Theses and Dissertations

7-9-2014

Using ipads to self-monitor aggressive behavior of juvenile delinquents

Helena Nieman

Let us know how access to this document benefits you - share your thoughts on our feedback form.

**USING IPADS TO SELF-MONITOR AGGRESSIVE BEHAVIOR OF JUVENILE
DELINQUENTS**

by
Helena Vanessa Nieman

A Thesis

Submitted to the
Department of Language, Literacy, & Special Education
College of Education
In partial fulfillment of the requirement
For the degree of
Master of Arts in Special Education
at
Rowan University
May 2014

Thesis Chair: Joy Xin, Ed.D.

Dedication

I would like to dedicate this manuscript to my cousin, Helena Vermandel, who supported me with strength, love, and faith always.

Acknowledgements

Abstract

Helena Vanessa Nieman
USING IPADS TO SELF-MONITOR AGGRESSIVE BEHAVIOR OF JUVENILE
DELINQUENTS
2013/14
Joy Xin, Ed.D.
Master of Arts in Special Education

The purposes of this study were to: a) examine the effects on self-monitoring using iPads

for juvenile delinquents, b) increase appropriate behaviors and reduce verbal and physical

aggression, and c) evaluate student satisfaction with the self-monitoring approach using

iPads in behavior management. The participants included five African-American

adjudicated males, aged 13, in a day treatment facility. They were instructed to self-

monitor their behaviors using an iPad app to learn three appropriate behaviors including:

1) using appropriate language, 2) keeping hands to self, and 3) calming down when upset.

A single subject design with ABAB phases was used for six weeks. A survey was given

at the end to evaluate their satisfaction. Results showed that the use of iPads for self-

monitoring yielded an increase in positive, non-aggressive behaviors. Students'

responses in the survey revealed a 100% of satisfaction.

Table of Contents

List of Figures

List of Tables

Chapter 1

Introduction

Statement of Problems

According to the Office of Juvenile Justice and Delinquency Prevention (OJJDP, 2009), nearly 2 million youths are arrested each year, 35% of whom participate in special education programs because of their disabilities, which is considerably higher than that of the general population (Sander, Patall, Amoscato, Fisher, & Funk, 2012). When working with this particular group of students, juvenile offenders with disabilities, encouraging proper behaviors in the classroom is paramount to maximizing the learning environment. For security and safety, it is necessary to quickly identify their undesirable behaviors and to provide strategies to correct them.

Psychological or behavioral risk factors that may make juveniles more likely to offend include learning problems, language delays, impulsiveness, restlessness, aggressive behaviors, lack of empathy and emotional control such as anger control, and cruelty to others (Wikipedia, 2013). In terms of aggressive behaviors, verbal aggression is generally the precursor to physical aggression. For example, they go back-and-forth with each other using verbal insults and bullying that often lead to a physical confrontation. These behaviors have the potential to develop into patterns. Violent behavior is developed when biological, environmental, psychological, and social factors come together in patterns of behavior. It is found that carrying patterns of aggressive behavior into adulthood results in criminal conduct and incarceration with reoffending of this criminal behavior as high as 50% (Gaines & Barry, 2008). Almost all incarcerated adults have a history of delinquency and aggressive behaviors (Gaines & Barry, 2008).

Thus, finding ways to decrease aggressive behaviors is imperative for educators of juvenile delinquents to discontinue these patterns so that the rate of crimes could be reduced and their future lives in adulthood could be normal.

In the past, there were some programs developed for juvenile delinquents to decrease problem behaviors, such as verbal and physical aggression. According to Feinstein (2003), Positive Behavior Support (PBS) serving as school and classroom- wide support and on an individual basis to encourage behavior changes in students with disabilities. In implementing PBS, students are provided an opportunity to learn an appropriate behavior to replace the inappropriate in order to diminish problem behaviors (Feinstein, 2003). Corrective Thinking Training, a cognitive behavioral intervention, is intended to help individuals develop responsible thinking of their behaviors (Bye & Schillinger, 2005). Following the training, students need to learn the different levels of thinking, how this thinking affects the choices made, and what the outcomes are from those choices. As a result of the training, learners showed a decrease in delinquent or anti-social behaviors (Bye & Schillinger, 2005). Aggression Replacement Training (ART) is another strategy to help aggressive youngsters learn pro-social behaviors (Hollin, 2003). Through skills training, such as emotional control and moral reasoning, these young people learn how to perceive social cues and signals, think about their behavior, and act in a nonaggressive way (Hollin, 2003). A Victim Awareness Program (VAP) is noted to improve pro-social behavior of juvenile delinquents (Putnins, 1997). By analyzing criminal behavior through the victim's perspective, learners were found to increase in socio-moral measure, which has been linked to pro-social behavior among adolescents (Putnins, 1997).

Self- monitoring is considered to be one of the first steps to self- regulated behavior (Rafferty, 2010). During self- monitoring, students are expected to evaluate their own behavior based on certain criteria set up by the teacher. The process of self-monitoring includes: 1) identifying the target behavior, 2) operationally defining the target behavior, 3) collecting baseline data, 4) determining if it is an appropriate behavior to remediate, 5) designing procedures and all materials, 6) teaching the student how to self- monitor, 7) monitoring student's progress, and 8) fading the intervention (Rafferty, 2010). The content of the self-monitoring can vary depending on the individual student's needs. Rewards can be provided to encourage students' performance in class and accurate and trustworthy results that are similar to the teacher's monitoring of the student's behavior. It has found that giving students an opportunity to take the responsibility of monitoring their own behavior, their appropriate behaviors are increased (Rafferty, 2010).

Self- monitoring was found to be used with juvenile delinquents in a residential juvenile justice program (Gaines & Barry, 2008). In this program, an isolated breathing exercise (RBE) was provided to introduce self- monitoring of curse words in order to increase impulse control and reduce the cursing behavior (Gaines & Barry, 2008). As a result, some participants demonstrated appropriate behaviors, though the finding is mixed (Gaines & Barry, 2008).

Using technology in self- monitoring is a new avenue in recent years. In Gulchak's study (2008), an eight year old with emotional and behavioral disorders was taught to self-monitor his off- task behavior over a one hour period using a mobile handheld computer. It was found that the student was able to increase his on- task

behavior by giving himself credit for every 30 second interval during which he remained on task (Gulchak, 2008). In another study (Szwed & Bouck, 2013), three elementary students, who had either an emotional disability or behavioral challenges, were taught self- monitoring skills using student response systems (SRS), a computer based responding method with a remote panel, to increase on- task behaviors in an inclusive classroom. It is found that students' off- task behavior decreased, and teachers and students liked the technology as a useful tool in managing behaviors by self- monitoring their own responses with the remote panel (Szwed & Bouck, 2013).

It seems that technology can be a tool incorporated with self- monitoring for students to manage their behaviors. Although it has been applied for students with emotional or behavioral problems, little research has been conducted for juvenile delinquents. Advanced technology, especially handheld devices such as iPads, may be a potential in self- monitoring for juvenile delinquent students.

