Reducing Classroom Off-Task Behaviours and Increasing On-Task Behaviours in a
10 Year- Old Male Student Diagnosed with ADHD

by
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A thesis submitted to the School of Community Services
in partial fulfillment of the requirements for
the degree of
Bachelor of Applied Arts in Behavioural Psychology

St. Lawrence College
Kingston, Ontario
Canada.
April 2009
DEDICATION

I dedicate this thesis to all my friends who helped, encouraged and loved me throughout the past four years, especially Emily, Andrew W., Lyndsay, Kallie, Tyler, Kyle, and Chad, Andrew B, Mike, Hayley and Annette,

You guys helped me more than you will ever know.

To my family for all their support, especially my Mom and sister Courtney who shared in the seriousness of writing a thesis,

And to myself, for putting in the hard work and dedication needed to get where I am today.

Thank You 😊
ABSTRACT

The overall aim of this study was to demonstrate not only how important behavioural interventions are in a classroom, but also how simple and cost effective these interventions can be, and still produce favourable results not only for the child involved, but for the other students and staff as well.

This case study involves implementing a token economy intervention in a specialized classroom, with a male student diagnosed with ADHD. The interventions main focus was on decreasing off-task behaviours and increasing on-task behaviours during independent seat work periods using an AB design. Off-task behaviours were chair tipping, playing with school supplies, and day dreaming/looking out the window. On-task behaviour was defined as the client sitting properly at his desk, with only the necessary school supplies needed for completion of the task at hand, as well as actively reading and writing on the piece of work selected for completion. The reinforcers that were used were stickers, which were then exchanged at the end of the school week for special activities, such as extra access to the computer, trips to the park, and movie time. Predetermined daily and weekly goals were required to be met in order for the student to earn his tokens and special privileges.

Results of the study show that by reinforcing the clients positive target behaviours, the off task behaviours, or problem behaviours reduced significantly. The data showed a significant improvement during and following the intervention from baseline levels of assessment. Not only did the number of off-task behaviours that the client exhibited reduce, the duration of time spent on-task and the amount of seat work completed also increased.
ACKNOWLEDGEMENTS

I would like to acknowledge the following people who have made and assisted in various ways to make the completion of this thesis possible.

Dr. Yolanda Fernandez for the guidance and support throughout my thesis experience.

Drew McNamara for his guidance and support during my second year placement which helped me excel in my preceding placement experiences, especially in writing this thesis.

Amherstview Pathways Nexus Program and my agency supervisor Susan Keene, for trusting my knowledge and abilities and her consistent support throughout my placement experience,

And to everyone else who helped, supported and encouraged me in the past four years.
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Chapter I: Introduction

Overview
Attention Deficit Hyperactivity Disorder (ADHD), is a common mental health condition that affects children, adolescents and adults (Lerner & Wigal, 2008). It is estimated that approximately 60% of children are referred to outpatient mental health agencies for ADHD symptoms each year. Prevalence of ADHD in school aged children ranges from 1% to 12% depending on how the disorder is defined (Frick & Lahey, 1991).

The diagnostic definitions of ADHD have undergone numerous redefinitions, renamings, and reconceptualizations throughout the years. (Frick & Lahey, 1991). Children with ADHD were first seen as, or identified with having “minimal brain damage” to later being classified as having a “minimal brain dysfunction”. According to Templeton (1995), during the 1930’s and 1940’s, “brain damaged” and “brain injured” were used to describe individuals diagnosed with ADHD. In the late 50’s and 60’s, names such as “minimal brain dysfunction” and “hyper kinetic behavior disorder” were applied to overactive children. Finally in the late 60’s and the 1970’s, “Hyperactive child syndrome” was the most frequent term utilized, until in 1980 when the Diagnostic and Statistical Manual of Mental Disorders (DSM III) replaced the term “hyperactivity” with the term “Attention Deficit Disorder” (ADD). ADHD was later divided in to two categories; attention deficit disorder with hyperactivity and attention deficit disorder without hyperactivity. The term Attention Deficit Hyperactivity Disorder (ADHD) was officially implemented when the DSM III was revised in 1987. The revised edition of the DSM III (DSM-III-R) put forth a one-dimensional definition where a child was said to have ADHD if he/she exhibits eight or more of as list of fourteen symptoms that display difficulties in attention, impulsivity and motor hyperactivity, with onset prior to seven years of age (Frick & Lahey, 1991).

