students represented approximately 93% of the sample, and female students accounted for approximately 7%. Forty percent were freshmen, 35% were sophomores, 15% were juniors, and 10% were in their senior year of high school. They ranged from 14 to 21 years of age. Of these students who participated in this inquiry, approximately 47.5% were African Americans,

47.5 were Caucasians, 2.5% were Hispanic, and 2.5% were other. All of the participants were enrolled in history classes.

Procedures and Instruments

Three research questions were developed for this applied dissertation. Terminal process objectives were developed for each research question. They are described in the following section. Research Question 1 states, how effective are individual intervention strategies on SED students as measured by referrals, time-outs, and daily point sheets? To address Research Question 1, the following terminal process objective was made: Individual intervention strategies are highly effective in reducing off-task behaviors in students labeled SED. There will be a 20% reduction in the number of referrals and time-outs received after the implementation of individual intervention strategies.

Research Question 2 states, how effective are multicomponent strategies on SED students as measured by referrals, time-outs, and daily point sheets? To address Research Question 2, the following terminal process objective was made: Multicomponent intervention strategies are highly effective in reducing off-task behaviors in students labeled SED. There will be a 50% reduction in the number of referrals and time-outs received after the implementation of multicomponent intervention strategies.

Research Question 3 states, what are the effects of individual intervention strategies in comparison to multicomponent intervention strategies on SED students as measured by referrals, time-outs, and daily point sheets? To address Research Question 3, the following terminal process objective was made: Multicomponent intervention strategies are more effective than the token economy alone in reducing off-task behaviors in students labeled SED. There will be at least a 25% difference in the number of referrals and time-outs received after the implementation of multicomponent intervention

strategies in comparison to the token economy alone.

The daily point sheet was used in this study to collect data on the number of off-task behaviors exhibited during the duration of both interventions. It was used to monitor achievement of behavioral and academic expectations for each level. Points were earned in three areas. Each area was composed of four explicit behaviors for which students could earn points. The areas and behaviors were as follows:

1. Self-control: mind your own business, appropriate language, physical control, and self-control target.

2. Social: peer interaction, adult interaction, respect property, and prosocial.

3. Academic: starts work, stays on task, completes work, and academic target.

If a student decided not to exhibit a particular behavior, he or she lost the chance to earn points. When a student earned the number of points required for his or her level, then he or she earned a star day. Every star day earned moved the student one day forward on that level. On the other hand, if a student did not earn the necessary number of points, he or she received a slip day. A slip day required the student to slip one day back on his or her level. Unexcused absences could result in a slip day. School suspensions (in or out of school) could cause a student to drop to the previous level (Day 1) or any other apposite action as established by the multidisciplinary team.

Time-out was employed in order to provide security for students, staff, and property while providing a monitored environment. The main purpose of the time-out was to return students to the least restricted setting as soon as possible. There were three major types of time-outs: nonexclusion time-out (in class), exclusion time-out (in class), and isolation or seclusion time-out (out of class).

The Excel behavior referral (see Appendix B) was utilized when the use of daily

point sheets and time-outs did not minimize inappropriate behaviors. According the Excel program guidelines, a referral was given when a student exhibited continuous aggression, self-injurious, or high-magnitude disruptive behavior. In addition, a student could receive a referral for walking out of bounds (i.e., the classroom).

The measurement instruments were validated as a result of the weeklong training each individual staff member received on the overall Excel program by certified personnel. Staff members were instructed on how to fill out the point sheets correctly. In addition, they were notified on what warranted a loss of points, a time-out, or referrals. Furthermore, information from the training was reiterated during various workshops as well as during weekly meetings. There was little margin for misuse.

A quantitative analysis of the effectiveness of token economies and multicomponent interventions occurred over a period of 18 weeks. A token economy was implemented in both first- and third-period classes during the first 9 weeks, and the multicomponent intervention was implemented in the second- and fourth-period classes. During the second 9 weeks, students in first- and third-period classes were exposed to the multicomponent intervention, whereas students in the second- and fourth-period classes encountered the token economy. The interventions were done in this way to account for residuals.

