

**The Effects of Choice Making on On-Task Behavior for People with Developmental  
Disabilities**

BY

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THESIS

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## **LIST OF ABBREVIATIONS**

BOSS	Behavior Observation of Students in Schools
ID/DD	Intellectual or developmental disabilities
LSI	Life Skills Instructor

## **ABSTRACT**

Research suggests that being off-task during instruction directly affects a student's learning ability. The purpose of this study was to examine the effect that the choice-making aspect of self-determination training has on levels of on-task behavior on adults with developmental disabilities. This study included four ( $n=4$ ) adults (18 and older) with developmental disabilities who participated in an "adult-day service program" at a local agency. This study utilized a quantitative method of data collection known as the Behavioral Observation of Students in School (BOSS) mobile application to record the amount of times the participants were off-task or on-task during instruction at timed intervals. This study also used a brief exit interview (3 questions) with the participants and the staff who coordinated the implementation of the study. Results show a strong and consistent increases in on-task behaviors after participants received self-determination training and were allowed to choose the topics of the classes they wanted to learn. The implications of giving more choices to individuals with developmental disabilities during their learning process are discussed.

## **I. INTRODUCTION**

There are many services that are provided to people with intellectual and developmental disabilities (ID/DD) in Illinois. Among the services provided for people with developmental disabilities and intellectual disabilities are residential living arrangements, in home support services and adult day-service programs. The focus of this study is adult day-service programs. According to the National Adult-Day Service Association (NADSA), 2014, adult day-services are programs that provide services for adults in a community-based setting intended to improve the health and wellbeing of adults who need supervised care (National Adult-Day Service Association, 2014). Adult-day services for people with disabilities are categorized into social, medical/health and specialized (National Adult-Day Service Association, 2014). Social adult-day services provide recreation (i.e., outings, life skills classes, activities in the community), some health-related services (i.e., therapy, nursing services, doctor visits), and meals (National Adult-Day Service Association, 2014). Medical adult-day services offer more thorough health services (i.e., physical therapy, nursing services, medication administration) (National Adult-Day Service Association, 2014). The final type of adult-day services are specialized services that provide services to only those adults with certain diagnosis or disability. An example of a specialized-day service facility would be an agency that focuses their services for people with autism.

Categorized as a social adult-day service, the nonprofit community organization that was the setting of this study offers participants programming similar to an educational environment where the participants are engaged in learning opportunities throughout the day. Due to being modeled after a school that focuses on teaching participants life-skills, it is important to measure on-task behavior of the participants in order to assess how much they are engaged during



instruction. This study focuses on increasing on-task behaviors of adults with intellectual and/or developmental disabilities (ID/DD) since it is the population the social adult day-program serves.

According to the Developmental Disabilities Assistance and Bill of Rights Act of 2000 (42 U.S. Code § 15001) a developmental disability is defined as:

A severe, chronic disability of an individual that- (a) is attributable to a mental or physical impairment or combination of mental and physical impairments; (b) is manifested before the person attains age 22; (c) is likely to continue indefinitely; (d) results in substantial functional limitations in three or more of the following areas of major life activity: (1) self-care, (2) receptive and expressive language, (3) learning, (4) mobility, (5) self-direction, (6) capacity for independent living, and (7) economic self-sufficiency; and (e) reflects the person's need for a combination and sequence of special, interdisciplinary, or generic care, treatment, or other services which are lifelong or extended duration and are individually planned and coordinated. (p. 8)

As a result, people with ID/DD might require "lifelong community services, individualized supports and other forms of assistance, that are most effective when provided in a coordinated manner" (Developmental Disabilities Assistance and Bill of Rights Act, 2000, p. 3).

One of the issues that have been identified by staff in the social adult-day program target location is the rate of off-task behavior during instruction. Teaching staff and supervisors have reported that many participants are disengaged from their daily classes and activities and as a result, they wander around the hallways and/or engage in maladaptive behaviors instead of being engaged in learning activities. Learning activities offered by the agency include but are not limited to classes such as cooking, textiles, and ceramics. Due to participants' disengagement,

this study was developed to examine the effectiveness of an intervention using choice making and self-determination in order to increase on-task behavior among a target group of participants.

Extensive research has identified various definitions for both on-task and off-task behavior. Burns and Dean (2005) refer to on-task behavior as any behavior that is related to the school assignment. Off-task behavior is defined as behavior that the student engages in that is not related to the school assignment. Current research indicates plenty of information of on-task behavior with school-aged children within educational settings, while little to no emphasis has been given to adults with developmental disabilities engaged in adult-day program facilities.

Time on-task is a topic that has been examined by researchers since the 1920s to predict student achievement outcomes in educational settings (Karweit, 1982). The amount of time students spend on-task in a learning environment varies from day to day and from class to class. Even though there are variations involving on-task behavior at school, researchers have made an attempt to define how much time students are on-task. In their research Lee, Kelly, and Nyre (1999) state that approximately 75% to 90% of students remain on-task during instruction, while Karweit (1982) states that students remain on-task 70% to 75% of the time. The figures offered by Karweit (1982) and Lee et al. (1999) show the amount of time that they believe a student remains on-task; however, when a student is not on-task, he/she is off-task.

Literature discussing off-task behavior at school has shown the negative effects that off-task behavior has on learning. Baker (2007) defines off-task behavior and describes its effect on learning as follows: “One such type of behavior that may affect students’ learning is off-task behavior, where a student completely disengages from the learning environment and task, to engage in an unrelated behavior” (p. 1). According to Riley, McKeyvitt, Shriver, and Allen (2011), “students who frequently engage in off-task and inappropriate behaviors disrupt the

classroom environment and hinder learning” (p. 149). Fisher and Ford (1998) wrote, “off-task behaviors can deter learning as learners may have insufficient resources allocated to take related behaviors to learn effectively” (p. 402). As a result, to allow better learning outcomes, off-task behavior should be decreased and on-task behavior increased (Burns & Dean, 2005). Greenberg, Tang, and Tsoi (2010) stated that “the increase of on-task behavior as well as the reduction or replacement of off-task behaviors is necessary for students to succeed due to the fact that the inappropriate behaviors are often incompatible with on-task and appropriate academic and social responding” (p. 18).

In order to decrease off-task behavior and increase on-task behavior, many intervention programs have been created. Research shows that there are effective methods to increase on-task academic behaviors including, but not limited to self-management and the reduction of inappropriate behavior (Dalton, Martella & Marchand-Martella, 1999; Greenberg et al., 2010; Riley et al., 2011). Dalton et al. (1999) argue that self-monitoring can be effectively utilized in special education and then be implemented in non-special education classrooms to improve on-task behavior and academic performance for students with and without learning and behavior problems. Riley et al. (2011) refer to the reduction of off-task behavior that can be done through the Fixed-time delivery of teacher attention method. In the fixed-time delivery of teacher attention method, the teacher provides attention to the student in the form of praise only when the student remains on-task (Riley et al., 2011).

Another method that may impact levels of on-task behavior in a school setting is the Self-Determined Model of Instruction (SDLMI). Kelly and Shogren’s (2014) research shows a correlation between levels of off-task behavior and SDLMI. The authors state, “the functional relation between SDLMI and off-task behavior suggests that students with Emotional and

Behavioral Disorders (EBD) can decrease levels of off-task behavior when they are focusing on increasing their on-task behavior. It appears that this increase in on-task behavior may have replaced students need to engage in off-task behavior” (Kelly & Shogren, 2014, p. 121).

According to Palmer and Wehmeyer (2003), SDLMI “is based on the component elements of self-determination, the process of self-regulated problem solving, and research on student directed learning. It is appropriate for student with and without disabilities across a wide-range of content areas and enables teachers to engage students in their educational programs by increasing their opportunities to self-direct learning” (p. 116).