Most symptoms of ADHD appear during early childhood, and manifest themselves to a disruptive degree in adolescent years, and throughout adulthood (Miranda, Jarque & Tarrage, 2006). These symptoms cause alterations in school and family functioning, and also in relationships with classmates. Children diagnosed with ADHD are also at risk of poor long-term psychiatric, social, and academic adjustments. ADHD, characterised by inappropriate levels of impulsivity, inattention and hyperactivity, is seen as a significant source of concern for physicians, mental health specialists, and school personnel. This is due in large part to its prevalence in the school age population and its detrimental impact on children’s psycho-social development. In addition to ADHD becoming an increasing public health issue, it is now becoming recognized as an important issue affecting learning in the education system (Frick & Lahey, 1991).

The negative effects that ADHD has on the education system, such as behaviour difficulties, classroom disruptions, and social implications with peers, makes it evident that a more consistent and unified approach is necessary to address the educational needs of children. The major symptoms of ADHD identified above, all interfere with a child’s ability to learn. A substantial portion of children diagnosed with ADHD (23%-30%) have difficulties achieving a level predicted by their age and general intelligence. Andrews (1999) states that it is within the first few years of education that a referral for a diagnosis is made, as it is teachers who notice many of the behaviours associated with ADHD first. Teachers and other classroom staff are becoming more aware of the symptoms and prevalence of ADHD and want information and training on how to educate and ensure
academic and social success with these students. As knowledge and awareness regarding ADHD increases, educators must learn to develop instructional strategies to effectively meet the needs of this unique group of students and improve their learning outcomes. (Templeton, 1995).

Medication has been documented as a useful treatment of ADHD symptoms, although there is growing controversy surrounding the prescription use of medication because of possible harmful side effects, such as suppressed growth, long term dependency, lack of appetite etc. The National Health and Medical Research (1997) propose a multi-faceted approach to treating school-aged children with ADHD. Educational and behavioural supports should always be utilized if available. In developing more safe and successful techniques to reduce medication dependency and increase school performance in children with ADHD, behaviour therapy and interventions have proven effective. One of the areas that holds some promise for the treatment of ADHD through behaviour therapy, is the use of token economies. Token economies provide incentives for children to stay on task and reduce other problem behaviours through reinforcement for positive efforts and behaviours. Through review of the successful use of token economies in previous studies, and extensive observation and careful implementation of behavioural techniques, token economies have been shown to successfully improve classroom behaviours of students diagnosed with ADHD.

It is hypothesized that a token economy based on rewarding appropriate behaviour will decrease off task behaviours and increase on-task behaviours in children with ADHD in a classroom setting.

The following sections will cover literature relevant and in support of the hypothesized outcome of implementing a behavioural token economy in a classroom setting, will outline the participant selection process for this case study, as well as the method and results for the implementation of the program.
Chapter II: Literature Review

Literature from three areas of research was reviewed in order to create a basis for the treatment program. The first area describes the characteristics of ADHD, the second explains how students with ADHD are affected by the education system and visa versa, while the third topic area provides literature on classroom behavioural treatment methodologies and their effectiveness with students diagnosed with ADHD.

Characteristics of ADHD

Three articles were reviewed regarding the characteristics that are exhibited by children who receive a diagnosis of ADHD. Frick & Lahey (1991), Templeton (1995) and Wolfe, French, & Michael (1990) all provide diagnostic criteria for ADHD, as well as facts regarding age of onset and prevalence of the disorder.

According to Frick & Lahey (1991), the primary symptoms of ADHD are developmentally inappropriate levels of inattention, impulsivity and motor hyperactivity. Approximately 3% of school aged children are diagnosed with ADHD, most before the age of seven years old. According to the DSM-III-R, a child is considered to manifest ADHD if he/she exhibits 8 or more of a list of 14 symptoms that reflect a deficit in the three main symptoms listed above. Similar to Frick & Lahey’s (1991) definition of ADHD, Templeton (1995) states that in order for a diagnosis of ADHD to occur, there must also be deficits in each of the previously stated three areas, in addition to these symptoms occurring in various settings, such as at home, school, and in the community. An early onset, usually before the age of seven is also documented, as well as a prevalence of 3%- 5% or approximately two million students that are diagnosed with ADHD. Templeton (1995) also suggests that two to eight more boys are diagnosed with ADHD than girls.

All of these authors go into detail regarding specific and descriptive explanations of the different characteristics of ADHD pertaining to inattention, impulsivity, and hyperactivity. Each article divides symptoms and characteristics into headings, and provides extensive lists. The information provided is outlined in three charts below.