Interventions were expected to take place in all history classes. The independent variables in the study were the multicomponent intervention and token economy. The dependent variables were the amount of referrals and time-outs received as well as the amount of negative marks received in the self-control, social, and academic domains of the daily point sheet. In order to evaluate the effectiveness of the intervention strategies, baseline data were taken and assessed from the previous semester and start of the study.

During implementation, data were recorded through daily point sheets, number of referrals, time-outs, and staff observations. By utilizing a token economy, the amount of off-task behaviors decreased as measured by the pre- and postintervention daily point sheets, number of referrals, time-outs, and staff observations. However, after the application of the multicomponent intervention that encompassed various individual strategies, such as token-economy, response-cost, mystery-motivator, precision-request, and antecedent strategies, students had an even greater possibility for a significant reduction in the amount of off-task behaviors exhibited utilizing the same measurement tools as the individual strategies as measured by the comparison of daily point sheets, time-outs, and referrals from the start of the study to the end.

Limitations and Delimitations

The most obvious limitation of this study was the lack of attendance. Thirty percent of the students had poor attendance rates. Therefore, it was difficult to assess data. In addition, this study was delimited because a paraprofessional assisted in the data-collection process. Although she received a significant amount of training, there was room for some subjectivity.

Chapter 4: Results

Students who exhibit large rates of off-task behaviors are in jeopardy of performing poorly on independent and group assignments as well as attending to teacher instruction (DuPaul, Ervin, Hook, & McGoey, 1998). Those who display higher than normal rates of off-task behavior in classroom settings run the greatest risk for academic underachievement (Barkley, Fischer, Edelbrock, & Smallish, 1990). The problem for this research study was that the number of students receiving Excel referrals increased from August 2006 to December 2006 by over 600%. Furthermore, 35% of the students in the history class received below-average grades and negative marks on their daily point sheet. Chapter 4 presents the findings of the study. The purpose of this study was to determine which type of strategy was the most effective in minimizing off-task behaviors and maximizing students' academic achievement with students exhibiting serious emotional disturbance who have been placed in the Excel program. The target behaviors of interest were students' participation in class; amount of time on task; showing respect to themselves, peers, and teachers; and completion of class work. Additionally, the study sought to compare the number of referrals, time-outs, zeros on the social-emotional domain of the daily point sheet, and grades received from the first semester of the 2006-2007 school year to the second semester where the behavior interventions were employed.

Token economies and multicomponent interventions that consisted of mystery motivators, antecedent strategies, extinction, response cost, and token economies were utilized in this study. The students participating in this study were all enrolled in the Excel program, were identified as SED, and were chosen based on their enrollment in the Excel program. Students labeled SED generally had difficulty achieving academically or developing positive relationships. They usually had problems in these areas: appeared

unhappy or depressed; acted inappropriate under normal circumstances; often developed physical symptoms, such as pains or fears; and commonly were excessive in their behavior, which could have been hyperactive, aggressive, withdrawn, defensive, and insecure or disorganized. Normally, these characteristics are severe enough to require a specialized program with added services. Of the students participating in the study, each participant was asked to turn in informed consent forms.

Target Population

A total of 41 students were eligible for the study. However, only 56% or 23 of the Excel students participated in the study.

Ethnicity

The ethnicity of the students who participated in the study is represented in Table 4. Of the students who participated in the survey, 60% were Black, not Hispanic, and 40% were White, not Hispanic.

Gender

Gender of the students who participated in the study is represented in Table 5. Of the students, 87% were male, and 13% were female.

Grade Level

The grade level of the students who participated in the study is represented in Table 6. Of the students, 45% were 9th graders, 25% were 10th graders, 10% were 11th graders, and 20% were 12th graders.