Self-determination is proven to be an important intervention to help people with disabilities. However, self-determination is a broad practice that focuses on helping individuals become more independent. The core to self-determination involves participants being allowed to make choices to act more “autonomously.” Therefore, this study focuses on allowing participants to make choices to try and reduce the amount of off-task behavior they engage in. According to Kern, Mantenga, Vorndran, Bailin, and Hilt (2001), choice making is recognized as an important opportunity for people with disabilities, due to its capacity for enhancing quality of life and its use as a therapeutic device in order to reduce problem behavior.

A practice that has shown to be beneficial to people with varying forms of disabilities in a learning environment is self-determination. Self-determination is defined as,

Acting as the primary causal agent in one’s life and making choices and decisions regarding one’s quality of life free from undue external influence or inference. An act or event is self determined if the individual’s actions reflect four essential characteristics: (1) the individual acts autonomously; (s) the behaviors are self regulated; (3) the person initiates and responds to even(s) in a “psychologically empowered” manner; and (4) the

person acts in a self realizing manner. These essential characteristics emerge as students develop and acquire a set of component elements of self-determined behavior (e.g., choice-making, decision-making, problem-solving, goal-setting and task performance. (Wehmeyer and Kelchner, 1995, p. 7)

Carter, Lane, Pierson, and Glaeser (2006) stated that self-determination could influence outcomes such as academics, independence, quality of life and employment. Stancliffe, Abery, and Smith (2000) suggested that, self-determination involves a person taking control over his/her life and what the/she values. Stancliffe et al. (2000) refers to having absolute control over what happens in the person's own life and deciding who they give partial control over some aspects of their lives to.

Most of the literature in this field focuses on transitioning youth with disabilities to adulthood and the implementation of self-determination. This approach however, can be utilized for adults with disabilities as Vatland, Strickland-Cohen, Loman, Doren, Horner, and Walker (2011) suggest that self-determination is a concept that can be used with all individuals with disabilities including adults. Vatland et al. (2011) report that there are concepts that are unique to adults with disabilities, because rights and responsibilities for people over 18 years old are different than children. As a result of having different rights and responsibilities than children, adults with ID/DD require having many different supports provided in the community, home, and employment environments. Vatland et al. (2011) also state that goals are different for adults with disabilities.

Due to being flexible in its application, self-determination should be at the center of services provided for people with developmental disabilities. Vatland et al. (2011) states that self-determination is a theory that shapes many policies designed to provide residential and

vocational care for people with ID/DD. According to Vatland et al. (2011), self-determination provides the basis in policy, vision, and social systems in the area of developmental disabilities. The authors add that self-determination training is considered one of the best practices for youth with disabilities in an educational setting. However, the causal link between self-determination and positive outcomes for adults with ID/DD has remained untested (Wehmeyer & Schwartz, 1998, p. 1).

Common strategies used to teach self-determination include the use of several curricula focusing on self-determination skills, teaching methods to increase student involvement in planning their education, and practices used to promote student choice and decision making skills (Karvonen, Test, Wood, Browder, & Algozzine, 2004). Some curricula mentioned by Karvonen et al. (2004) include: “Self-Advocacy Strategy”, “Become your own Expert!”, and the “Choice-maker curriculum”. All of these curricula focus on involving students in their IEP process and are primarily designed for students with learning disabilities (Karvonen et al., 2004; Martin & Marshal, 1995; Test & Neale, 2004).

Another curricula utilized to teach participants about self-determination is “The Steps to Self-determination (Steps)” (Field & Hoffman, 2002). According to Field and Hoffman (2002), “Steps” is utilized to help students gain knowledge and skills required to become more self-determined. “Steps” is a curriculum that lasts 18 sessions and its foundation is the self-determination model of instruction. The steps curriculum has five major components: “Know Yourself, Value Yourself, Plan, Act and Experience outcomes, and Learn” (Field & Hoffman, 2002). During the Steps program, students establish and work toward goals they have developed based on self-determination and choice-making skills. It is important to note that this curriculum

was designed to be utilized in integrated or in segregated classes where students with disabilities participate.

Even though self-determination has shown to be beneficial to people with disabilities, self-determination's success can be hindered. A threat to a participant's level of self-determination is their type of residence. Stancliffe et al. (2000) states that people with disabilities who live in state-operated facilities have less personal control over their lives, compared to those who live in community-living arrangements where participants live semi-independently. People with disabilities who live in community settings express more choices because staff have more freedom from policies and management to make decisions, are more flexible in making decisions based on participants' preferences, and allow the participants to be a part of the household decision making (Stancliffe et al., 2000). Nota, Ferrari, Soresi, and Wehmeyer (2007) state that self-determination can be affected by external influences, such as the living or work environments and by internal individual factors such as "intelligence level, age, gender, social skills and adaptive behavior" (p. 850).

Due to the inability to test all potential impacting factors, this study will focus primarily on day-program settings, but taking into account all relevant factors noted in the literature regarding the implementation of self-determination training.

As a social adult-day service, the nonprofit community organization that will be the setting of this study offers programming similar to that of an educational environment where the participants are engaged in learning opportunities throughout the day. Due to being modeled after a traditional educational system, it is important to note the correlation between a traditional educational environment and the adult-day program that will be observed. Traditional educational environments offer all children a curriculum for learning that has to meet educational

goals through the semesters, with teachers relaying information to the students. The adult-day program being observed also has a curriculum that focuses on developing skills needed to meet the specific goals of every participant in the program and a Life Skills Instructor (LSI) who relays information to the participants. Even-though the adult-day services do not offer typical learning subjects offered in traditional educational environments, the adult-day program where participants will be observed follows a traditional school structure with topics that are modified to benefit adults with developmental disabilities.

Practices such as self-determination are important for people with disabilities as it teaches them how to make choices and advocate for themselves. It is also important that research be guided to helping adults with disabilities, as there is insufficient amount of research involving day program services for adults with ID/DD. Heller (2013) states, that there is an increase in the amount of people with ID/DD that live longer lives. According to heller (2013) about 850,600 people with DD/ID who are 60 years old live today. Therefore, it can be expected that the population can grow up to 1.4 million by the year 2030. Therefore, with a growing number of adults growing to be 60 years or older, it is important that they learn how to live a self-determined life. Heller (2013) states, “Many people with developmental disabilities have few opportunities for self-determination through their lives... throughout life, the expression of self-determination is shaped not only by one’s abilities and motivations, but also by supports and opportunities provided in one’s environment” (p. 1). Therefore, it is imperative that agencies serving individuals with ID/DD provide more services focused on self-determination and choice making.



## **II. PURPOSE**

Considering that a traditional education system is similar to the program offered at the adult-day service facility being observed, the purpose of this study was to demonstrate if self-determination training could increase on-task behavior for participants with developmental disabilities attending classes in a day-program that is part of a community-based rehabilitation agency.

### **III. RESEARCH QUESTION AND HYPOTHESIS**

1. Does a self-determination skills training increase on-task behavior for individuals with developmental disabilities attending day-program instruction?

Hypothesis:

Participants in classroom-like instruction for people with developmental disabilities who are assigned by staff to a homeroom instruction classroom are going to be less likely to be on-task compared to their on-task behaviors after receiving self-determination training and given a choice to select a homeroom instruction of their liking.

## **IV. METHODS**

### **A. Participants**

Participants in this study were part of a non-profit community organization that is categorized as a social adult service facility. There were a total of four individuals who agreed to participate in the study. In order for the individuals to participate in the study, each participant had to meet the following criteria:

- Must receive services from the chosen community-based nonprofit organization's adult day program.
- Must carry a diagnosis of developmental disability.
- Have an intelligence quotient of moderate, mild or average.
- Must have a history of remaining off-task during instruction.
- Must be referred by the Vice-President of Adult and Day Program to the lead investigator.
- Must be able to provide informed consent to participate in the study (i.e., be his/her own guardian).