Table 1
Primary Symptoms of Attention-Deficit Hyperactivity Disorder

<table>
<thead>
<tr>
<th>Inattention/Disorganization</th>
<th>Motor Hyperactivity/Impulsivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>May fail to finish things</td>
<td>Excessive running and climbing</td>
</tr>
<tr>
<td>Does not seem to listen</td>
<td>Excessive fidgeting/ not being able to sit still</td>
</tr>
<tr>
<td>Can be easily distracted</td>
<td>Difficulty staying in seat</td>
</tr>
<tr>
<td>Often has difficulty concentrating</td>
<td>Motor restlessness</td>
</tr>
<tr>
<td>Has difficulty organizing work</td>
<td>Always on the go</td>
</tr>
<tr>
<td>Requires a lot of supervision</td>
<td>Often fails to think before action</td>
</tr>
<tr>
<td>Frequently shifts and changes activities</td>
<td>Frequently speaks out in class</td>
</tr>
<tr>
<td></td>
<td>Has difficulty waiting for their turn</td>
</tr>
</tbody>
</table>

Frick & Lahey (1991)
Table 2

**Diagnostic Criteria for Attention Deficit Hyperactivity Disorder**

- Often fidgets with hands or feet or squirms in seat (adolescents may be limited to subjective feelings of restlessness)
- Often moves from one to task to another without completion
- Has difficulty remaining in seat
- Has difficulty playing quietly
- Can be easily distracted by unrelated stimuli
- Usually talks excessively
- Has difficulty waiting turns in games when playing in group situations
- Frequently interrupts and/or intrudes on others conversations
- Blarts out answers to questions before they have been completed
- Does not seem to listen to what is being said to him or her
- Frequently loses things necessary for tasks or activities at school and/or at home
- Has difficulty with follow through on instructions
- Rarely sustains attention in tasks or play activities for any length of time
- Often engages in physically dangerous activities without considering possible consequences – but not for the purpose of thrill seeking (eg. Runs out onto the street without looking both ways)


Table 3

*Characteristics of the behaviour of children with ADHD fall into the following categories, as stated by Wolfe, French, & Michael (1990):*

<table>
<thead>
<tr>
<th>Distractions</th>
<th>Impulsiveness</th>
<th>Inattention</th>
<th>Hyperactivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>- frequently reacts to noises that other children tend to ignore</td>
<td>- has difficulty controlling emotions, cries easily</td>
<td>- poor/ low levels of concentration</td>
<td>- often fails to sit still for any length of time</td>
</tr>
<tr>
<td>- become preoccupied with a loose thread, untied shoelace etc.</td>
<td>- acts inappropriately for the specific time, situation or environment</td>
<td>- short attention span</td>
<td>- fidgets, squirms</td>
</tr>
<tr>
<td>- daydreams</td>
<td>- frequently blurts out answers, usually before question is even finished being asked</td>
<td>- often very disorganized and erratic</td>
<td>- poorly organized</td>
</tr>
<tr>
<td>- is tactually distracted; always touching and cannot</td>
<td>- interrupts teachers and peers in work, games, etc</td>
<td>- difficulty completing tasks, shifts from task to</td>
<td>- knows rule, doesn’t follow them</td>
</tr>
</tbody>
</table>
These symptoms that are exhibited by individuals with ADHD may have a tendency to be situational. For example, excessive running, climbing, and failure to play quietly are all behaviours that may go unnoticed in early childhood programs where a lot of activity is the norm, and where gross motor activities and switching frequently between tasks and areas is expected (Andrews, 1999). However, a child may seem to exhibit more features of inattention during highly structured and lengthy activities than during short, unstructured situations. The number of situations during which the behaviours and symptoms are displayed, as well as exclusionary criteria such as age of onset, low intelligence, a presence of a learning disability, and/or the presence of a neurological dysfunction are all key factors that are considered across the board when it making a referral and diagnosis of ADHD (Frick & Lahey, 1991).

Most experts in the field do believe that ADHD has some genetic basis, and the research into the potential causes of ADHD have resulted in similar outcomes. Frick & Lahey (1991), Litner (2003), and Huijbregts, Sequin, Zoccolillo, Bovin & Tremblay (2007) all present literature regarding the causes and factors contributing to ADHD. Frick & Lahey, (1991) state that biological parents and other biological relatives play a large role in the diagnosis of ADHD in children. Approximately 80% of their sample group of children diagnosed with ADHD had at least one first degree biological relative (parent, aunt, uncle etc) who was also diagnosed with ADHD in childhood. Litner (2003) also contends that ADHD is a biological disorder, with inherited factors that are pervasive and chronic from childhood, and that approximately 57% of children will have ADHD if one of their parents
have it. The researcher suggests that ADHD is a complex neurological disorder, believed to be caused by the malfunctioning of the brain's chemical transmitters, otherwise known as neurotransmitters. The result of this malfunction results in the brain becoming less active on thinking tasks and results in serious impairment of the executive functions of the brain located in the frontal lobe, specifically the prefrontal cortex. Huijbregts et al. (2007) presented literature regarding the link between maternal prenatal smoking and physical aggression, hyperactivity, and impulsivity. The authors suggest, based on their results, that prenatal smoking may be related to several patterns of increased hyperactivity and impulsivity.