Findings With Regard to the Research Questions

Findings are reported for each of the three research questions posed in this study. In the descriptions that follow, the research questions are restated as terminal objectives. The findings are presented after each terminal objective is stated. The research questions

are grouped in numerical order as stated in chapter 1.

Table 4

Ethnicity of Students

Ethnicity	Frequency	Percentage
Alaskan	0	0
Asian	0	0
Black, not Hispanic	14	60
Hispanic	0	0
Native American or Indian	0	0
Pacific Islander	0	0
White, not Hispanic	9	40

Table 5

Gender of Students

Gender	Frequency	Percentage
Male	20	87
Female	3	13

Research Question 1. Research Question 1 states, how effective are individual intervention strategies on SED students as measured by referrals, time-outs, and daily point sheets? To address Research Question 1, the following objective was made: Individual intervention strategies are highly effective in reducing off-task behaviors in students labeled SED. There will be a 20% reduction in the number of referrals and time-

outs received after the implementation of individual intervention strategies.

Table 6

Grade Level of Students

Grade	Frequency	Percentage
9	10	45
10	6	25
11	2	10
12	5	20

The objective was satisfied. Individual intervention strategies were effective in minimizing off-task behaviors. According to Martin (1999), during the implementation of a token economy, students will exhibit off-task behaviors less often or not at all and will engage in positive, adaptive behaviors more frequently. For the purpose of analyzing this question, a token economy alone was incorporated into the classroom by the use of tokens worth $1 each. When a student was found to exhibit on-task behaviors, such as walking into the classroom quietly and beginning bell work or sitting at the desk completing class work and not engaging in negative behavior, he or she received a token. The tokens were then traded for desirable items such as food or computer time.

The data used to analyze this objective were drawn from the number of referrals, time-outs, and zeros received on the self-control and social domains of the daily point sheet as well as the grade received during the third 9 weeks. Results of the referrals, time-out logs (see Appendix C), and daily point sheets indicated the increase or decrease in off-task behaviors.

There were 45 total referrals written in the first and third periods during a 9-week period. During second and fourth period, there were 61 referrals written. As shown in Table 7, the mean number of referrals written during the time of implementation of the individual token economy averaged 13 per week. The mean number of referrals in first and third periods was 5, and the mean in second and fourth periods was much higher at 8. When comparing the mean number of referrals from the previous 9 weeks of the 2005-2006 school year to the 2006-2007 school year, there was a 15% reduction in the number of referrals received. In addition, in comparing the overall percentage on average of the number of referrals received in the history classes where the token economy was implemented, there were 20% fewer than the average of referrals received in the other core area classes (i.e., math, English, science, and reading).

Table 7

Token-Economy Referrals Received Weekly

Period	2005-2006	2006-2007
1	2	2
2	6	5
3	4	3
4	3	3

The total number of in-class time-outs before the implementation of the token economy averaged 25 per week. After the implementation of the token economy, the number of time-outs was reduced by 20% or 45 time-outs. The mean number of time-outs received during the first and third periods during the 2005-2006 school year was 9 per

week. Table 8 reveals that referrals were reduced to 7 per week after the implementation of the individual token economy. The mean number of time-outs in the second and fourth periods before implementation was 16. After the implementation of the individual token economy, the number reduced by 28% or 40 time-outs. History class averaged 15% of the overall in-class time-outs recorded during the 2005-2006 school year. The average was reduced by 12% after the introduction of the token economy.

Table 8

Token-Economy In-Class Time-Outs Received Weekly

Period	2005-2006	2006-2007
1	4	3
2	10	8
3	5	4
4	6	5

Out-of-class time-outs (secure time-outs) during the 2005-2006 school year mirrored the number of referrals received (see Table 9). There were 54 total out-of-class time-outs received in the first and third periods during a 9-week period. During the second and fourth periods, there were 81 time-outs administered. The mean number of time-outs given during the time of implementation of the individual token economy averaged 13 per week. The mean number of time-outs in first and third periods was 5, while the mean in the second and fourth periods was much higher at 8. When comparing the mean number of time-outs from the previous 9 weeks of the 2005-2006 school year to the 2006-2007 school year, there was approximately a 15% reduction in the number of

time-outs received. In addition, in comparing the overall percentage on average of the number of time-outs received in the history classes where the token economy was implemented was 20% less than the average of time-outs received in the other core area classes (i.e., math, English, science, and reading).