Significance of the Study

Using technology, especially iPads, creates a new path for teachers in the classroom. IPads are used as assistive technology to acquire academic skills for students with disabilities (e.g. Burton, Anderson, Prater, & Dyches, 2013). To date, little research has been conducted with iPads for juvenile delinquents to learn self- monitoring skills. Thus, self- monitoring of adolescent juvenile delinquents using iPads may be a potential to increase their appropriate behaviors, considering the aggressive behaviors of this group of students. Using technology for these students to create another avenue in the area of behavior management may be significant. This study attempts to use iPads with self- monitoring for juvenile delinquents to reduce their aggressive behaviors.

Statement of Purpose

The purposes of this study are to: a) examine the effects of a self-monitoring approach with the use of iPads for juvenile delinquents in classrooms, b) reduce their verbal and physical aggressive behaviors, and c) evaluate student satisfaction with the self-monitoring approach using iPads in behavior management.

Research Questions

The research questions are presented as follows.

1. Will their verbal and physical aggression in the classroom be reduced when using iPads for self- monitoring for adolescent juvenile delinquents?

2. Will their positive verbal interactions increase in the classroom when using iPads for self- monitoring for adolescent juvenile delinquents?

3. Will students be satisfied with the use of iPad self- monitoring in behavior management?

Chapter 2

Review of the Literature

Juvenile delinquents present challenging behaviors in the classroom such as impulsiveness, restlessness, aggression, lack of emotional control, and difficulty forming and sustaining relationships with others (Wikipedia, 2013). Using self-monitoring strategies can be a way to engage these students in managing their own behaviors and to learn appropriate behaviors. This chapter reviews related research on self-monitoring for students, especially juvenile delinquents, as well as the potential of using technology in self-monitoring, such as iPads.

Juvenile Delinquent Students

Juvenile delinquents are deficient in socio-cognitive skills, such as reduced reflectiveness (lack of forethought of consequences), poor empathic ability, immature socio-moral reasoning, and distorted thinking (Putnins, 1997). In addition, 35% of juvenile delinquents are placed in special education programs to receive services, much more than that of the general population (Sander et. al, 2012). Some juvenile delinquents suffer from emotional and behavioral disorders (EBD), and others present inappropriate behaviors such as talking out, out of seat, non-compliance, and aggression (Gulchak, 2008). Their aggressive behaviors are often shown through their inappropriate language (profanity) towards peers and teachers, creating a disrupted classroom environment and negatively affecting learning. Many juvenile delinquents have low academic skill which has been associated with higher rates of delinquency (Sander et. al, 2012). Also, their aggressive behavior may result in patterns of criminal activity and incarceration over a lifetime (Gaines & Barry, 2008). Programs developed for juvenile delinquents to

decrease problem behaviors, such as verbal and physical aggression include Positive

Behavior Support (PBS), Corrective Thinking Training, Aggression Replacement

Training (ART), and Victim Awareness.

Positive Behavior Support (PBS) is a student-centered approach that depends on

the use of positive strategies to provide the opportunity for students to learn appropriate

behaviors (Wheeler & Richey, 2010). In Feinstein's study (2003), PBS was implemented

in a juvenile correctional facility for incarcerated males 14 to 18 years of age with an

average stay of 9 months to determine its effectiveness in changing behaviors. Their

common offenses included drug dealing, fire starting, and auto theft. During the study,

PBS was implemented school-wide as teachers in the education program took

responsibilities for rating the students every 45 minutes throughout the school day on

their behavior. The students were rated from 1 the lowest to 5 the highest, 3 for

acceptable behavior (participation and completing assigned work), 1 and 2 were problem

behaviors (no cooperation, no work completed, being removed from room), and 4 and 5

were exemplary (few prompts, working well with peers). Rewards were given on an

incremental basis: hourly, daily, and monthly. At the same time, peers were responsible

for holding each other accountable for their own behaviors, and a group discussion

followed to select alternate ways to replace the inappropriate behavior. Results showed

that these students learned the appropriate behavior to substitute the inappropriate

(Feinstein, 2003).

Corrective Thinking Training was another program used to help individual

students develop responsibility to think of their behaviors. In Bye and Schillinger's study

(2005), the participants consisted of at-risk teens, aged 15-19 who attended an alternative

education program in Wisconsin. The experimental group consisted of 11 students and the control group of 8. A pre and post-test was used to evaluate student behavior changes. A Questionnaire called How I Think (HIT) was given to both groups prior to the training. The experimental group received 10 sessions with 2.5 hours each over 3 weeks. After the training, both groups completed the HIT Questionnaire again (Bye & Schillinger, 2005). Results showed that students of the experimental group increased significantly on the HIT scores compared to those of the control group. Therefore, students who received the training did show more responsible thinking towards their behaviors (Bye & Schillinger, 2005).

Aggression Replacement Training (ART) is another program to help aggressive juveniles learn pro-social behaviors. Using Skillstreaming, a social skill training program, these young people learned social skills, such as how they perceive and act towards other people based on their understanding of social cues and signals (Hollin, 2003). Through modeling, role-play, coaching, feedback, and reinforcement, aggressive youngsters learned how to deal appropriately with others. Meanwhile, they learned to control their anger, specifically dysfunctional anger which has negative consequences. The training helped these youngsters identify their triggers for anger and develop skills to respond appropriately by practice in role-play with coaching and feedback. Moral reasoning training is also used to mature these youngsters' moral development through structured group exercises, including discussion, feedback, and decision making. With these strategies combined, ART has proven to be successful in working with aggressive youth to reduce their inappropriate behaviors (Hollin, 2003).

Victim Awareness Program (VAP) was used to attempt to improve pro-social behavior of juvenile delinquent youth. Putnins (1997) investigated the socio-moral reasoning maturity of juvenile delinquents. Thirty- eight inmates, aged 14-18, were taken from two youth secure-care centers and divided into an experimental group and a control group. Both groups were tested using the Socio-moral Reflection Measure- Short Form (SRM-SF) prior to and following the treatment. The treatment consisted of eight to nine 1.5 hour sessions over a three week period in which presenters, either victims or those who represented victims, spoke to the youth about their experiences, followed by a group discussion to reflect on their behaviors. Results revealed that those who received treatment made socio-cognitive changes which are associated with pro-social behavior (Putnins, 1997).

Self-Monitoring Strategies

Self-monitoring is defined as identifying and regulating one's own behavior (Szwed & Bouck, 2013). It is used for changing behaviors by teaching students skills to recognize undesirable behavior and use self-identification and recording to adjust the behavior (Szwed & Bouck, 2013). There are two types of self-monitoring. One is self-monitoring of attention (SMA) that is used for attention-based behavior, and another is self-monitoring of performance (SMP) that is used for academic accuracy or productivity (Szwed & Bouck, 2013). Both types of self-monitoring are multi-stage processes of observing and recording ones' own behavior (Rafferty, 2010). In order to implement self-monitoring in the classroom, eight basic steps must be followed. The first step is identifying the target behavior; the behavior should be worded in positive terms, or what would like to be increased. Step two is operationally defining the target behavior,

making the description detailed and able to be observed and measured. The third step is collecting baseline data, and the teacher should gather at least three points of data to begin. Step four is to determine if it is an appropriate behavior to remediate with self-monitoring including skills the student already possesses and behaviors the student can control. Step five is designing procedures and materials, for example, when self-monitoring takes place or whether technology or other materials are used. The sixth step is teaching the student how to self-monitor, not simply how to record, but discriminating desirable and undesirable behaviors. Step seven includes monitoring the student's progress. As the student starts his/her self-monitoring, the teacher should keep data as well. Finally, step eight is fading the use of the intervention, the self-monitoring tools, while the teacher continues to monitor the student's behavior (Rafferty, 2010). The goal of the self-monitoring is to allow the student to continue to monitor his/her own behavior (Rafferty, 2010). During self-monitoring, a paper sheet and pencil/ pen are used for the students to mark on a check list, on which several behaviors are listed. The student is required to record his own behavior by checking off each listed behavior. At the same time, the teacher records the behavior and checks with student's record. If the student meets the goal of checking of all listed behaviors, he will be rewarded.