Although ADHD is not an emotional disorder, it can often cause serious academic, social, and emotional problems that can affect every aspect of the individual’s life (Litner, 2003). Children with ADHD struggle when it comes to making and maintaining social relationships, and seem to elicit similar reactions from parents and teachers (Frick & Lahey, 1991). Children with ADHD usually experience loneliness and peer rejection and thus develop negative reputations, furthering their social isolation. These social implications, coupled with other emotional issues such as poor self-concept and low self-esteem, and continuous academic struggles, can become a downward spiral leading to other behavioural problems and emotional disorders (Litner, 2003). Children diagnosed with ADHD usually exhibit many antisocial and aggressive behaviours such as lying, fighting, stealing, and truancy, with an overall estimated average of between 30% and 90% exhibiting significant conduct problems. A presence of these conduct problems at an early age create the potential for substance abuse, and exhibiting other antisocial and/or delinquent behaviours into adolescence and throughout adulthood. Research also documents that over two thirds of children that are diagnosed with ADHD also have one or more comorbidities, such as depression, anxiety, obsessive-compulsive disorder, oppositional defiant disorder, conduct disorder, and bipolar disorder (Litner, 2003). These social and emotional disturbances have been linked to chronic unemployment, excessive substance abuse, and these individuals are twice as likely to have run-ins with the law. Additionally, it is estimated that between 35% and 50% of children that are diagnosed with ADHD, also have one or more specific learning disability (LD). Further, it is reported that 90% of students that are diagnosed with ADHD underachieve in school, approximately half repeat one or more grades, 30% drop out prior to completion of high school, and only 5% complete post secondary education (Litner, 2003). For this reason, and the reason that teachers are usually the ones who make a referral for a ADHD diagnosis, it is imperative that classroom teaching methods, structures, and environments be evaluated in regards to students diagnosed with ADHD.

**ADHD and the Education System**

Many teachers may be unprepared to effectively and successfully manage the academic, social, and emotional needs of students with ADHD (Ohan, Cormier, Hepp, Visser & Strain, 2008). It is more and more common for an elementary school classroom of 20 students to have at least one student with ADHD. First and foremost, it is important for the teachers who work with students that have ADHD to be knowledgeable about the signs and symptoms of ADHD (Templeton, 1995). Lauth, Heubeck & Mackowiak (2006) express the importance and pivotal role that teachers play in the lives of these students. These teachers teach and manage these children on a daily basis. They become involved in
implementing and monitoring treatment plans, and often refer these students for further assistance and support. Teachers of ADHD students are often used as primary sources for outcome studies.

Education experts have traced the crisis over ADHD to the classroom. According to Mc Dougall (2007), funds are so low in public schools, that often teachers are forced to “label” their students for their poor behaviours, and look for a quick fix for managing these behaviours. The author states that these students that are diagnosed with ADHD fail to be supported, rather they are managed. Litner (2003) also reports on decreasing education budgets that have had negative effects on all students, but especially on those with ADHD and Learning Disabilities. Teachers have become increasingly concerned with adequately educating students with ADHD, however it is first imperative that teachers recognize and understand the factors that make students with ADHD so difficult to motivate. Templeton (1995) outlines some of the main characteristics of children with ADHD and how they relate to the classroom setting:

Table 4:

<table>
<thead>
<tr>
<th>Characteristics of Students with ADHD in a Classroom Setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Characteristic of Student with ADHD</td>
</tr>
<tr>
<td>Short attention spans and distractibility</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Impulsivity</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Free flight of ideas</td>
</tr>
<tr>
<td>Category</td>
</tr>
<tr>
<td>---------------------------</td>
</tr>
<tr>
<td>Insatiability</td>
</tr>
</tbody>
</table>
In a study conducted by Aro, Ahonen & Tolvanen (1999), they analyzed how the different characteristics of ADHD, such as inattention and hyperactivity, were connected to academic outcomes. The researchers used a sample of 110 students, which they split into two groups and evaluated their problem behaviours and completed tests. Results from this study showed that 33% of the children displayed reading difficulties, 34% demonstrated writing difficulties, 46% displayed neurocognitive deficits, and 27% demonstrated gross-motor difficulties. These results further reiterate the need for modified academic programs and schedules for students with ADHD.