Table 9

Token-Economy Out-of-Class Time-Outs Received Weekly

Period	2005-2006	2006-2007
1	2	2
2	6	5
3	4	3
4	3	3

The number of zeros received on the social emotional domain of the daily point sheet in history classes during the 2006-2007 school year decreased from 262 during the 2005-2006 school year to 200 after implementation, which is a reduction of about 24% (see Table 10). The first and third periods received approximately 35% of the total number of zeros on the daily point sheet during the 2005-2006 school year. The second and fourth periods received 65% of the zeros on the daily point sheet in the same year. After implementation of the individual token economy, the number of zeros on the daily point sheet was reduced by approximately 29% in the first and third periods and approximately 20% in the second and fourth periods. In comparison to the 319 zeros received on the daily point sheet in the other core areas, there was a difference of 37% fewer zeros received on the daily point sheet after implementation.

Table 10

Token-Economy Number of Zeros Received on the Social-Emotional Domain

Period	2005-2006	2006-2007
1	47	34
2	118	91
3	45	32
4	52	43

Research Question 2. Research Question 2 states, how effective are multicomponent strategies on SED students as measured by referrals, time-outs, and daily point sheets? To address Research Question 2, the following objective was made: Multicomponent intervention strategies are highly effective in reducing off-task behaviors in students labeled SED. There will be a 50% reduction in the number of referrals and time-outs received after the implementation of multicomponent intervention strategies.

The objective was met. Multicomponent intervention strategies were extremely effective in reducing off-task behaviors. In accordance with Waggy (2002), on-task behaviors increased and off-task behaviors decreased throughout the implementation of the multicomponent intervention. For the purpose of analyzing this question, a token economy was incorporated into the classroom by the use of tokens worth $1 each as well as mystery motivators, antecedent strategies, extinction, and response cost. When students were found exhibiting on-task behaviors, such as actively participating in classroom discussions or sitting at the desk completing class work and not engaging in

negative behavior, they received a token that could be traded for desirable items such as a free homework pass. As well, their name was put into a jar for a drawing at the end of the week for a chance to win the mystery motivator.

In addition to the token economy and mystery motivator, response-cost strategies were employed. If students refused to comply with classroom rules, points were taken away as a consequence for engaging in disruptive behaviors and being noncompliant with their teacher's requests. Antecedent strategies were utilized by assigning students to specific seats in the classroom. Extinction was developed by no longer reinforcing previously reinforced behavior. For example, the frequency of tokens given for off-task behaviors eventually decreased from several times a period to once a week. As well, the number of times that they were allowed to have their name put into the jar decreased from several times a period to only once a period.

The data used to analyze this objective were drawn from the number of referrals, time-outs, and zeros received on the self-control and social domains of the daily point sheet as well as the grade received during the third 9 weeks. Results of the referrals, time-out logs, and daily point sheet indicated the increase or decrease in off-task behaviors.

There were 45 total referrals written in the first and third periods during a 9-week period (see Table 11). During the second and fourth periods, there were 61 referrals written. The mean number of referrals written during the time of implementation of the multicomponent interventions averaged 5 per week. The mean number of referrals in the first and third periods was 2, while the mean in the second and fourth periods was 3. When comparing the mean number of referrals from the previous 9-week period of the 2005-2006 school year to the 2006-2007 school year, there was approximately a 67% reduction in the number of referrals received. In addition, in comparing the overall

percentage on average of the number of referrals received in the history classes where the multicomponent interventions were implemented, there were 10 fewer than the average of referrals received in the other core area classes (i.e., math, English, science, and reading).