Self-monitoring was used with juvenile delinquents in a residential juvenile justice program to decrease aggressive behaviors (Gaines & Barry, 2008). The method used was an isolated Relaxation Breathing Exercise (RBE) in an attempt to increase impulse control, as measured by the frequency of using curse words, in order to decrease the frequency of inappropriate behaviors, and introduce the self-monitoring strategy (Gaines & Barry, 2008). The participants in Gaines and Barry's study (2008) were six

male residents, aged 15-18, who were identified as requiring help with anger and impulse control. The program staff at the facility monitored the student's behavior using indicators such as curse words, off task behavior, and hostility, and self-monitoring was introduced as well. The RBE was used three times during the day, morning, midday, and evening, and it was also implemented when students felt it necessary to reduce anxiety, control impulses, or alleviate aggression. The findings of this study were mixed across participants, although benefits from RBE were demonstrated (Gaines & Barry, 2008). Thus, more studies are needed to include juvenile delinquents in self-monitoring to validate findings.

Technology in Self-Monitoring

A new avenue in recent years is using technology in self-monitoring instead of the traditional paper and pencil worksheets to record own behavior occurrences or academic performance (Gulchak, 2008). For example, handheld computer, student response system (SRS), and iPad became popular in school, and teachers have used these devices in their instruction. Gulchak's study (2008) examined whether a student could learn to self-monitor on-task behavior using a handheld computer and whether self-monitoring using such a device could improve student's on-task behavior. In the study, one child, 8 years old, with emotional and behavioral disorders was taught to self-monitor his on-task behavior using a mobile handheld computer. This child was receiving special education services since kindergarten. He was unable to maintain interpersonal relationships, presenting inappropriate behaviors under normal circumstances and a general mood of unhappiness. The on-task behaviors were defined as keeping hands away from face, completing assigned work, and raising hand to ask questions. The child was taught to

check off his own behaviors using intervals via a handheld computer during the intervention. The results showed that the student increased his on-task behavior in the classroom by self-monitoring using a handheld computer (Gulchak, 2008). It seems that technology provides an opportunity for self-monitoring of a child with emotional and behavioral disorders on his on-task behavior in the classroom.

In Szwed and Bouck's study (2013), Student Response Systems (SRS), a remote panel linked with a computer was used to assist students with behavioral challenges to self-monitor and regulate behavior in a general education classroom. Five students with behavior problems participated in the study. They were placed in an inclusive 2nd grade general education classroom to learn math skills. Of these, two were identified as having ADHD and one with an emotional disorder (Szwed & Bouck, 2013). An interval recording was used in which the teacher would give the students a hand signal as an indicator for using SRS to answer the question: "Am I listening to my teacher and following class expectations?" The results indicated that students increased their on-task behavior when using the device and also learned how to change undesired behaviors to the appropriate behaviors (Szwed & Bouck, 2013). The teacher and the students were satisfied with the SRS because these students had more positive peer interactions and less office referrals (Szwed & Bouck, 2013).

In Boswell, Knight, and Spriggs' study (2013), the MotivAider was used to aid self-monitoring of an 11 year old with a moderate intellectual disability. The MotivAider is a low cost, electronic device that looks like a pager. It can be programmed to vibrate on a fixed or variable time schedule, thus decreasing the need for prompting by the teacher and making it a useful tool in self-monitoring. The student in this study used the

MotivAider to signal when to record his on and off-task behavior. When prompted by the device, the student responded "yes" or "no" to six images with words on a sheet such as "sitting in seat doing work" and "talking to my neighbor." The form included three on-task and three off-task behaviors. The teacher then verified the accuracy of the student's responses, and the student received rewards for the agreement with the teacher to demonstrate his accurate recording. The results of this study showed that the student was able to accurately self-monitor his own behavior and increase his on-task behaviors (Boswell et. al, 2013).

Another study using technology in self-monitoring was conducted by Cihak, Wright, and Ayres (2010). In their study, a handheld computer depicting self-model static-picture prompts was used to assist middle school students diagnosed with high-functioning autism in self-monitoring their behavior. This video prompting allowed the students to observe separate steps of a behavior with pictures. The pictures were taken by the teacher's camera when each student was writing, reading, and watching and listening to the teacher, and these photos were automatically displayed on the handheld computer every 30 seconds. The students then self-recorded their behavior by circling "yes" or "no" on an index card to indicate whether or not they were presenting the self-modeled behavior. The results of this study showed that all students increased task engagement, such as being in their seats and looking at the classwork materials, and decreased teacher directed prompts (Cihak et. al, 2010). It seems that technology has a potential for self-management of students with disabilities, however, little research included juvenile delinquents as participants. Future studies including juvenile delinquents in self-monitoring are needed.

Summary

Juvenile delinquents exhibit a range of behavior problems including aggression, impulsiveness, restlessness, lack of emotional control, and difficulty forming and sustaining relationships with others. It is possible to decrease their verbal and physical aggressive behavior through different programs such as Positive Behavior Supports, Corrective Thinking Training, Aggression Replacement Therapy, and Victim Awareness Programs. Self-monitoring is a multi-step process that can take place in the regular classroom and be individualized for different students. It has demonstrated positive outcomes in increasing appropriate behavior of students with behavior problems (e.g. Gulchak, 2008). In recent years, technology such as mobile handheld computer, SRS, and iPads has been introduced as an option for self-monitoring of individual student's behaviors. It seems that such electronic devices motivate students' interests and encourage them to apply the strategy. Reviewing the research, it is found that there are some positive results of using self-monitoring for juvenile delinquents (e.g. Szwed & Bouck, 2013), while others demonstrated mixed findings and weak outcomes (e.g. Gaines & Barry, 2008). This study attempts to implement self-monitoring using technology such as iPads to examine its effect on the behavior changes of juvenile delinquents.

Chapter 3

Methods

Setting

This study was conducted in a day treatment program with an enrollment of approximately 24 male adolescents, aged 10-14, which functioned as the middle school component of a greater system. The program operated with 2 teachers, 3 youth care workers, and a director. The students were referred by the court as a result of delinquency and displayed verbal and physical aggressive behaviors. They were all minorities (majority African-American, one Vietnamese) and were considered to be at-risk due to below average academic functioning and low socio-economic status, living in an urban area, from single-parent or foster households.