Various reasons exist for modified treatment programs and curriculum to be tailored to children with ADHD, especially in elementary school. Studies have shown that academic outcomes become compromised for students with ADHD in high school if they have not had any form of management. Litner (2003) states that a longstanding myth about ADHD is that it disappears or is outgrown in adolescence and adulthood. Follow up studies show that 30%-70% of children who are diagnosed with ADHD in childhood, continue to exhibit symptoms in adolescence and adulthood. The transition between elementary school to high school can be very challenging for a student with ADHD. The high school environment is far more complex than elementary school. The overall structure of the school itself can be overwhelming. There are many more classrooms, many more transitions, and varying schedules throughout the day. Class times are longer, and students are expected to work for a long period of time on the same subject. Independent work time also increases in middle school and beyond. High school students are expected to be much more organized, such as having all the appropriate books, tools and materials for each class, as well as being on time. Given that individuals with ADHD have weak organizational and planning skills due to a deficiency of working memory, this may be a difficult task. Homework and complex assignments that need to be handed in on time increase as students enter high school, and time management is a major obstacle with students with ADHD. Students with ADHD may also find it difficult to learn in the face of different teachers, different teaching styles, rules, requirements and standards for performance. Teachers in middle school and beyond expect the students to possess a level of independence, responsibility and organization that students with ADHD may have difficulty demonstrating. According to Litner (2003), one of the primary treatment goals is for students with ADHD to gain more control over their behavioural conduct and academic performance while relying on less support from teachers, parents and peers.

**Behavioural Techniques for Treating ADHD in the Classroom**

According to Aro, Ahonen, & Tolvanen (1999), research should aim toward finding the most effective treatments for children with ADHD. Approximately 50% of children that are diagnosed with ADHD are treated with stimulant medication (Schlachter, 2008). According to the author, pharmacological interventions have been the most frequent treatment for ADHD for the past 25 years. Approximately 750,000 or 2% or more of school aged children were being treated with stimulant drugs annually. Although 70-75% of children do show improvements when treated with stimulant medication, they are only short-term improvements, and the limitations and side effects are certainly recognized. Due to the fact that ADHD is a long term, chronic condition which requires years of treatment, prolonged use of stimulant medication, such as methylphenidate (MPH) or amphetamine (AMPH) may be problematic. Multiple studies
have shown that long-term use of stimulant medication may be linked to many health conditions that affect both children and adults equally, such as delayed sleep onset, abdominal pain, loss of appetite, weight loss, headaches and jitteriness (Lerner & Wigal, 2008). Some of the more serious side effects reported from long term pharmacotherapy include growth suppression, minor cardio-vascular problems such as increased heart rate and blood pressure and an increased risk of developing or enhancing a tic disorder.

Pelham et al. (2005) explain that methylphenidate (MPH) immediate release (IR), one of the most popular drugs used for medicating children with ADHD, has a narrow window of effect, and usually has to be administered at least twice a day to ensure coverage over the school day, late afternoon, and into the evening. MPH usually takes anywhere from 60-240 minutes after ingestion to show any effect and peaks at 2 hours following ingestion.

Pelham et al. (2002) argue that using medication for behavioural control could encourage children with ADHD to believe that their success is based on the medication, rather than their own efforts. They believe that the longer that these children are on stimulant medication, the more that they will rely on the pills to succeed.

Also recognized is that fact that medical treatment alone is inadequate for managing the problem behaviours or symptoms present in children with ADHD. Miranda, Presentacion & Soriano (2002) agree that using psychostimulant medication to treat symptoms of ADHD is effective and may show reductions in behavioural disorders, however it fails to produce cognitive benefits, and has not been proven to produce positive, long term changes. Pelham & Gnagy (1999) stated that “simply medicating children, without teaching them the skills they need to improve their behaviour and performance, is not likely to improve the children’s long term prognosis” (p.226), because the medication does not teach the child or promote a cognitive reorganization. Such findings suggest that multifaceted approaches have more of a positive effect when behavioural techniques are combined with stimulant medication, then stimulant medication alone.

During the past decade, there have been multiple studies that have examined the most effective treatment method for treating ADHD in school aged children. These studies suggest that combined treatments have been shown to have an advantage over medication alone (Pelham et al., 2005). Fabiano et al. (2007) states that behaviour modification techniques combined with stimulant medication are supported as successful evidence-based interventions for children with ADHD in the classroom.