Table 11

Multicomponent Intervention Referrals Received Weekly

Period	2005-2006	2006-2007
1	2	1
2	6	2
3	4	1
4	3	1

The total number of in-class time-outs before the implementation of the multicomponent interventions averaged 25 per week (see Table 12). After the implementation of the multicomponent interventions, the number of time-outs was reduced by 60% or 135 time-outs.

The mean number of time-outs received during the first and third periods during the 2005-2006 school year was 9 per week. After the implementation, the average reduced to 4 per week. The mean number of time-outs in the second and fourth periods before implementation was 16. After the implementation of the multicomponent intervention, the number reduced by 63% or 90 time-outs. History class averaged 15% of the overall 1,500 in-class time-outs recorded during the 2005-2006 school year. After the introduction of the multicomponent interventions, the history classes averaged only 6%

of the total time-outs for the Excel program.

Table 12

Multicomponent Intervention In-Class Time-Outs Received Weekly

Period	2005-2006	2006-2007
1	4	2
2	10	4
3	5	2
4	6	2

Out-of-class time-outs (secure time-outs) during the 2005-2006 mirrored the number of referrals received (see Table 13). There were 47 total out-of-class time-outs received in the first and third periods during a 9-week period. During the second and fourth periods, there were 61 time-outs administered. The mean number of time-outs given during the time of implementation of the multicomponent interventions averaged 5 per week.

The mean number of time-outs in the first and third periods was 2, and the mean number of time-outs in the second and fourth periods was significantly reduced to 3. When comparing the mean number of time-outs from the previous 9-week period of the 2005-2006 school year to the 2006-2007 school year, there was a 67% reduction in the number of time-outs received. In addition, in comparing the overall number of time-outs received in the history classes to the number of time-outs received after the implementation of the multicomponent intervention, there were 108 fewer time-outs received in the other core area classes (i.e., math, English, science, and reading).

Table 13

Multicomponent Intervention Out-of-Class Time-Outs Received Weekly

Period	2005-2006	2006-2007
1	2	1
2	6	2
3	4	1
4	3	1

The number of zeros received on the social-emotional domain of the daily point sheet in history classes during the 2006-2007 school year decreased from 262 during the 2005-2006 school year to 129 after implementation, which is a reduction of roughly 51% (see Table 14). The first and third periods received approximately 35% of the total number of zeros on the daily point sheet during the 2005-2006 school year. The second and fourth periods received 65% of the zeros on the daily point sheet in the same year. After implementation of the multicomponent intervention, the number of zeros on the daily point sheet was reduced by approximately 52% in the first and third periods and approximately 50% in the second and fourth periods. In comparison to the 319 zeros received on the daily point sheet in the other core areas, there was a difference of 60% fewer zeros received on the daily point sheet after implementation.

Research Question 3. Research Question 3 states, what are the effects of individual intervention strategies in comparison to multicomponent intervention strategies on SED students as measured by referrals, time-outs, and daily point sheets? To address Research Question 3, the following objective was made: Multicomponent

intervention strategies are more effective than the token economy alone in reducing off-task behaviors in students labeled SED. There will be at least a 25% difference in the number of referrals and time-outs received after the implementation of multicomponent intervention strategies in comparison to the token economy alone.

Table 14

Multicomponent Number of Zeros Received on the Social-Emotional Domain

Period	2005-2006	2006-2007
1	47	23
2	118	65
3	45	21
4	52	20

The objective for Research Question 3 was met. Multicomponent interventions were more effective than the token economy alone in reducing off-task behaviors. Reviews by Gnagy and Pelham (1999) supported these findings; combined treatments for students who exhibit off-task behaviors are well-established treatments. For the purpose of analyzing this question, the data from the token economy alone were compared to the data from the multicomponent intervention. The data used to analyze this objective were drawn from the number of referrals, time-outs, and zeros received on the self-control and social domains of the daily point sheet. Results of the referrals, time-out logs, and daily point sheet indicate whether the token-economy or the multicomponent intervention had the greater effect on decreasing off-task behaviors.