### **B. Setting**

The large community-based nonprofit organization in the United States Midwest serves approximately 1,000 adults and children with various disabilities, and employs approximately 700 staff. The agency provides various support networks including, but not limited to, the adult-day program where this study took place. The adult day program is composed of 16 rooms with where instruction is delivered throughout the day. Each of the 16 rooms has an observation window where supervisors and other staff observe ongoing instruction. On the first floor of the facility there are seven instructional rooms and on the second floor there are nine instructional

rooms. Each of the instructional rooms has a Life Skills Instructor (LSI) who conducts training. Trained staff provides participants with educational opportunities following an adopted curricula.

The program is composed of approximately 250-265 participants (average of 16 participants per room). Staff makeup is composed of Life Skills Instructors (LSIs), Support staff (floaters) and One-to-One support staff. LSI staff direct class instruction, floaters provide support as needed through the day and One-to-One staff provide individualized support to participants who meet the criteria for funding under the Illinois Department of Human Services. The LSIs, support staff and One-to-One staff all report to the Adult Day Supervisors who are also available to assist if needed. Examples of the instruction offered by the adult-day service facility include, exercise and movement therapy, art, dance, horticulture therapy, daily living skills enhancement, safety skills enhancement, assistance with self-advocacy, food service training, janitorial training, community employment, and volunteering opportunities.

Similar to a traditional educational system, participants in the adult-day program are dropped off at the facility between 9:00 am and 10:00 am, and instruction begins promptly at 10:00 am and ends at 2:00 pm. Instruction at the day-program focuses on life skills training where class periods are 50 minutes long and the participants engage in instruction for 50 minutes and transition from class-to-class where they engage in the next scheduled learning experience.

Potential participants could be enrolled only if they meet all criteria for inclusion. Screening of the potential participants was performed by the Vice President of Adult Employment and Day Services. The Vice President has access to all participants' files in order to perform screening. This was important for the privacy of the participants because the investigator did not have to request for any access to the files. Once the Vice President has selected the four participants that meet all the inclusion criteria (Section A), the primary investigator and the Vice

President meet in person to discuss the possible participants. After the possible participants have been identified, the primary investigator along with the participants' case manager asked the potential participants if they were interested in taking part of the study. Potential participants were given information about the study through an approved contact script. Participants had to be able to provide written consent to participate after reading and signing an informed consent document. The informed consent document was collected before any part of the study started for all of the participants. None of the selected individuals refused to participate in the study.

C. **Experimental Design**

This study follows a single subject design, including baseline, intervention, and follow up replicated across four participants. During the follow-up phase, participants were given choices regarding the topics of instruction, which included: guitar lessons, fashion, photography, computer use, on-site job training, community employment, and money management classes. The study used a convenience sample of participants with a history of remaining off-task during homeroom instruction.

D. **Instrumentation**

This study used behavioral observations and brief exit interviews as the main data collection methods. The following is a brief description of the instruments.

1. **Behavioral observation of students in schools mobile application**

Focusing on the off-task and on-task behaviors of adults with developmental disabilities participating in life skills programs, data collection was conducted through the Behavioral Observation of Students in Schools (BOSS) mobile application on an iPad using continuous observation intervals before and after the intervention. According to Steiner, Frennettem, Rene, Brennan, and Perrin (2014), "The Behavioral Observation of Students in

Schools (BOSS) is a systematic observation method for coding classroom behavior and reports on engagement (active or passive) and off-task behaviors (motor, verbal and passive)” (p. 20). According to the BOSS method of data collection, on-task behavior is defined as Active Engagement and Passive Engagement (Volpe, DiPerna, Hintze, & Shapiro, 2005). According to Volpe et al. (2005), Active Engagement Time was “coded when a student is actively engaged in academic responding, e.g., reading aloud, writing in a journal” (p. 465). The second category of on-task behavior is Passive Engagement Time, “coded when a student is passively attending, e.g., listening to a teacher, or looking at the blackboard while a teacher writes” (Volpe et al., 2005, p. 465).

BOSS data collection separates off-task behavior into three different categories. According to Volpe et al., (2005), off-task motor is behavior involving “motor activity not associated with the assigned academic task; e.g., leaving seat to throw a piece of paper in the trash” (p. 465). The second category of off-task behaviors is off-task verbal behavior. According to Volpe et al. (2005), off-task verbal behaviors are defined as “utterances not associated with the academic task: e.g., talking to a peer about something other than the current assignment, humming”. The third category is off-task passive. Off-task passive behaviors involves, “passive non-engagement; e.g. looking out of the window” (Volpe et al., 2005, p. 465). See a sample of the BOSS data collection method recording screens in Appendix A.

Observation of student behavior is among the most common methods used and has been used for many tasks (Volpe et al., 2005). According to Steiner, Sidhu, Rene, Tomasetti, Frenette, and Brennan (2013), “BOSS is being utilized more frequently among researchers and clinicians; however, data and information to guide training and reliable usage of the tool is lacking in the literature” (p. 282). According to Volpe et al. (2005), “information gathered via direct

observation has a high degree of face validity, however, several factors may have a negative effect on the quality of the data” (p. 455). Steiner et al. (2013) argues that low interrater reliability can happen if observers view behavior as different and document behavior at different intervals, causing some differences in the data; however, “the boss has been found to yield high reliability kappa scores during training as compared with other measures” (p. 285). In a study conducted by Dupaul, Volpe, Jitendra, Lutz, Lorah, and Gruber (2004), observations were completed every 15 minutes for each student with a reliability observer. According to Dupal et al. (2004), the study reports “mean percentages of occurrence, nonoccurrence and total agreement across the behavioral categories and two subject areas ranged from 91.5% to 99.27% (M=96.56; S.D.=2.32). Mean Kappa coefficients ranged from .93 to .98 (M=.95; S.D.=.02)” (p. 292).

## 2. **Brief exit interview**

A short semi-structured exit interview was administered with the participants individually and the brief semi-structured interview was also administered with the Vice President of Adult Employment and Day services, to assess their opinion about the intervention. This interview asked two questions to the participants and three questions for the Vice President. An individual copy of the questionnaire can be found in Appendix B. Three participants participated in the interview on the final day of the study. The Vice President of Adult Day Program also completed the interview as well.

## E. **Intervention**

Class instruction for the four participants in the study was provided by the lead investigator. The investigator utilized portions of the *My Voice, My Choice: A Manual for Self-Advocates Curriculum* to facilitate instruction. The *My Voice, My Choice* is a curriculum

designed by the Human Service Research Institute, designed to “help people with minimal reading skills” (Human Services Research Institute, 1998, p. 1). This curriculum focuses on “self determination, community integration and participant-driven supports” (Human Services Research Institute, 1998, p. 1). During instruction, the lead investigator taught the participants about self-determination and self-advocacy as outlined in the *My Voice, My Choice* curriculum. The self-determination training lasted a total of seven class periods of 1 hour each in a separate room that has been provided by the agency. It is important to note that during class instruction, there was no data collection performed.

The *My Voice, My Choice* curriculum offers information that help the participants learn about developmental disabilities, self-determination, community integration, and self advocacy. The *My Voice, My Choice* curriculum offers many different examples in simple ways to explain funding for services, levels of operation, self-determination, self-advocacy techniques and how to advocate for change. Originally the curriculum is very long, offering the participants a lot of information; therefore, the lead investigator and the reliability checker offered a conjunction of topics about which the participants would learn. For this study, the lead investigator focused on teaching the participants the definitions of key concepts like self-advocacy, self-determination, advocating for change, setting goals, and making decisions. Topics such as funding and insurance programs were removed from the curriculum to allow participants to focus on self-determination (Appendix D for outline of the class).

During instruction, the participants were encouraged to participate in class as much as possible. The instructor did lecture to the participants; however, the instruction was more of a facilitator for the participants. The participants were encouraged to discuss the topics and express their concerns and if the participants went off topic they were redirected to the learning process



using various activities discussed in the *My Voice, My Choice* curriculum. The participants were encouraged to read aloud, take notes, use the blackboard and share their opinions on the topics being discussed.