Fabiano et al. (2007) conducted a study comparing three levels of behaviour management techniques that were accompanied by administering three different levels of medication. Unlike other studies in which the dosages of behavioural management or stimulant medication were limited, not compared or not combined, this study investigated the effectiveness of varying intensities of behavioural management techniques and MPH both alone and combined. The behavioural techniques were defined as: No Behavioural Modification (NBM), Low Behavioural Modification (LBM), and High Intensity Behavioural Modification (HBM). The medication schedules that were applied to the students were placebo, 0.15mg, 0.30mg and 0.60 mg/kg methylphenidate (MPH) three times per day. The behavioural treatment was varied in three week blocks, with the order of the three levels of behavioural modification varied by group of children. Medication was randomly assigned within each child and varied daily during a nine week summer treatment program. Behavioural management techniques used were classroom rules that
were reviewed at the beginning of each day, a point system or token economy which was based on following the classroom rules. Social reinforcement, daily report cards, classroom free time and individualized behavioural programs were also implemented. Various combinations of these were used depending on which level of behavioural management was being used. Outcomes from this study indicated that although treatment with stimulant medication improved classroom behaviour among student with ADHD, when combined with any level of behavioural technique, the effectiveness increased. The HBM combined with 0.60mg/kg of MPH showed the highest success.

Pelham et al. (2005) state that there is considerable disagreement among researchers regarding the effectiveness of behavioural treatments alone for treating children with ADHD in the classroom. Some researchers have written that behavioural treatments either fail to work or are only minimally effective in comparison to pharmacological treatments. What has been overlooked in this research is the duration and intensity of the behavioural interventions that have been used and the setting in which they have been implemented in. These studies that have been reviewed that established a non-successful outcome have been those of short-term, non-intensive, outpatient clinical trials. However, multiple studies have demonstrated that some of the most popular behavioural techniques that have been used in a classroom setting with children with ADHD, have been in fact proven to be successful in reducing problem social and academic behaviours.

One of the most recognized forms of behavioural interventions for children with ADHD is token economies or token reinforcement. Token reinforcement is a commonly used intervention technique in which students can earn tokens, otherwise known as immediate reinforcers for positive behaviour and meeting behavioural expectations or goals. These tokens can be exchanged later or at the end of the week for back-up reinforcers, such as extra computer time or free time, or small toys or games. These immediate and frequent reinforcers are necessary to change behaviour effectively, as they increases motivation and provide the student with something to work towards, and can be delivered in busy classrooms settings (DuPaul & Weyandt, 2006).

According to Abramowitz & O'Leary (1991), token economies that are implemented in a classroom setting can vary greatly in regards to their inclusiveness and complexity. In the above study, the researchers paired a token economy with other behavioural techniques such as self-monitoring and self-reinforcement. These techniques were shown to increase academic success and appropriate social behaviour, while also systematically fading teacher monitoring and reinforcement and improving generalization.

McLaughlin & Malaby (1975) proposed an inexpensive token reinforcement program that was used in a public school classroom. It was implemented by a single teacher with his split five-six class, with approximately 25-29 students. The class was on a token economy system where the students earned points for appropriate classroom behaviour, such as staying seated, studying, and producing accurate work. Points were lost for inappropriate behaviour such as incomplete work, out of seat behaviour and inappropriate verbal behaviour. The results show that more students completed their assigned work when they were on the reinforcement program than when they were not. The employed procedures for this token reinforcement program proved to be inexpensive, easily manageable and overall, successful.

In an article by Trout, Lienemann, Reid & Epstein (2007), multiple studies that examined the effects of non-medicinal interventions on the academic functioning of
students with ADHD were reviewed. Findings from these studies revealed that there is a broad range of traditional and non-traditional behavioural interventions that have been deemed effective when it comes increasing the positive academic outcomes of students with ADHD.

According to McGoey & DuPaul (2000), the most important components of behavioural interventions are rewarding appropriate behaviour, providing clear and effective directions and requests, and implementing consistent methods of discipline. In their above study, a token reinforcement behavioural intervention program was implemented in an elementary school classroom aimed at reducing disruptive behaviour in children with ADHD. Receiving reinforcement was dependant on following the established classroom rules, such as staying in your area, keeping your hands and feet to yourself, quiet listening when the teacher is talking, finishing work, and raising your hand to speak.

Fabiano & Pelham Jr. (2003) state that the vast majority of teachers that have students with ADHD in their classroom, use behavioural procedures such as token economies to control and reduce problem behaviours. The above study provides suggestions for creating and implementing successful behavioural intervention programs for children with ADHD. They suggest rewarding the children more often, or in smaller intervals at the beginning of the program, providing immediate and positive feedback on progress towards goals, and ensuring the use of reinforcing tokens and activities for when students attained and meet their daily goals. In other words, ensuring the intensity of an intervention program is high from its onset is important for the programs successful outcome for reducing problem behaviour in children with ADHD.