In regard to the token economy, there were approximately 5 total referrals written

weekly in the first and third periods during a 9-week period (see Table 15). During the second and fourth periods, there were 8 referrals written weekly. The average number of referrals written during the time of implementation of the token economy averaged 13 per week. In comparison, throughout the implementation of the multicomponent intervention, the mean number of referrals in first and third periods was 2, while the mean in the second and fourth periods was 3. The overall number of referrals written weekly during the multicomponent intervention was 5. When comparing the mean number of referrals from the token economy to the multicomponent intervention, there were approximately 8 fewer referrals received weekly during the implementation of the multicomponent intervention.

Table 15

Comparison of Referrals Received Weekly

Period	Token economy	Multicomponent
1	2	1
2	5	2
3	3	1
4	3	1

The total number of in-class time-outs received weekly throughout the implementation of the token-economy alone averaged 20 per week period (see Table 16). In comparison to the multicomponent interventions, the number of time-outs differed by 50%. The mean number of time-outs received during the implementation of the token economy alone in the first and third periods was 7, and the mean for the second and

fourth periods was 13. However, during the implementation of the multicomponent interventions, the average number of weekly time-outs during the first and third periods was 4, and the mean for the second and fourth periods was 6.

Table 16

Comparison of In-Class Time-Outs Received Weekly

Period	Token economy	Multicomponent
1	3	2
2	8	4
3	4	2
4	5	2

Out-of-class time-outs (secure time-outs) during the implementation of both the token economy and the multicomponent intervention mirrored the number of referrals received (see Table 17). In relation to the token-economy, there were 5 total out-of-class time-outs received in the first and third periods, while 8 were administered during the second and fourth periods.

The mean number of out-of-class time-outs given during the time of implementation of the multicomponent interventions averaged 5 per week. The mean number of time-outs in the first and third periods was 2, and the mean number of time-outs in the second and fourth periods was significantly reduced to 3. When comparing the mean number of out-of-class time-outs during the implementation of the token economy alone to the multicomponent interventions, there was a 62% difference in the number of out-of-class time-outs received.

Table 17

Comparison of Out-of-Class Time-Outs Received Weekly

Period	Token economy	Multicomponent
1	2	1
2	5	2
3	3	1
4	3	1

The number of zeros received on the social-emotional domain of the daily point sheet in history classes during the implementation of the token economy averaged 200, and the multicomponent interventions averaged only 129, a 36% difference (see Table 18).

Table 18

Comparison of Zeros Received on the Social-Emotional Domain

Period	Token economy	Multicomponent
1	34	23
2	91	65
3	32	21
4	43	20

In regard to the token economy, the first and third periods received approximately 66 zeros on the social-emotional domain of the daily point sheet, whereas the second and

fourth periods received 134 of the zeros. In contrast, during the multicomponent interventions, the number of zeros on the daily point sheet in the first and third periods was 46, and in the second and fourth periods, it was 85.

Chapter 5: Discussion

Introduction of the Dissertation

The overall findings of this study indicated that the implementation of multicomponent interventions in history classes significantly reduced off-task behaviors as measured by referrals, time-outs (in class and out of class), and zeros received on the social-emotional domain of the daily point sheet. The results revealed that the implementation of the token economy alone reduced off-task behaviors, but it was the combination of the token economy with other behavior management strategies that had the most impact on reducing off-task behaviors. The data exceeded expected outcomes.

Implementation and Actual Findings

A token economy alone was implemented for a 9-week period during the first and third periods, and a multicomponent intervention was implemented in the second and fourth periods. For the following 9-week period, the interventions were reversed to account for residuals. Token economies alone reduced off-task behaviors. Overall, however, the multicomponent intervention exhibited the greatest reduction in off-task behaviors.