The study was implemented in the classroom during typical instructional time with 5 children from one of the groups of students. The classes lasted one hour each, e.g. the first from 8:50am-9:50am (1st period, reading) and the second from 11:00am-12noon (3rd period, science).

Participants

Five African-American male students, aged 13, participated in this study. Two participants were at-risk (functioning below their grade level for literacy and math), two were classified as Specific Learning Disability (one of whom had a Positive Behavior Support Plan (PBS) as well), and one was diagnosed as Emotional Disorder (also with PBS) and Intellectual Disability (see Table 1). All participants exhibited aggressive behavior problems, such as disrespecting authority (e.g. yelling), using inappropriate language (e.g. cursing), and becoming verbally (e.g. arguing) and/ or physically

aggressive (e.g. fighting). Teachers were assisted in handling behavior problems by

Youth Care Workers (YCW) in the classroom. For example, if a student deviated from

the general rules of the classroom, did not respond to redirection by the third time (either

by teacher or YCW), or engaged in a physical confrontation, the YCW took the student

out of the room to calm down and talk about his behavior. These students were chosen as

participants because they exhibited aggressive behaviors more than three times per week,

interfering with their classroom learning experience.

Table 1

General Information of Participating Students

Student	Age	Classification	Reading Grade Level Equivalent	Math Grade Level Equivalent
A	13	N/A	4th	4th
B	13	N/A	6th	5th
C	13	SLD	4th	4th
D	13	SLD	5th	5th
E	13	ED/ID	1st	3rd

Student A: A 13 year old boy without any classification, but receiving special education

services since 2013 because of his severe behavior problems. His academic functioning

was at a fourth grade instructional level in literacy and math, according to testing

performed at his current placement. He often began assignments but failed to complete

them because he was easily distracted by his peers. His behavior problems included

lacking focus, using inappropriate language (cursing), arguing with peers, and becoming

involved in verbal and physical confrontations. These behaviors occurred daily.

Student B: A 13 year old boy without any classification, but receiving special education

services since 2013 because of his severe behavior problems. The test scores showed that

he was working at an instructional level of sixth grade in literacy and fifth grade in math.

16

He was a motivated student who thrived on his academic achievements and praise. However, he did not interact well with his peers and became involved in many verbal arguments, sometimes leading to physical confrontations.

Student C: This 13 year old boy was classified as needing learning support services prior to attending this class. His literacy and math skills were at an instructional level of fourth grade. He completed more than half of his classwork assignments, although occasionally he lacked focus and did not complete required assignments. His behavior problems included sleeping during class, yelling at teachers and peers, using inappropriate language (cursing), and occasionally becoming involved in physical confrontations. These behaviors occurred at least three times per week. A Positive Behavior Support Plan was implemented to encourage replacement behaviors such as talking to a staff member privately to calm down when upset.

Student D: This 13 year old boy was also classified as needing learning support services prior to attending his current placement. He was working at an instructional level of fifth grade in both literacy and math. He was capable of completing assignments independently, but it was apparent that he did not utilize his academic skill to reach his potential. His behavior was inconsistent: sometimes he slept during class, other times he was out of his seat most of the period and provoking peers, while sometimes he was focused and completed the task at hand. He became involved in verbal and/ or physical confrontations at least three times per week.

Student E: This 13 year old boy was classified as Emotionally Disturbed and Intellectually Disabled prior to attending this class. His literacy skills were at an instructional level of first grade, and math skills were at third grade. He displayed a

strong desire to learn by asking for help as needed and willingly working one-on-one with teachers and tutors to improve his reading skills. Although, his behavior problems included escaping from the classroom and/ or building, shutting down when spoken to, becoming overly emotional at times, and engaging in verbal and/ or physical confrontations with peers. These behaviors occurred at least three times per week. A Positive Behavior Support Plan was implemented to encourage replacement behaviors such as speaking to a trusted staff member about his feelings instead of running away when upset.

Variables and Instruments

Students self-monitoring intervention by using an iPad app was administrated during reading and science classes. The app used is called "Chore Pad." This app was selected because it allows the user to personalize the "chores" (e.g. behaviors), the name of the student, and the dates measured. The iPad was designed to help students measure their behavioral success in a checklist format for (1) using appropriate language (saying "please," "thank you," "excuse me," and "I" messages), (2) keeping hands to myself (keeping hands folded or on own desk), and (3) calming down when upset (taking a deep breath) (Appendix A). These behaviors were measured with a "+" (yes) or "-" (no) response indicating whether or not an appropriate behavior was demonstrated during the class period. At the end of each interval (e.g. class period 1 and 3), the teacher allowed each student to complete his self-monitoring; the teacher was available to assist with the app as needed. Each iPad was set up with a student's name, and, after opening the app, the student clicked on his name. Along with a low noise, the list of expected behaviors and the date appeared on a green board. On the left of each listed behavior there was an

orange arrow pointing down. The student tapped on the arrow of the first behavior

(which then pointed upwards), and then touched the green + sign or the red – sign on the

right of the iPad to display whether or not the behavior was performed. If the green +

sign was touched, a pleasant ringing noise sounded, and the student was given a green

star with +1 in the middle to show that the behavior was completed. If the red – sign was

touched, a clicking noise sounded, and the student was given a red star with a -1 in the

middle to show that the behavior was not completed. The student then touched the

upward facing arrow on the left of the iPad to indicate that he was finished tracking that

behavior. These steps were then repeated with the other two behaviors. When self-

monitoring was completed, the student touched the orange "close" button on the top left

of the screen. As the students monitored their behaviors, the teacher utilized a pencil and

paper checklist to confirm accuracy of the self-monitoring (Appendix B).

     A survey was used at the end of the study to evaluate student satisfaction with the

use of the self-monitoring with iPads (Appendix C). After the use of iPads was

discontinued at the end of the study, students completed the pencil and paper survey. The

survey included three "yes" or "no" questions (answer could be circled) and one open-

ended question. The purpose of the survey was to measure (1) the ease of learning to use

the iPad, (2) whether or not student enjoyed using the iPad, and (3) if student thinks self-

monitoring with iPad helped him increase positive behavior. The open-ended question

gave the student the opportunity to express their experience with the study as desired.

The purpose of the survey was to obtain a general idea of how students felt about self-

monitoring with iPads and to discover if their impression of their behavior was

concurrent with the results of the study.

Procedure

  This study lasted for approximately 6 weeks. During week 1, the students were

not informed that their behavior was being monitored and recorded. The classroom

teacher used a pencil and paper checklist for each student, once at the end of 1st period

(one hour) and once at the end of 3rd period (one hour) to mark "yes" or "no" to indicate

the students' behaviors occurrences (see Appendix B). The data collected was used as a

baseline prior to the intervention. The "yes" answers were totaled and a percentage was

calculated daily to indicate positive behaviors. The teacher's responses were based on

classroom observation during instructional time and independent practice.