F. **Data Collection Procedures and Reliability**

Baseline data was collected using the Behavioral Observation of Students in School (BOSS) mobile application on an iPad device. This data quantify the amount of on-task and off-task behavior each participant engages in. The researcher and a trained reliability observer collected all the data. The reliability observer received training on utilizing the Behavioral Observation of Students in Schools (BOSS) method of data collection by the researcher. The information was later graphed and reported.

After baseline data collection, the participants received the self-determination training for 7 days and after that, they were allowed to choose a class of their liking such as guitar lessons, fashion, photography, computer use, and money management classes. Those classes were again observed utilizing the same procedures and methods used during the baseline evaluations. At the end, participants and the Vice President were asked to respond to a few questions as part of an exit interview to gather their impressions about the research process and the intervention. The participants and the Vice President were interviewed individually.

All observations were conducted during first period of each day from outside of the instructional room through an observation window without interfering with group participation. Observations were conducted in the assigned homeroom instruction to establish baseline data. Observations were conducted for 8 days. The observations were set to be standardized and timed to occur at the same time every day before the participants transition from one room to the next to be observed during homeroom instruction. Every time the observer was ready to complete an

observation, the observer had to complete the basic information of the participant in the application. The mobile application requires observer name, date of observation, time of observation, subject of instruction, name of life skill instructor, number of participants in group, ratio of male to female participants and the observation start and stop times (Appendix A).

After the observer has completed the pre-observation screening on the application, the observer would set the timer on the application for 10 minutes at 15 second intervals focusing on the participant that was chosen (the application informs the observer when to make the next observation through a sound). Every 15 seconds, the observer would be prompted to look at the participant and see if he or she was on-task or off-task and noted it accordingly. As the observer was looking for on-task/off-task behavior, the observer could also make general comments about the rest of the group that may be useful later.

It is important to note that the observer only observed the assigned participants for only 10 minutes at 15 second timed intervals to see if he or she was on-task. This type of data collection allows for an overview of the amount of times that the participant was on-task/off-task at the time the observation was made. The reason for using such sampling was to make an overall assessment of the effectiveness of the self-determination skills training. The sequence of individuals observed was altered each day in order to assess participants at various time during the selected training session.

Baseline observations occurred with all four participants utilizing the Behavioral Observation of Students in School (BOSS) mobile application on an iPad device. This data quantified the amount of on-task and off-task behavior each participant engaged in. The reliability checker received training on utilizing the Behavioral Observation of Students in

Schools (BOSS) method of data collection and was trained by the researcher. The reliability was conducted with 62% of the observation sessions.

## **V. RESULTS**

Data was collected utilizing the Behavior of Students in Schools (BOSS) observation form mobile application. Baseline and final data was collected for 10-minute segments at 15-second intervals for eight consecutive days. Baseline data collection was conducted in the participant's respective original instruction room (textiles, relationships, and graphic design/scrapbooking) through the observation window in each of the classrooms. The observations were recorded during the first instruction period. The observations were designed to measure the amount of on-task each participant was engaging in while participating in the original classes already provided by the agency.

**TABLE I**  
**RELIABILITY SCORES**

<b>Participant</b>	<b>Agreements</b>	<b>Disagreements</b>	<b>Interrater Reliability Score</b>
<b>1RPAR</b>	204	20	91.1%
<b>2PTRW</b>	193	31	86.3%
<b>3AIQD</b>	199	25	88.8%
<b>4JW XD</b>	193	31	86.2%

**TABLE II**  
**ON-TASK VS. OFF-TASK BEHAVIOR FOR PARTICIPANT 1RPAR**

<b>1RPAR</b>	<b>On-task Active</b>	<b>On-task Passive</b>	<b>Off-task motor</b>	<b>Off-task Verbal</b>	<b>Off-task Passive</b>
<b>Baseline total</b>	12	22	80	15	113
<b>Baseline % of behavior</b>	5.3%	9.8%	35.7%	6.7%	50.4%
<b>Baseline Average</b>	1.7	3.1	11.4	2.1	16.1
<b>Intervention</b>	-	-	-	-	-
<b>New class</b>	n/a	n/a	n/a	n/a	n/a
<b>New class % of behavior</b>	n/a	n/a	n/a	n/a	n/a
<b>New class average</b>	n/a	n/a	n/a	n/a	n/a

Baseline data: 7 different observations with 32 intervals. Total of 224 observations

New class data: 6 different observations with 32 intervals. Total 192 observations

**TABLE III**  
ON-TASK VS. OFF-TASK BEHAVIOR FOR PARTICIPANT 2PTRW

<b>2PTRW</b>	<b>On-task Active</b>	<b>On-task Passive</b>	<b>Off-task motor</b>	<b>Off-task Verbal</b>	<b>Off-task Passive</b>
<b>Baseline total</b>	28	41	6	54	144
<b>Baseline % of behavior</b>	12.5%	18.3%	2.7%	24.1%	64.2%
<b>Baseline Average</b>	4	9.9	0.9	7.7	20.6
<b>Intervention</b>	-	-	-	-	-
<b>New class</b>	103	83	3	5	13
<b>New class % of behavior</b>	53.6%	43.2%	1.6%	2.6%	12.0%
<b>New class average</b>	17.2	13.8	0.5	0.8	2.2

Baseline data: 7 different observations with 32 intervals. Total of 224 observations

New class data: 6 different observations with 32 intervals. Total 192 observations

**TABLE IV**  
ON-TASK VS. OFF-TASK BEHAVIOR FOR PARTICIPANT 3AIQD

<b>3AIQD</b>	<b>On-task Active</b>	<b>On-task Passive</b>	<b>Off-task motor</b>	<b>Off-task Verbal</b>	<b>Off-task Passive</b>
<b>Baseline total</b>	12	33	63	10	116
<b>Baseline % of behavior</b>	5.3%	14.7%	28.1%	4.46%	51.8%
<b>Baseline Average</b>	1.7	4.7	9	1.4	16.6
<b>Intervention</b>	-	-	-	-	-
<b>New class</b>	106	58	1	20	21
<b>New class % of behavior</b>	55.2%	30.2%	0.5%	10.4%	10.9
<b>New class average</b>	17.7	9.7	0.17	3.33	3.5

Baseline data: 7 different observations with 32 intervals. Total of 224 observations

New class data: 6 different observations with 32 intervals. Total 192 observations

**TABLE V**  
**ON-TASK VS. OFF-TASK BEHAVIOR FOR PARTICIPANT 4JWXD**

<b>4JWXD</b>	<b>On-task Active</b>	<b>On-task Passive</b>	<b>Off-task motor</b>	<b>Off-task Verbal</b>	<b>Off-task Passive</b>
<b>Baseline total</b>	24	37	23	98	79
<b>Baseline % of behavior</b>	10.7%	16.5%	10.3%	43.8%	35.3%
<b>Baseline Average</b>	3.4	5.3	3.3	14	11.3
<b>Intervention</b>	-	-	-	-	-
<b>New class</b>	131	35	5	20	16
<b>New class % of behavior</b>	68.2%	18.2%	2.60%	10.4%	8.3%
<b>New class average</b>	21.8	6.3	0.8	3.3	2.6

Baseline data: 7 different observations with 32 intervals. Total of 224 observations

New class data: 6 different observations with 32 intervals. Total 192 observations