Summary of Methodology

This action research study evaluated the number of off-task behaviors exhibited by students with SEDs in history classes as measured by referrals, time-out logs, and zeros received on the Excel daily point sheets. *Action research* is a catchall label for research done by teachers, administrators, and other on-site educators to address their concerns and needs at the school level (Kemmis, 1993). Additionally, quantitative methodology was employed in this study. The quantitative data can be found in Tables 1 to 18. The rationale for selecting the quantitative method was due to the measurement

tools (daily point sheets, referrals, and time-outs) that this study employed to find the answers to the following questions:

1. How effective are individual intervention strategies?

2. How effective are multicomponent strategies?

3. What are the effects of individual intervention strategies in comparison to multicomponent intervention strategies?

Action research appropriately addressed the problem and research questions presented in this study because it was conducted by an educational practitioner in a school setting to resolve matters of concern in this particular setting (Kemmis, 1993).

The actual findings revealed a significant decrease in the number of referrals, time-outs, and zeros received on the social-emotional domain of the daily point sheet. Both behavior interventions, token economy alone and multicomponent intervention strategies, revealed a decrease in off-task behaviors. However, the most significant decrease was noticed by the implementation of the multicomponent intervention. For instance, the number of referrals decreased on average by 67%, in-class time-outs were reduced by 60%, and the number of zeros received on the social domain of the daily point sheet was reduced by approximately 51%.

Measurable Outcome Evaluations

This study was conducted with three specific goals in mind. First, students in the Excel program would decrease the number of off-task behaviors by at least 60% in the history classes. Second, the number of referrals would decrease after the implementation of interventions by 50%. Third, in-class and out-of-class timeouts would be reduced by 50% as well.

Implications of the Findings

The purpose of this study was to determine which type of strategy was the most effective in minimizing off-task behaviors and maximizing students' academic achievement with students exhibiting serious emotional disturbance who had been placed in the Excel program.

The meaning and interpretation of these findings in terms of what this study set out to accomplish was addressed after the results revealed that multicomponent interventions, which consisted of token economy, mystery motivator, antecedent strategies, extinction, and response cost, overwhelmingly reduced off-task behaviors in class. As a result of these findings, all three objectives were met. According to the findings, there were significant decreases in the number of in-class and out-of-class time-outs, number of referrals received, and zeros received on the daily point sheet.

The findings of this study compared favorably with the results of other researchers referenced in this study (i.e., Bennett & Smith, 1992; Codon & Tobin, 2001). The outcomes of this study appear to be consistent with those found in the literature as well. The implementation of behavior interventions that employed at least two behavior strategies significantly reduced off-task behaviors in students with behavior difficulties.

Discussion of the Conclusion

An important accomplishment of this study was that the implementation of multicomponent interventions significantly impacted student behavior in a positive way by reducing off-task behaviors. If the school principal and administrative team members decide to implement multicomponent intervention strategies within each individual class, this might improve the overall behavior of students in the Excel program in other classes as well as improve academic achievement due to the increased time on task.

Limitations of the Study

Several limitations were noticed in this study. The most obvious limitation of this study was the lack of attendance. Students in the Excel program were absent on average 10 days during the semester. In addition, this study was delimited because the paraprofessional assisted in the data-collection process. Training was administered on the behavior management system employed; however, there remained room for subjectivity. Other variables that must be considered as well are that the students received mental health therapy weekly and were participating in a highly structured program specialized for students with severe emotional disorders. In addition, approximately 10% of the students took medication to help manage their behaviors. These variables may well have been a contributing factor to the study participants' behavioral success.

Because this study was localized and targeted to a narrow segment of the total population of students in other Excel programs throughout the city, the data will not give a true account of the reliability and validity of the measure. Reliability refers to the ability of a measure to produce consistent results. Validity indicates that a measure in fact measures what it purported to measure. The available information regarding the measurement instruments' reliability and validity in this study was limited in data collection because the existing literature on the instruments is limited. This shortcoming in the study could not be avoided and will be addressed in the following recommendations.