  At the beginning of weeks 2 and 3, the students were introduced to the concept of

self-monitoring through teacher directed instruction. All the five participating students

were taken to the teacher's classroom for instruction. First, students were told that self-

monitoring is a way of keeping track of their own behavior in the classroom. They were

then taught the definitions of each of the following expected behaviors: use appropriate

language (say "please", "thank you", "excuse me", and use "I" messages when speaking),

keep hands to myself (keep hands folded or on own desk), and calm down when upset

(take a deep breath) initially by eliciting student response. After students shared what

they thought each behavior should be, the teacher then showed pictures (see Appendix B)

and described the behaviors thoroughly, using examples of acceptable and unacceptable

behaviors. Subsequently, an iPad was demonstrated as an example, and students were

instructed on how to use the iPad intervention to indicate "+" or "-" for each expected

behavior. They were told that they would monitor their behaviors twice each day as

instructed. Students then monitored their own behaviors throughout weeks 2 and 3 while

the teacher used the pencil and paper checklist to record their behaviors simultaneously. This was accomplished by taking a few moments at the end of 1st and 3rd periods to recall student behavior throughout the class time and record accordingly. The number of "yes" responses for each student, indicating positive behavior, was then totaled daily and a percentage was calculated.

During week 4, the iPad self-monitoring was no longer used by the students, and the teacher gathered data for a second baseline. The teacher continued to use the pencil and paper checklist to record students' behaviors during 1st and 3rd periods. The number of behavior occurrences was calculated daily in a percentage. Then, at the beginning of weeks 5 and 6, the iPad intervention was reintroduced to the students in order to gather additional data. Prior to the reintroduction of the iPads, the definitions of each expected behavior and the self-monitoring process using an iPad were reviewed. During weeks 5 and 6, the students resumed self-monitoring using iPads, indicating "+" or "-" for each of the behaviors at the conclusion of 1st and 3rd periods each day, as the teacher continued recording students' behaviors. The number of "yes" responses was again calculated into percentages.

Research Design

A single subject design with ABAB phases was used in this study. During the baseline (Phase A1), student behavior was recorded by the teacher using the observation checklist (Appendix B) with pencil and paper. Data was collected over 5 days to assess students' behaviors before any intervention was introduced. During the intervention (Phase B1), students were taught to use iPads for self-monitoring while the teacher continued to record students' behaviors. The intervention lasted for 8 days. During the

second baseline (Phase A2), student behaviors were again recorded by the teacher using the observation checklist, but the use of iPads was discontinued for 3 days. Finally, during the second intervention (Phase B2), the iPads were reintroduced for self-monitoring for 6 days.

Data Analysis

Student behaviors using the observation checklist (Appendix B) and from the self-monitoring with iPads were presented using percentages in figures with a visual display, specifically a line graph across phases for each participant. Survey responses were generated in percentages to indicate positive experience with the use of iPads for the students' self-monitoring.

Chapter 4

Results

The findings indicated that there was an increase in positive behaviors (e.g. calming down when upset and using appropriate language) measured through the intervention method of using iPads to self-monitor. During the first baseline Phase A1, the data showed that the students' behavior was inconsistent. They displayed variations from 0% to 100% of positive responses to the behaviors being observed. Throughout the first intervention Phase B1, the use of iPads by students to self-monitor yielded significant increase in "yes" responses indicating positive, non-aggressive behaviors. During the second baseline Phase A2, the data showed that the students' behaviors were less aggressive than the first baseline, but not as positive as that of the intervention phase. Finally, throughout the second intervention Phase B2, data showed an increase in "yes" responses again, and the increase was slightly more than during that of the initial intervention.

For example, student A (Figure.- 1) had a mean baseline (A1) score of 56.8%, mean intervention (B1) score of 94.5%, mean baseline (A2) score of 77.7%, and mean intervention (B2) score of 100%. Student B (Figure.- 2) had a mean baseline (A1) score of 53.4%, mean intervention (B1) score of 95.9%, mean baseline (A2) score of 100%, and mean intervention (B2) score of 91.7%. Student C (Figure.- 3) had a mean baseline (A1) score of 41.5%, mean intervention (B1) score of 88.8%, mean baseline (A2) score of 77.7%, and mean intervention (B2) score of 94.5%. Student D (Figure.- 4) had a mean baseline (A1) score of 53.4%, mean intervention (B1) score of 80.9%, mean baseline (A2) score of 100%, and mean intervention (B2) score of 93.4%. Student E (Figure.- 5)

had a mean baseline (A1) score of 55.7%, mean intervention (B1) score of 93.4%, mean baseline (A2) score of 89%, and mean intervention (B2) score of 94.3%. Every student who participated displayed an increase in non-aggressive behaviors with the use of the iPad to self-monitor.

The results of the survey administered to rate student opinion of the iPad intervention (Appendix C) revealed a 100% of satisfaction with using iPads and enjoyment of self-monitoring. All participants indicated that using iPads for self-monitoring helped them increase positive behavior in the classroom.
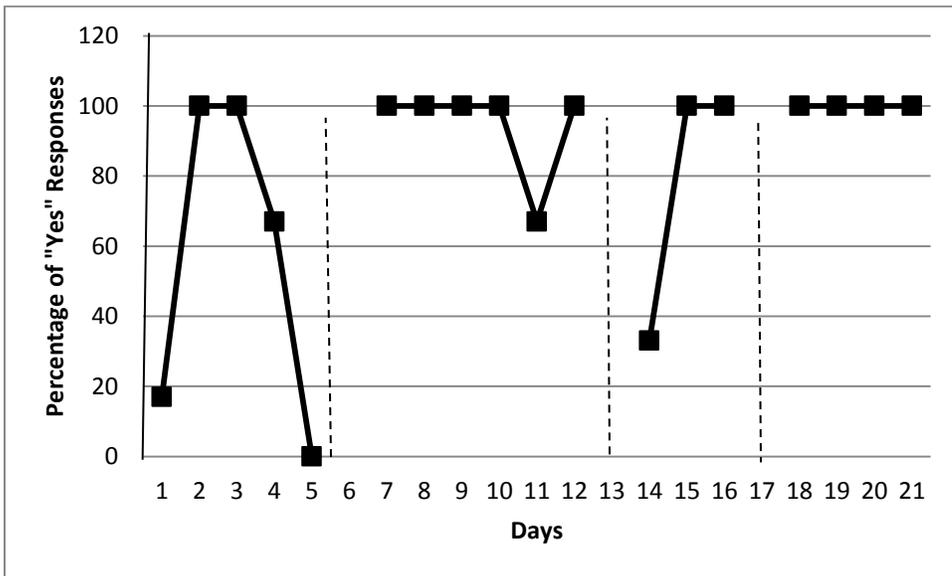