According to Reiber & McLaughlin (2004) behaviour management techniques are essential for classroom treatment for students with ADHD. The most influential techniques used in classrooms today include teaching modifications, classroom structure, token economies, peer interventions and self management. These authors state that several studies indicate that that token economies are able to successfully produce high levels of academic achievement, and raise or increase on-task behaviours. Token economies can also be utilized successfully in the classroom by modifying individual programs to include group contingencies.

Token economies are often utilized in schools, and not only in classroom settings. For some students with ADHD, behavioural interventions are used in recreational activities, such as sports and during recess. Hupp et al. (2002) describes the use of a token economy program involving children with ADHD and their participation in sports teams. The children were reinforced for sportsmanlike behaviours. This behavioural intervention was also implemented with the hopes that the skills and behaviours learned would generalize into other settings, and increase social interactions with peers, both in the classroom and outside a school setting. Results showed that the use of tokens, praise and reinforcement were successful in increasing sportsmanlike behaviours in the five participants that were involved in the study.

Controversy and confusion aside regarding symptoms, diagnosis or treatment, children with ADHD exhibit characteristics that make them significantly at risk for having long-term academic, social and emotional difficulties and need educational programs that will ensure and work hard towards ensuring they experience success.

The behaviours and characteristics of children with ADHD, as well as the impacts that these behaviours have on other students, teachers, classroom staff and the overall
environment of the classroom, makes the implementation of behavioural interventions crucial to students academic and social success. Token economies have proven to be one of those behavioural interventions that can be effortlessly and inexpensively implemented in classrooms, as well as other situations and environments in which children with ADHD frequent. In the following case, a token economy that was aimed at increasing on-task and decreasing off-task behaviours in a student with ADHD was implemented in a specialized classroom.


Chapter III: Methodology

Participant Selection Process

The students in a section 23 classroom in a Kingston, Ontario elementary school were observed for 2 weeks in order to evaluate the severity and complexity of their problem behaviours, and which of the student were in the most need and who would benefit most from participation in a case study. Eight students ranging from grades four to six were observed during their independent seat work periods, free time activities, recess, group activities, and social sharing time. Off task, avoidant, impulsive, aggressive, anti-social, and non-compliant behaviours were the most frequently exhibited by the students. Once the students’ behaviours had been thoroughly observed, it was discussed amongst the classroom staff which student seemed to be the most at need, and the student selection was completed. Parental consent of the selected student was obtained prior to selecting target behaviours and collecting baseline data.

The student selected for the case study was a 10 year-old male student who was diagnosed with ADHD. He was chosen for this intervention process because his off task behaviours and fidgeting were affecting his academic performance and his constant need for one-on-one support was often unfeasible based on the dynamics of the classroom. The student lived with his grandmother who is his legal guardian, but saw his mother on a regular basis. The student lived with his grandmother due to his mother’s reoccurring drug addiction. His mother has been in and out of rehabilitation centres for prescription drugs over the years. Due to this, the student’s grandmother was hesitant to have him on a constant medication schedule for fear that he to may become addicted to prescription medication. This fear has resulted in the student being on an inconsistent medication schedule, both at home and at school.

Consent was obtained through forms that were sent to the student’s parent and guardian (Appendix A). Baseline data and other data collection were obtained prior to collecting informed consent. After baseline data was collected, results were shared with the classroom staff, with the student’s guardian, and other support team members (local agency and home school staff) were also informed of the results. The student was then approached and the plan for a token economy behavioural program was explained, and consent from the student was sought. Once the student accepted, a behavioural contract was devised with the input of the student (Appendix B), and a reinforcement survey was completed to evaluate what tokens and back up reinforcers would be most effective with the student (Appendix C).

Design

The case study was conducted using an AB design, consisting of a baseline phase followed by an intervention period. A token economy was implemented which aimed at decreasing the students off task behaviours, and increasing on task behaviours during a 50 minute independent seat work period.

Setting

A section 23 classroom in a Kingston, Ontario Elementary School was selected as the setting for the behavioural intervention. A section 23 classroom is a classroom that
combines a structured milieu with mental health interventions and special educational programming. Here, complex social, emotional, and behavioural needs that usually interfere with adjustments and integration into a regular classroom are addressed through less intrusive interventions. The overall goal of a section 23 classroom is to collaborate with District School Boards and Provincial Schools within the region through ongoing training, consulting and resource building with staff. The support provided in the classroom involves high levels of therapeutic and emotional support, helps students with behavioural problems, integrates home-school, family and current school in a collaborative supportive group, and assists at re-integrating students back into a regular classroom.