Recommendations for Further Research and Practice

The following recommendations could benefit others conducting further research on the topic:

1. Professional development on current behavior management strategies should

take place so that the components of the multicomponent intervention remain effective. Additionally, educators require an increased awareness of the variety of strategies that exist to develop the most favorable learning environment for all students. Educators need not be timid in implementing multicomponent intervention plans in the classroom as previous research (Bloomquist & Schnell, 2002; Sentelle, 2003; Willie, 2002) supported using a combination of behavioral interventions. With an increased understanding of effective behavior interventions, including multicomponent interventions, classroom teachers will be equipped with the necessary instruments required for raising student achievement.

2. Further research relating to the effectiveness and implementation practices of multicomponent interventions to reduce or eliminate disruptive behaviors in the classroom should commence. Specifically, this research could have a huge significance for students with behavior disabilities. More research is needed to establish the usefulness of single components and which combinations can be most successful. Additionally, more research is considered necessary to further confirm the overall effectiveness of multicomponent interventions.

3. The recommendation is for this study to be replicated to include more schools. The rationale for these recommendations is based on the literature published by others in the field of special education and results of this study. By replicating this study in more schools, the validity of the study will be confirmed as well as the determination of whether this study is successful in other less structured settings. In addition, the participation rate of the students will be much larger, yielding participants who may mimic the general population and provide more accurate results.

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Appendix A

Excel Daily Point Sheet

EXCEL DAILY POINT SHEET

Name: _____ Date:_____ Level: _____ Day: _____

L1 = 83 L2=88 L3 = 94 L4 = 100

SELF-CONTROL:	**B**	**1**	**2**	**3**	**L**	**4**	**5**	**6**	**TOTAL**
M.Y.O.B									
Appropriate Language									
Physical Control									
T1:									

SOCIAL:	**B**	**1**	**2**	**3**	**L**	**4**	**5**	**6**	**TOTAL**
Peer Interaction									
Adult Interaction									
Respect Property									
Pro-Social:									

ACADEMIC	**B**	**1**	**2**	**3**	**L**	**4**	**5**	**6**	**TOTAL**
Starts Work									
Stays On Task									
Completes Work									
T2:									

STAR DAY **SLIP DAY**

Point Sheet Returned: Y N _____ Point Total: _____

Meds Taken: Y N _____ Bus A. M.: _____ Bus P.M.: _____

Time Outs: # in class: _____ # out of class: ____ PCM: Y N _____

Homework:_____
TeacherComments:_____
_____
_____
_____
_____
_____
Parent Comments:_____
_____
_____
_____

Appendix B

Excel Behavior Referral

EXCEL BEHAVIOR REFERRAL

Student Name _____ Date ____/____/____

Teacher _____ Time __:__ (A.M./P.M.)

The above student's behavior has been disrupting the class and the teacher's ability to provide meaningful instruction. The observed behavior is as follows:

_____

_____

_____

Step 1: Classroom Interventions: * required prior to referral

_____ *Warning _____ Redirection

_____ *Loss of Points _____ Modify Activity

_____ *Time-Out for _____ minutes _____ Refused Classroom Time-Out

_____ Parent Contact _____ Other_____

Step 2: Student Referred to Intervention

_____ Student Conference__

_____ Parent Conference

_____ Other _____

Step 3: Disciplinary Action Taken:

_____ Independent work assigned in the Intervention office area

_____ Intensive supervision for ____minutes

_____ Secure Time-Out for ____minutes

_____ ISSP: How Long? _____(Parent called by _____)

_____ Other _____

_____
Interventionist/Site Director

White: Intervention Yellow: Teacher Pink: Parent

Appendix C

In-Class Time-Out Log

IN CLASS TIME OUT LOG

TEACHER:_____ Week of ___/___/___ to ___/___/___