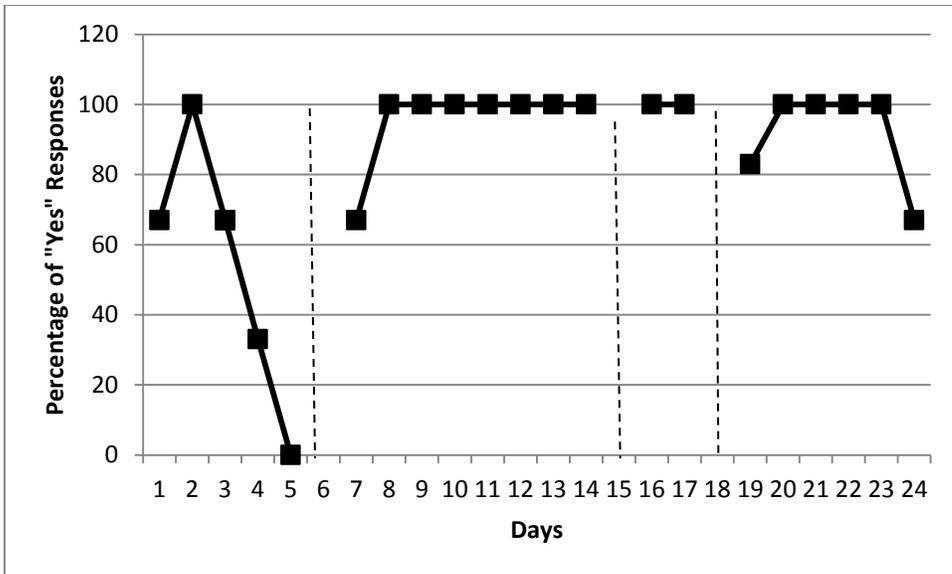*Figure.- 1* Participant A's appropriate behavior

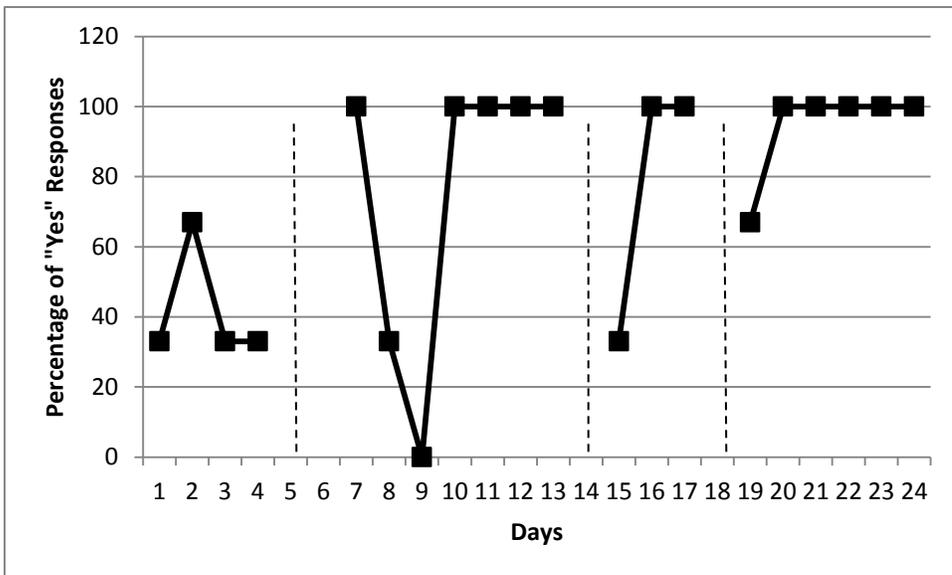*Figure.- 2* Participant B's appropriate behavior

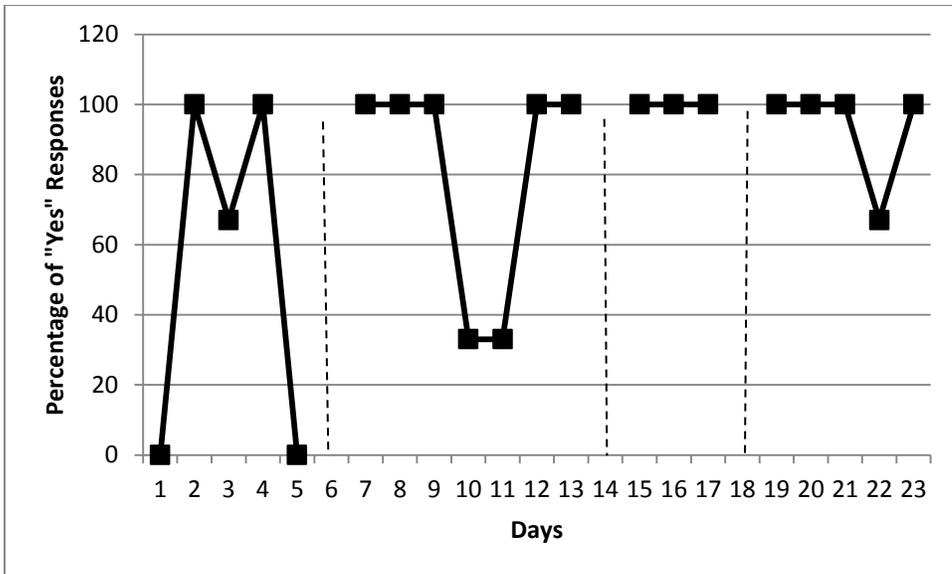*Figure.- 3* Participant C's appropriate behavior

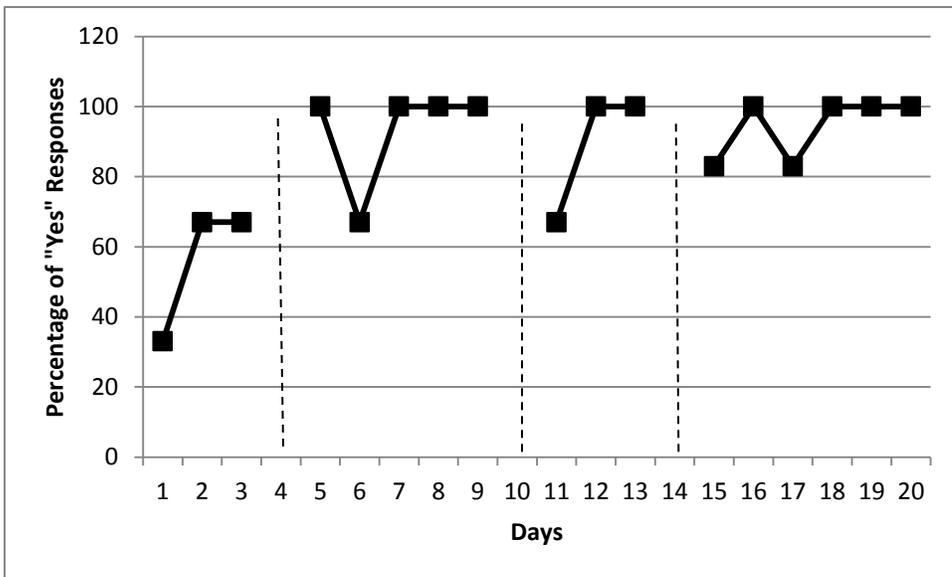*Figure.- 4* Participant D's appropriate behavior

Figure.- 5 Participant E's appropriate behavior

Chapter 5

Discussion

The results of the present study documented an increase in positive behaviors (e.g. calming down when upset, keeping hands to oneself) when using iPads for self-monitoring of adolescent juvenile delinquents. Therefore, verbal and physical aggression in the classroom was reduced with the implementation of the intervention. Results also indicated that there was an increase in positive verbal interactions, specifically the use of appropriate language without profanity to show respect. Through the survey at the end of the study, it was shown that students were satisfied with the use of iPad self-monitoring in behavior management. Satisfaction was also displayed through their enthusiasm for completing the task at hand and their desire to rate themselves positively throughout the study.