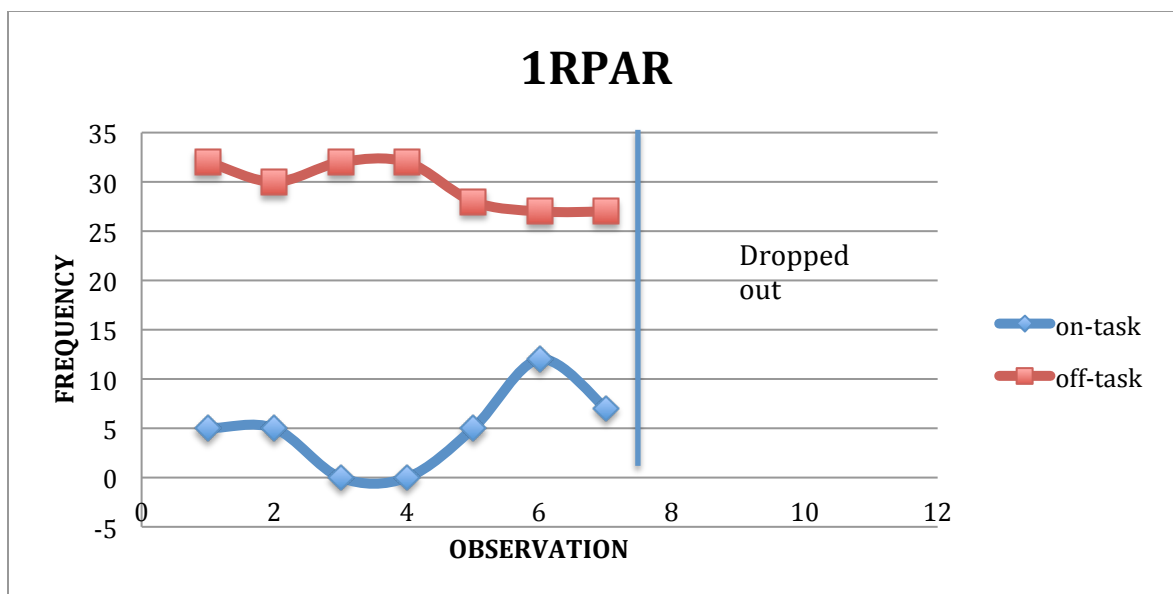


Figure 1. Participant 1RPAR was only on-task 15.2% of the time during baseline data collection. Participant 1RPAR dropped out of the study during intervention.

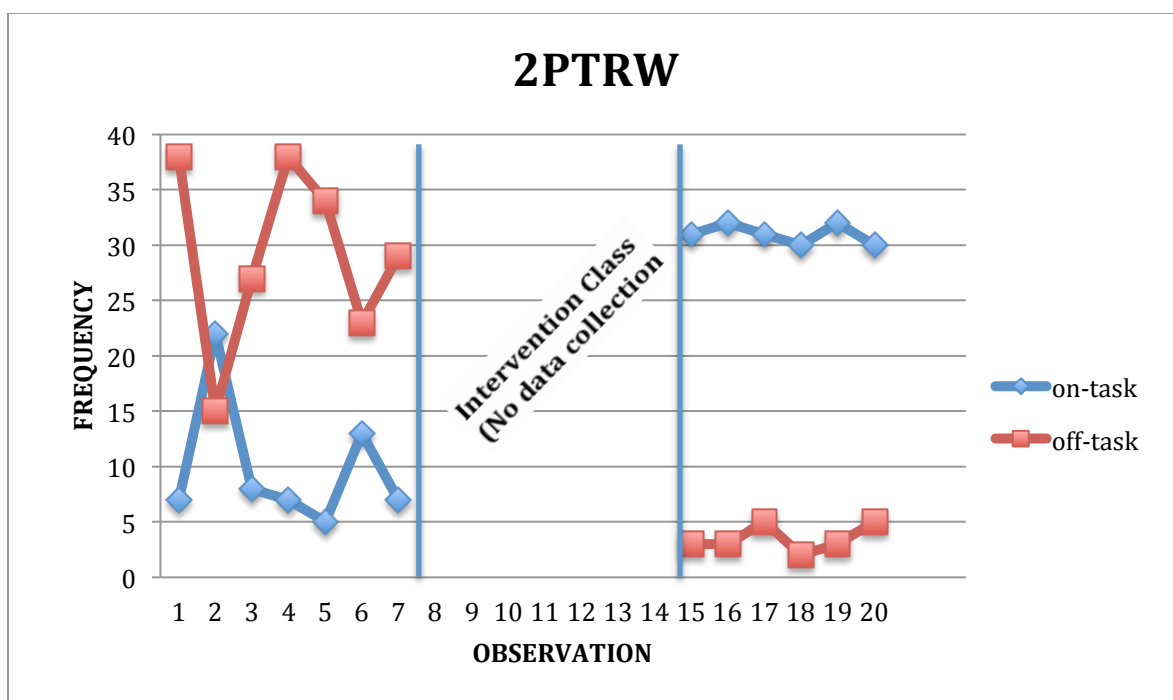


Figure 2. Participant 2PTRW was only on-task 30.8% of the time during baseline and on-task 96.8% of the time after intervention.



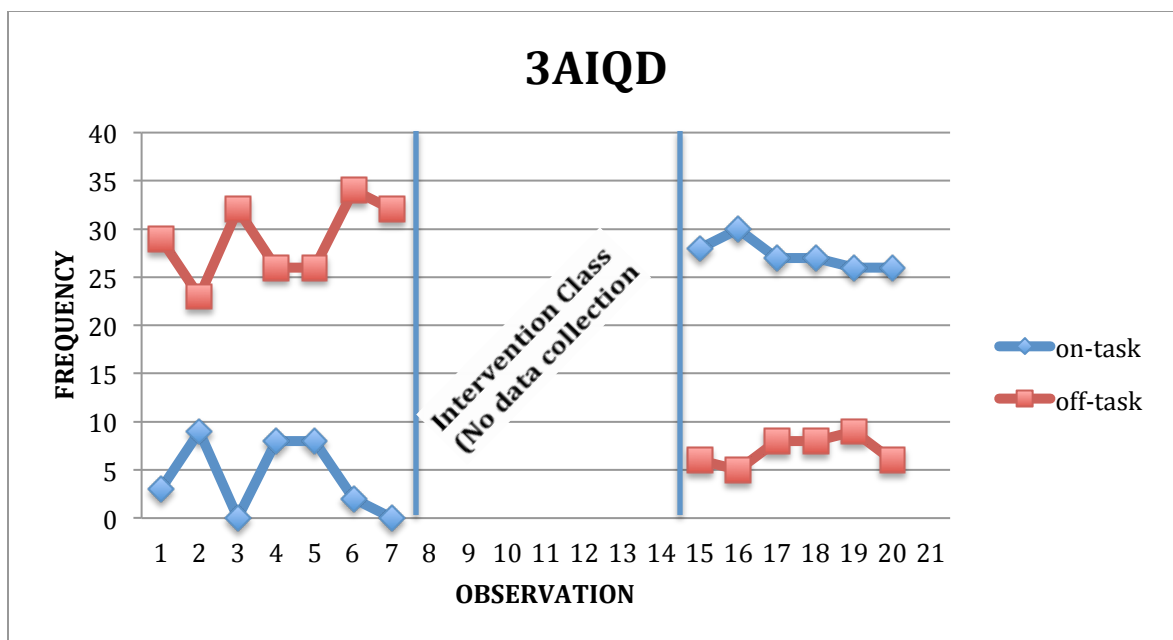


Figure 3. Participant 3AIQD was on-task 20% of the time during baseline and on-task 85.4% of the time after the intervention.

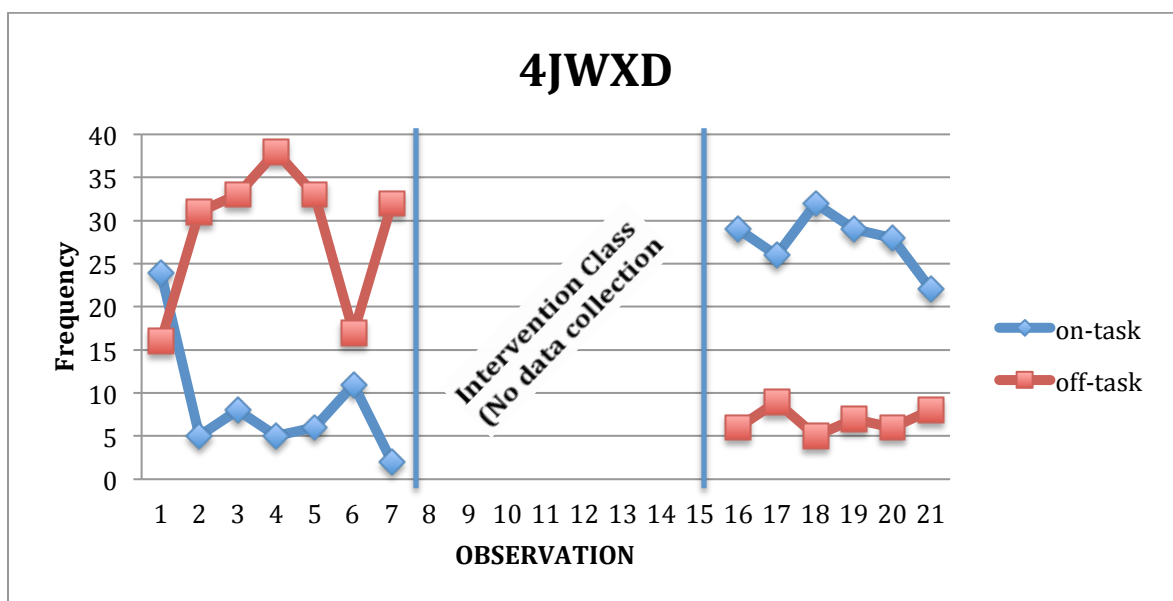


Figure 4. Participant 4JW XD was on-task 27.2% of the time during baseline and on-task 86.4% of the time after the intervention.

Baseline data recorded indicates that the four participants were off-task during instruction. Participant 1RPAR was on-task 15.2% of the time, Participant 2PTRW was on-task 30.8% of the time, Participant 3AIQD was on-task 13.4% of the time and Participant 4JWXD was on-task 27.2% of the time. Due to increased levels of off-task and decreased levels of on-task behavior each participant displayed, it can be assumed that the participants were not very interested in the information being provided. The participants found it more interesting looking out the window, walking around, leaving the instruction room, talking to others, or using their cell phone. As a result of being off-task, the participants in the study may have in turn affected the other participant's engagement in the class activities as mentioned by Baker (2007). Due to observations being completed during first period (homeroom) it was noted that some instructors at the day program were not prepared for instruction upon the arrival of the participants. This in turn might have affected on-task behavior since there was nothing to focus on at that moment. However, it is important to note that data was not collected during the time that the instructor was not teaching.

The second phase of the study was the intervention phase (indicated in graphs as an empty space). During the intervention phase no data was collected. During this phase, the participants learned about making choices based on the self-determination model of instruction following the *My Voice, My Choice: Curriculum for Self-advocates*. This curriculum focused on the choice making aspect of self-determination and helping the participants advocate for what they would like and provided information about systemic change, empowerment, leadership and self-determination. The *My Voice, My Choice Curriculum* was key in teaching the participants how to make choices and advocate for what they would like. During this stage the participants decided which classes they would like to attend.

It is important to note that at the beginning of the intervention phase, Participant 1RPAR dropped out of the study. Participant 1RPAR dropped out because he wanted to have extra free time to spend it with his friends during the scheduled class and lunchtime. Participant 1RPAR was asked on the next day if he was sure about his decision and he once again refused. Participant 1RPAR dropped out of the study on the third day of the intervention phase, but was reminded that if he changed his mind he could rejoin the study. Participant 1RPAR did not rejoin the study.

The final part of the study included the participants engaging in the classes of their choice in a different room than their original instruction with the primary investigator and only the other participants that chose to participate in the class. For that reason, this phase cannot be categorized as a return to baseline conditions. During this phase, data collection resumed during instruction provided by the main researcher to the participants. Different from the baseline, the participants were in classes they chose to participate in, and the class size was three participants for one instructor. The participants selected topics such as music, computer use, photography and film, money management, and fashion. It is important to note that these classes were only one or two 60-minute sessions long. These classes were provided as pilot classes to measure if on-task behavior was going to be affected by participant's choices.

Music class included a visitor who is a musician. The visitor brought two guitars for the participants and taught the participants guitar basics such as strumming and the strings. In computer class, the participants learned about Internet safety, the basic parts of the computers, using a mouse, practiced typing on a desktop, laptop and mobile device. Photography class included the use of professional cameras and mobile device cameras, along with basic information on camera filters, angles and other computer basics. Money management included

information on budgeting, savings accounts, credit accounts, checking accounts and money saving tips. The final class was fashion that was designed for Participant 3AIQD. Participant 3AIQD had expressed that she would like to be a model and was wondering if people with developmental disabilities can be models like Tyra Banks. In the fashion class, she learned about matching and selecting appropriate clothes for the weather and certain occasions. The information the participants were offered was not enough to make them experts in the matter; however, it was valuable information that reflected common knowledge about the topics.

The last form of data collection was the exit interviews. The participants provided the following answers to the questions:

#### A. Participants' Exit Interviews

##### **Participant 2PTRW**

1. What do you think about self-determination training?

**“It was fun and I learned a lot.”**

2. Do you like making choices about what you like to learn?

**“Yes, I like making choices. I liked choosing computer class and using different computers and the iPad.”**

3. Were you able to do what you wanted to do after the training?

**N/A**

##### **Participant 3AIQD**

1. What do you think about self-determination training?

**“I really liked the training a lot. My favorite class was fashion and photography”**

2. Do you like making choices about what you like to learn?

**“Yes. My favorite class was how to be able to advocate and stand up for what I believe in”**

3. Were you able to do what you wanted to do after the training?

N/A

#### **Participant 4JWXD**

1. What do you think about self-determination training?

**“It was nice and I had fun”**

2. Do you like making choices about what you like to learn?

**“Yes. I like that I chose music, because I got to play the guitar”**

3. Were you able to do what you wanted to do after the training?

N/A

#### **B. Vice President of Adult Employment and Day Program Exit Interview**

1. What do you think about the self-determination training?

**I think it was very useful and enlightening to our supervisors and people we support. It proved beneficial to securing input and preferred activities which translated into increased engagement in preferred activities.**

2. Do you think that the participants benefited from the training?

**I think the individuals benefitted from being asked their opinions for preferred activities and then realizing their opinions matter when the activities were offered to them. They had a voice in what they wanted to do and engage in.**

3. Do you think more participants should receive this training? Do you think the day program can adopt this practice?

**I think many people could benefit from this training. With modifications and staff training, I think those with the most severe disabilities can express their choice. I think Day Services will adopt some of this practice. We have a new Strategic Plan being implemented in fall, 2015. We will focus more on choice and self advocacy.**

## VI. DISCUSSION

These findings provide support that offering choice making opportunities to people with developmental disabilities does affect the amount of on-task behavior participants engage in. The homeroom instruction the participants were involved in included classes on textiles, relationship and graphic design/scrapbooking. It is important to note that I did not have any knowledge of what the participants were learning before I started the study. As a researcher, I only knew what topics the participants were discussing. Baseline data in the classes already offered by the agency indicates that the participants were mostly off-task, but after the intervention phase, and when participating in the classes they chose, the participants were on-task most of the time. As mentioned by Kern et al. (2001), choice making helps enhance a person's life and can reduce problem behaviors. In this case, off-task behavior is considered the problem behavior, as participants were not engaged in the classes originally provided. During baseline data collection, it was noted that the participants remained off-task for the majority of the daily 10-minute observations. The participants were observed engaging in off-task motor behavior in the form of walking in the hallway, leaving the instructional room, not reporting for instruction and wandering inside the group room. Participants were also observed engaging in off-task verbal behavior, where they would spend time talking to peers and off-task passive where participants were looking out the windows, staring elsewhere in the room, looking at their cellphones or engaged in other activities.