The success of the intervention of using iPads to self-monitor is concurrent with previous research. Gulchak (2008) examined whether self-monitoring using a handheld computer could improve a student's on-task behavior. The results of the study displayed that the self-monitoring with technology was a success and on-task behavior increased. Szwed and Bouck (2013) utilized Student Response Systems (SRS) to increase on-task and appropriate behaviors in the classroom. Their results were positive and student satisfaction with the intervention was high. Further, Boswell, Knight, and Spriggs (2013) used the MotivAider to assist a student in self-monitoring on and off task behavior. The results showed that the student was able to learn self-monitoring and his on-task behavior was increased. In Cihak, Wright, and Ayres' study (2010), a handheld computer with picture prompts was used by students to self-monitor their behavior, and the results

showed that task engagement increased and teacher prompts were reduced. The students participating in the aforementioned studies did have varying disabilities, although more research needs to be completed with the adolescent juvenile delinquent population. However, studies have shown that self-monitoring with the use of technology can be a valuable tool in the classroom to improve student behavior, and previous research clearly supports the results of the current study.

Today's students are surrounded by technology and many express great interest in it. As shown through current and previous studies, technology is a valuable tool for teaching students to self-monitor their behavior in the classroom. Implementation of self-monitoring with technology teaches students' awareness of their behavior and how to utilize technological supports in a new way. Educators can support the students' interest by teaching students how to self-monitor using technology, which is a more effective tool to manage and teach self-monitoring skills than the traditional pencil and paper checklist (Gulchak, 2008).

In the current study, there are some limitations. The first was inconsistency in the classroom setting. For example, the day treatment program in which the study was conducted had only two teachers, and substitutes were not utilized. One of the teachers was ill for an entire week, therefore 2 classes of students were combined, and the learning environment was changed for participating students. Thus, subject matter was changed, the class was larger than the regular, and students were placed with peers they typically did not interact with during their regular class. The second was that the data used to measure the success of the self-monitoring technique came from student responses during the intervention phases. Students naturally wanted to respond positively when self-

monitoring, which could have potentially affected the final results though the teacher was recording simultaneously. Finally, another limitation was that the self-monitoring was implemented during the periods 1 and 3 in the morning for teaching different subject areas. Students' interest in each subject and typical behavior at different times of the day were not accounted for in this study but could affect the behaviors being measured.

Intervention methods such as Positive Behavior Support (PBS) (Feinstein, 2003), Corrective Thinking Training (Bye & Schillinger,2005), Aggression Replacement Training (ART) (Hollin, 2003), and Victim Awareness (Putnins, 1997) have been implemented with the juvenile delinquents producing results indicating positive behavior, changes, including an increase in pro-social behavior and reduction of aggression. As a method of self-monitoring, an isolated Relaxation Breathing Exercise (RBE) (Gaines & Barry, 2008) was implemented with juvenile delinquents to track behaviors such as impulse control and anger. Even though the RBE was beneficial in some ways, the findings of the study were mixed (Gaines & Barry, 2008). Self-monitoring using technology, such as iPads, provides a new path for behavior management for this group of students with behavior problems.

Future studies involving adolescent juvenile delinquents with disabilities are needed to investigate the success of self-monitoring, specifically with technology, as a way of reducing aggression and learning appropriate behaviors in the classroom.

References

Amendola, A. M., & Oliver, R. W., ed. (2003). Aggression replacement training. *Reclaiming Children & Youth, 12*(3), 132-187.

Axelrod, M. I., Zhe, E. J., Haugen, K. A., & Klein, J. A. (2009). Self-management of on-task homework behavior: A promising strategy for adolescents with attention and behavior problems. *School Psychology Review, 38*(3), 325-333.

Baltodano, H. M., Harris, P. J., & Rutherford, R. B. (2005). Academic achievement in juvenile corrections: Examining the impact of age, ethnicity and disability. *Education & Treatment of Children (ETC), 28*(4), 361-379.

Boswell, M. A., Knight, V., & Spriggs, A. D. (2013). Self-monitoring of on-task behaviors using the MotivAider® by a middle school student with a moderate intellectual disability. *Rural Special Education Quarterly, 32*(2), 23-30.

Briere, D. E., & Simonsen, B. (2011). Self-monitoring interventions for at-risk middle school students: The importance of considering function. *Behavioral Disorders, 36*(2), 129-140.

Burton, C., Anderson, D., Prater, M. A., & Dyches, T. T. (2013). Video self-modeling on an iPad to teach functional math skills to adolescents with autism and intellectual disability. *Focus on Autism & Other Developmental Disabilities, 28*(2), 67-77. doi:10.1177/1088357613478829

Bye, L., & Schillinger, D. A. (2005). Evaluation of a cognitive thinking program. *Journal of Correctional Education, 56*(3), 202-215.

Cashel, M. L. (2003). Validity of self-reports of delinquency and socio-emotional functioning among youth on probation. *Journal of Offender Rehabilitation, 37*(1), 11-23. doi:10.1300/J076v37n01_02

Cashwell, C. S., & Vacc, N. A. (1996). Family functioning and risk behaviors: Influences on adolescent delinquency. *School Counselor, 44*, 105-114.

Cihak, D. F., Wright, R., & Ayres, K. M. (2010). Use of self-modeling static-picture prompts via a handheld computer to facilitate self-monitoring in the general education classroom. *Education & Training in Autism & Developmental Disabilities, 45*(1), 136-149.

Dembo, R., Schmeidler, J., & Wothke, W. (2003). Impact of a family empowerment intervention on delinquent behavior: A latent growth model analysis. *Journal of Offender Rehabilitation, 37*(2), 17-41. doi:10.1300/J076v37n02_02

Ezell, M. (2003). An evaluation of an arts program for incarcerated juvenile offenders. *Journal of Correctional Education, 54*(3), 108-114.

Feinstein, S. (2003). School-wide positive behavior supports. *Journal of Correctional Education, 54*(4), 163-173.

Gagnon, J. C., Barber, B. R., Van Loan, C., & Leone, P. E. (2009). Juvenile correctional schools: Characteristics and approaches to curriculum. *Education & Treatment of Children, 32*(4), 673-696. doi:10.1353/etc.0.0068

Gagnon, J. C., Rockwell, S. B., & Scott, T. M. (2008). Positive behavior supports in exclusionary schools: A practical approach based on what we know. *Focus on Exceptional Children, 41*(1), 1-20.

Gaines, T., & Barry, L. M. (2008). The effect of a self-monitored relaxation breathing exercise on male adolescent aggressive behavior. *Adolescence, 43*(170), 291-302.

Gavazzi, S. M., Russell, C. M., & Khurana, A. (2009). Predicting educational risks among court-involved black males: Family, peers, and mental health issues. *Negro Educational Review, 60*(1), 99-114.