During the intervention phase, instruction was done utilizing the *My Voice, My Choice* curriculum. This curriculum was adopted because it discusses self-advocacy, choice making and self-determination throughout in a way that was accessible to the participants. The use of this curriculum involved seven consecutive classes 45-60 minutes long where we discussed choice

making and the importance of advocating for services in the lives of the participants. They learned terms such as empowerment, self-advocacy, and self-determination. In each section it was discussed how choices have consequences either positive or negative. Various team-building activities were used and the participants were encouraged to take a lead role in the learning process, by reading the material to the rest of the group, sharing personal experiences or making suggestions for the class. The classes were presented to the participants in PowerPoint and they were given the opportunity to decide which classes they would like to choose for the final phase of the study. During the final day of the session, the participants were given the opportunity to choose from several classes that could be easily accommodated by the agency and the researcher. The list was prepared on the basis on conversations with participants during the classes in which they were asked about their interests.

The third phase of the study involved the participant's engaging in the classes of their choice. As the researcher, I gathered the materials required for each of the classes the participants wanted to learn about. In several cases an outsider who was familiar with the subject came and taught to the interested individuals for an hour. For the music class the participants chose, a local musician came to the agency and teach the participants basic skills with the guitar. His lesson plan included information about the instrument and how to use it along with basic skills that were interactive and fun. During this class, the participants were very engaged and interested in learning about playing an instrument.

Allowing the participants to choose which class they would like to participate in made a substantial difference in the amount of on-task behavior the participants engaged in. On-task behavior was affected throughout the three participants that completed the study. During these

sessions, the participants in this study were engaged and answered questions, read out loud, and participated in the activities throughout.

Even though this was a pilot study to see how choice affects a participant's engagement in learning, it is recommended that the non-profit agency adopts practices that allow the participants to exercise individual choice and utilizes the BOSS method of data collection to measure on-task and off-task behaviors of the participants throughout. The measuring of on-task and off-task behavior is important in order to understand how well the participants are engaging in the material presented. The results indicate that choice making does affect on-task behavior and if the agency adopts choice-making practices and measures the amount of on-task behavior, the participants could get more benefits from the programming they are already receiving. The most important use for this method of data collection is that it will allow flexibility in the program. For example, if a participant is in a class and he/she is not on-task and he/she is being monitored for on-task behavior and somebody notices that he/she is not doing well in the class, the participant can be moved to a class of their choice before the participant disrupts his peers in his current class.

As a result of the study, supervisor staff have been trained on how to measure on-task and off-task behavior by the main researcher using the BOSS mobile application. Several staff members were trained in identifying the differences between on-task and off-task behavior and how to utilize the BOSS Mobile Application to collect the information. The training was done with two supervisors at a time for one hour, and detailed notes and practice with measuring on and off-task was provided. Supervisor staff members were very receptive to the practice and did notice the possible uses for this methodology. They also engaged in productive conversations about the importance of offering more choices to participants during their day-program classes.



A. **Recommendations for the Agency**

It is recommended that the non-profit agency adopt measuring on-task behavior and allowing the participants to make choices regarding what they would like to learn. If more participants are allowed to choose what they would like to learn during instruction, more people will likely be more on-task according to the results of this study. The more participants are on-task, the less distracted the participants will be and therefore will learn more.

It is recommended that the day-program supervisors continue to collect data using the BOSS mobile application due to its simple use and informational benefits. All supervisors already use iPad devices for other forms of data collection and information sharing, therefore purchasing and downloading the application should not be a problem. It is recommended that the day-program supervisors collect data for at least 5-minute segments at 10-second intervals. If the supervisors take 5 minutes for each of the instructional rooms they supervise, they could get an overview of how many participants are on-task or off-task. With 5 minute segments at 10 second intervals, the supervisors could get up to 60 observations.

It is also recommended that the day program also utilize the BOSS mobile application because it has a section that allows the observer to compare the participants with the person being observed. This will allow the supervisors to compare the observed participant to other participants.

B. **Implications for Practice/Research**

The majority of research found involving on-task and off-task behavior deals mostly with children in school. The Behavior Observation of Students in Schools form (BOSS) was originally developed to measure on-task behavior of school-aged children during instruction. In order to adopt the BOSS method of data collection at an adult day program, it had to be modified

to be used with adults. I believe this study should be replicated with a comparison group that does not receive the self-determination training at this organization or at a similar facility where this study was performed. If another agency or researcher produces the same results, it can be noted that on-task behavior is affected by choice and/or by self-determination training in adults with developmental disabilities. This research should be replicated with a larger sample size including a comparison group. This research is important to the field of disability as it provides insight on adults that participate in day programs.

C. **Personal Reflection**

As former employee at the agency where this study was implemented, my previous employment was as a behavior analyst who responded to crisis situations and wrote behavior modification plans. Behavior modification can be very effective with participants in modifying behavior. However, sometimes I noticed that some participant who had extensive behavior services would not react to the behavior therapy. While working, I noticed that the participants were either bored or not interested in what was going on in the group room and getting a reaction from a negative behavior was more reinforcing. An example of this would be that a participant would rather hit another participant to get attention from staff or any other stimulating feedback and then be removed to a different location other than the instructional room. As a result of getting all the attention, the participants would typically engage in this type of behavior and disrupt the instructional room. The off-task behavior of one person affected the rest of the group when one participant would disrupt the learning environment. As I tried to do my job, I started noticing this pattern and thought something must be done to change it.

After extensive research contemplating how the problem of participants engaging in disruptive behaviors affected the learning environment, I noticed that the participant was doing it

to get a positive or negative reaction due to not being interested in what was going on in class or being bored with the instructional materials or topic.

Instead of responding to crisis situations and removing the participants from the instruction room, this method attempts to keep the participants in the room and help them become engaged. If a participant chooses where they want to be and what they want to learn, in theory, they will be engaged in their selected activities. This method aims to put the decisions in the hands of the participants with some staff assistance. This method can help participants self-regulate their maladaptive behaviors of being off-task if they are enjoying what they are learning. This research has impacted me in understanding the importance of providing choices to all individuals. I have dedicated my life to working with people with various disabilities and as I work with more and more people with disabilities, I will push for offering choices as much as possible.

#### D. **Limitations of the Study**

The biggest limitation of this study was that there was no comparison group that did not receive the self-determination training. If there was a comparison group in place that received the self-determination training and one that does not receive the training but were both allowed to make choices about which class they would like, then the effect of the training could be narrowed down. A question to ponder about is, would choice alone render these results? Did the training have any impact on the fact that the participants remained on-task? In my opinion, the training did have an effect on the participants; however, a comparison group should be added to make sure how much of an impact there is as a result of the self-determination training.

Another limitation was a small sample size ( $n=4$  and then 3). The reason a small sample size was used was due to the design of the study. This study follows an ABC design where

baseline data was collected, an intervention was implemented and follow up data was collected in a different setting with the same participants. A small sample size was also convenient for data collection purposes (more manageable to conduct the 10-minute interval observations). With only two people collecting data and only two iPad devices, a small sample size was necessary. As a result of a small sample size, the three participants received a more 1 to 1 instruction during the phase three of the study. The 1 to 1 model of instruction in an agency so large is highly unlikely and the closer attention the participants received might have affected the outcome of the study too.

Another limitation of this study was the fact that one participant decided to drop out during the intervention phase. Participant 1RPAR decided to drop out due to the scheduled intervention time affected the time he wanted to use to see his girlfriend. The results collected in this study compared the follow-up data with the baseline data among the same participants throughout; however, in retrospect, I should have accounted for the possibility of a participant dropping out during the process.