Graham-Day, K., Gardner, R., & Hsin, Y. (2010). Increasing on-task behaviors of high school students with attention deficit hyperactivity disorder: Is it enough? *Education & Treatment of Children (ETC), 33*(2), 205-221. doi:10.1353/etc.0.0096

Gulchak, D. (2008). Using a mobile handheld computer to teach a student with an emotional and behavioral disorder to self-monitor attention. *Education & Treatment of Children, 31*(4), 567-581. doi:10.1353/etc.0.0028

Hamilton, S. L., Seibert, M. A., & Gardner, R.,3rd. (2000). Using guided notes to improve the academic achievement of incarcerated adolescents with learning and behavior problems. *Remedial & Special Education, 21*(3), 133-170. doi:10.1177/074193250002100302

Hollin, C. R. (2003). Aggression replacement training: Putting theory and research to work. *Reclaiming Children & Youth, 12*(3), 132-135.

Houchins, D. E., Jolivette, K., Shippen, M. E., & Lambert, R. (2010). Advancing high-quality literacy research in juvenile justice: Methodological and practical considerations. *Behavioral Disorders, 36*(1), 61-69.

Houchins, D. E., Jolivette, K., & Wessendorf, S. (2005). Stakeholders' view of implementing positive behavioral support in a juvenile justice setting. *Education & Treatment of Children, 28*(4), 380-399.

Kemp, D., & Center, D. B. (2000). Troubled children grown-up: Antisocial behavior in young adult criminals. *Education & Treatment of Children (ETC), 23*(3), 223-238.

Leone, P. E., Krezmien, M., & Mason, L. (2005). Organizing and delivering empirically based literacy instruction to incarcerated youth. *Exceptionality, 13*(2), 89-102. doi:10.1207/s15327035ex1302_3

Major, A. K., Chester, D. R., & McEntire, R. (2002). Pre-, post-, and longitudinal evaluation of juvenile justice education. *Evaluation Review, 26*(3), 301-321. doi:10.1177/01941X026003005

Mathur, S. R., & Schoenfeld, N. (2010). Effective instructional practices in juvenile justice facilities. *Behavioral Disorders, 36*(1), 20-27.

O'Reilly, M. F., Tiernan, R., & Lancioni, G. (2002). Use of self-monitoring and delayed feedback to increase on-task behavior in a post-institutionalized child within regular classroom settings. *Education & Treatment of Children (ETC), 25*(1), 91-102.

O'Rourke, T., & Satterfield, C. E. (2005). Think exit at entry. *Journal of Correctional Education, 56*(2), 189-194.

Putninš, A. L. (1997). Victim awareness programs for delinquent youths: Effects on moral reasoning maturity. *Adolescence, 32*(127), 709-714.

Rafferty, L. A. (2010). Step-by-step: Teaching students to self-monitor. *Teaching Exceptional Children, 43*(2), 50-58.

Ratkajec, G., & Jed, I. (2010). Risks/needs of children/youth with behavior disorders in correctional institutions in croatia. *Journal of the International Association of Special Education, 11*(1), 75-85.

Reilly, T. F., Wheeler, L. J., & Etlinger, L. E. (1985). Intelligence versus academic achievement: A comparison of juvenile delinquents and special education classifications. *Criminal Justice and Behavior, 12*(2), 193-208. doi:10.1177/0093854885012002003

Rozalski, M., Drasgow, E., Drasgow, F., & Yell, M. (2009). Assessing the relationships among delinquent male students' disruptive and violent behavior and staff's proactive and reactive behavior in a secure residential treatment center. *Journal of Emotional & Behavioral Disorders, 17*(2), 80-92. doi:10.1177/1063426608324098

Sander, J. B., Patall, E. A., Amoscato, L. A., Fisher, A. L., & Funk, C. (2012). A meta-analysis of the effect of juvenile delinquency interventions on academic outcomes. *Children and Youth Services Review, 34*(9), 1695-1708. doi:http://dx.doi.org.ezproxy.rowan.edu/10.1016/j.childyouth.2012.04.005

Scott, T. M., Nelson, C. M., & Liaupsin, C. J. (2002). Addressing the needs of at-risk and adjudicated youth through positive behavior support: Effective prevention practices. *Education & Treatment of Children, 25*(4), 532-551.

Szwed, K., & Bouck, E. C. (2013). Clicking away: Repurposing student response systems to lessen off-task behavior. *Journal of Special Education Technology, 28*(2), 1-12.

Wikipedia. (2013). Juvenile delinquency- Wikipedia. http://en.wikipedia.org/wiki/Juvenile_delinquency.

Yearwood, D. L., & Abdum-Muhaymin, J. (2007). Juvenile structured day programs for suspended and expelled youth: An evaluation of process and impact. *Preventing School Failure, 51*(4), 47-59. doi:10.3200/PSFL.51.4.47-61

Zabel, R. H., & Nigro, F. A. (2001). The influence of special education experience and gender of juvenile offenders on academic achievement scores in reading, language, and mathematics. *Behavioral Disorders, 26*(2), 164-172.

Appendix A

Photographs of App
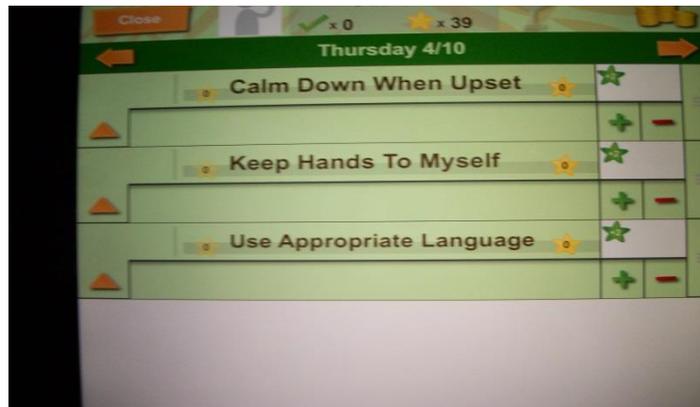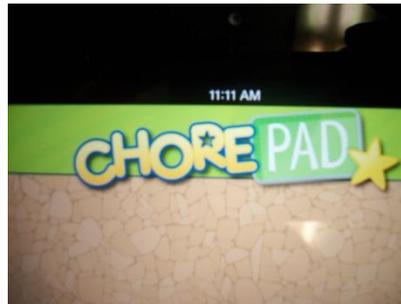
Appendix B

Observation Checklist

Use appropriate language.   YES   NO

(say please, thank you, excuse me, and "I" messages)

Keep hands to myself.   YES   NO

(hands folded or on my desk)

Calm down when upset.   YES   NO

(take a deep breath)

Survey

Please circle *yes* or *no* to indicate your response to the following questions.

1. It was easy to learn how to self-monitor behavior using iPads.

   YES   NO

2. I enjoyed using iPads to self-monitor behavior in the classroom.

   YES   NO

3. I feel that iPads for self-monitoring helped me improve my positive behavior in

   the classroom.

   YES   NO

   Please write any comments you would like to share regarding your experience

   with the use of iPads for self-monitoring in the classroom.

   _____

   _____

   _____

   _____