The final limitation noticed in this study was participant schedules. Due to each participant being employed or engaging in different activities at the day program or being on vacation, it was difficult to observe the participants at the same time at baseline and to accommodate the intervention and follow up classes. Participants at baseline were being observed in different locations during homeroom baseline instruction at different times. Participants in this study had to be observed depending on their scheduled activities for the day. In order to schedule the intervention, the classes all occurred at different times. The intervention classes varied due to employment responsibilities, particularly of Participant 3AIQP who holds three jobs, left on a short vacation during the intervention phase, and had another scheduled

vacation that lasted two weeks. In order to accommodate the other two participants, they were able to participate in the classes they have chosen. Upon the arrival of Participant 3AIQP, she engaged in the courses. The other participants were allowed to join the classes again if they liked to and they did voluntarily.

In conclusion, it seems like on-task behavior can be positively affected by participants' capacity to make choices. By giving the participants the opportunity to choose which classes they would like to take, they increased their on-task behavior significantly. Although this study had various limitations it can be inferred that individuals with ID/DD can significantly increase their on-task behaviors when allowed to make choices about what they want to learn. The staff members from the participating agency are now paying more attention to these issues and are likely to increase the degree of choices available to participants in the day-program.

## APPENDICES

## APPENDIX A

### Behavioral Observation of Students in Schools (BOSS)

**SETTING UP A NEW SESSION (OBSERVATION)**

- iPhone
- Android



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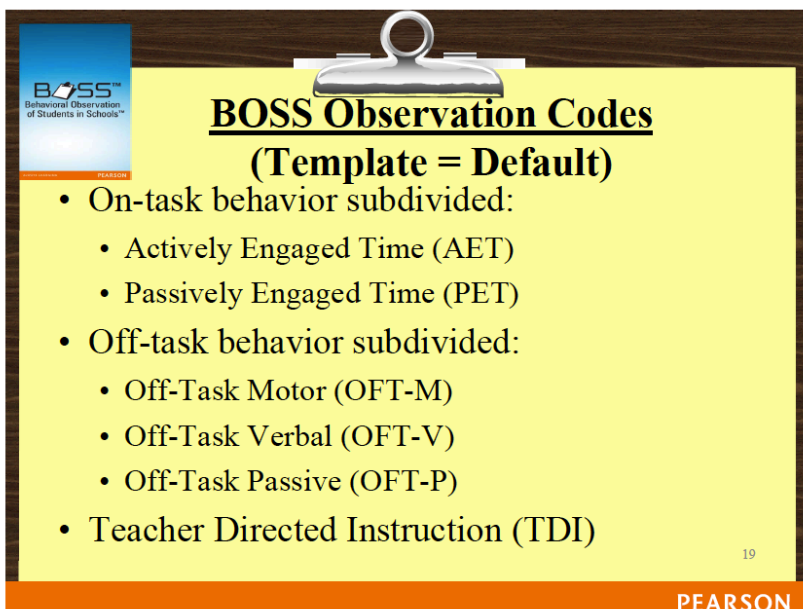
**Key Information**

- Observer name, Student name, School, Grade
- Task (Subject)
  - Language Arts, Mathematics, Reading, Writing
  - Option to add user defined task or subject
    - Science? Social Studies?
    - Guided Reading Groups? Cooperative Groups?

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## APPENDIX A (continued)



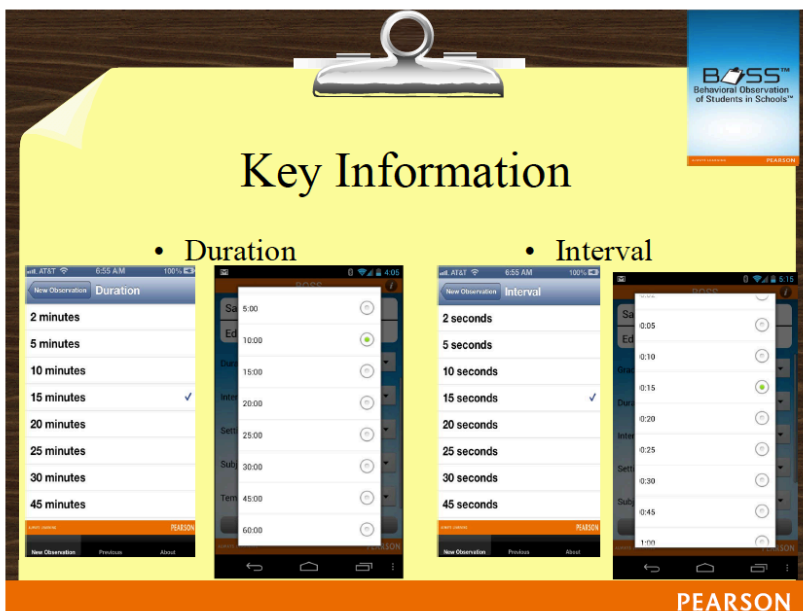
**BOSS™**  
Behavioral Observation of Students in Schools™

### BOSS Observation Codes (Template = Default)

- On-task behavior subdivided:
  - Actively Engaged Time (AET)
  - Passively Engaged Time (PET)
- Off-task behavior subdivided:
  - Off-Task Motor (OFT-M)
  - Off-Task Verbal (OFT-V)
  - Off-Task Passive (OFT-P)
- Teacher Directed Instruction (TDI)

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**BOSS™**  
Behavioral Observation of Students in Schools™

### Key Information

- Duration
- Interval

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## APPENDIX A (continued)

**Page 2**

- Behavior Legend (only evident for Default BOSS template)
- Graphic illustrations (in color) of Momentary and Partial intervals behaviors
- Graphic comparisons of target and peers on each behavior

**Behavior Legend**

AET Actively Engaged in Task

PET Passively Engaged in Task

OFT-M Off Task - Motor

OFT-W Off Task - Verbal

OFT-P Off Task - Passive

TSI Teacher Directed

---

**Graphic Analyses**

**Momentary**

**Partial**

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**Page 1**

- Basic Identification Info
- Count and Percent of each category of behavior
- Interval table showing results of each interval

**BOSS Results**  
Student: Mike J

Observer: Ed B  
Date: Jul 30, 2013  
Setting: ISWC: 1st

Grade: 1  
Time: 10:01 PM  
Duration: 02:00 min

School: Daffin  
Task: Language Arts  
Interval: 10 sec

Behavior	Target Student		Peer Student		Teacher	
	Count	Percent	Count	Percent	Count	Percent
AET	5	50.00%	1	50.00%	-	-
PET	5	50.00%	1	50.00%	-	-
OFT-M	5	50.00%	1	50.00%	-	-
OFT-V	4	40.00%	1	50.00%	-	-

Target Ints: 10      Peer/Teacher Ints: 2

**Interval Table**

	AET	PET	OFT-M	OFT-P	OFT-V
1	1	0	1	0	0
2	1	0	0	1	0
3	0	1	1	0	1
4	1	0	0	0	1
5	0	1	1	0	1
6	0	1	0	1	0
7	1	0	1	0	0
8	0	1	1	1	1
9	0	1	0	0	0
10	1	0	0	1	0
11	1	0	0	0	1
12	0	1	1	0	0

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## **APPENDIX B**

### **Exit Interview (for participants)**

1. What do you think about the self-determination training?
2. Do you like making choices about what do you want to learn?
3. Where you able to do what you wanted to do after the training?

### **Exit Interview for Vice President of Adult Employment and Day Program**

1. What do you think about the self-determination training?
2. Do you think that that the participants benefited from the training?
3. Do you think more participants should receive this training? Do you think the day program can adopt this practice?

## APPENDIX C

### Schedule for Class instruction

Day:

1. Defining key terms (i.e. developmental disability, self-determination, community integration, self-advocacy)
2. Self-determination training (excerpts from the My, Voice, My choice curricula)
3. Self-determination training continued and video published by the National Gateway to Self-determination (<https://www.youtube.com/watch?v=YPWhAMe4UzU>)
4. Self advocacy training (Excerpts from My voice, My choice)
5. Self advocacy training continued (Excerpts from My voice, My choice)
6. Advocating for change (Excerpts from My voice, My choice)
7. Goal setting training (Excerpts from My voice, My choice)
8. Class instruction review

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Green Youth Movement at University of Illinois at Chicago-Event  
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