The classroom where the behavioural intervention took place consisted of 8 students, all diagnosed with behavioural difficulties, learning difficulties, or both. Classroom staff consisted of the teacher, intensive support worker, an educational assistant and a child and youth worker placement student.

**Dependant Variables**

There were two dependant variables that were incorporated into the token economy program. The first was off task behaviour. Off task behaviours included tipping or rocking in chair; which was defined as an instance of the students chair not having all four legs planted firmly on the floor; playing with school supplies, which was defined as the student playing or making noise with school supplies other than those that are needed for the task at hand; and day dreaming or looking out the window, which was described as the student standing up at his desk looking out the window, or starring at his worksheet and completing no work.

The second dependant variable was on task behaviours. On task was described as the student sitting appropriately on his chair, pulled in to his desk, with the appropriate school supplies out/in hand for completing his work. He was considered to be on task when he completes a piece of work, and moved successfully to another without exhibiting any off task behaviours.

**Measures**

The following measures were used to collect data during the case study

1) Functional Assessment Observation Form (FAO) (O’Neill, 1997) (Appendix D)

The FAO outlines the antecedents and consequences associated with problem behaviours. This measure indicates the number of problem events occurring, the behaviours that occur together, times when the problem behaviour(s) are frequently exhibited, events that precede the problem behaviour, as well as the actual consequences after the problem behaviour.

2) Sequence (ABC) Analysis of Baseline Data (Appendix E)

The ABC Analysis is a simple three column chart that is used to track problem behaviours, as well as the events and stimuli that occur both before and after the problems behaviours.

3) Functional Assessment Checklist for Teachers and Staff (FACTS) (March, Lewis-Palmer, Brown, Crone, Todd & Carr, 2000) (Appendix F)

The FACTS is a two page, indirect assessment tool used by teachers and other classroom staff who are building behaviour support plans. The FACTS is completed by
personnel who know the student the best, and can be completed in a short period of time, usually 5 to 15 minutes.

**Measures of dependant variable**
1) Daily Baseline Data Collection for On Task during independent seat work period (Sample form shown in Appendix G)
2) Daily Baseline Data Collection for Off-task behaviours (Sample Form shown in Appendix H)

**Goals and Objectives**

**Goal #1- ON-TASK (Increasing):** Each of the seven weeks of the intervention program had specific weekly goals which the client was required to meet in order to earn daily and weekly reinforcements.

On task was defined as the client sitting properly at desk, with his back on the back of the chair, and his bottom on the seat of the chair. This also required all four legs of the clients chair to be planted firmly on the ground. The student was only to have the school supplies that he needed out on his desk, with no other distractions visible. He was to be actively reading and writing in his binders and on his work sheets to be considered on task.

Each 50 minute work period was recorded using duration recording. The objectives were as follows:

**Objectives:**

**Week #1** - 17 min on-task per 50min work period = averaging 34% of time spent on-task per week
**Week #2** - 20 min per day = 40% per week
**Week #3** - 25 min per day = 50% per week
**Week #4** - 30 min per day = 60% per week
**Week #5** - 35 min per day = 70% per week
**Week #6** - 40 min per day = 80% per week
**Week #7** - 45 min per day = 90% per week

*If student did not reach his weekly goal of on task behaviour, the same goal standard was implemented the following week, until the goal was reached.*

**Goal #2 OFF TASK BEHAVIOURS (Decreasing):** During the 50 minute independent work period, the client was observed using frequency recording (recording the number of off task behaviours that he engaged in throughout the time when he is specified to be completing his seat work). The clients off-task behaviours will reduce throughout the use of the “do and don’t” list (intervention rules), and a reinforcement chart. There were goal limits as to how many off task behaviours the client was permitted to engage in before he could no longer be reinforced. The three most prominent behaviours that were closely monitored were; chair tipping, playing with school supplies, and day dreaming/looking around. The following are the objectives for each week:

**Objectives:**

**Week #1**- 9 occurrences permitted
**Week #2**- 7 occurrences permitted
**Week #3** - 6 occurrences permitted
Week #4- 5 occurrences permitted
Week #5- 4 occurrences permitted
Week #6- 2 occurrences permitted
Week #7- 1 occurrence permitted

Procedure

Once approval through informed consent was obtained, two target behaviours were chosen. The first target behaviour was increasing the duration of on-task behaviours. The second target behaviour selected was reducing off-task behaviours. A baseline observation period of three full school days was conducted to gather data on the pre-program behaviours of the student in each of the target behaviour areas. Duration recording was used to record the amount of time the student was remaining on task during each independent seat work period, and frequency recording was used to record the number of occurrences of the student’s off-task behaviours. A thorough functional assessment was also completed to determine the antecedents and consequences of the problem behaviours, as well as what was maintaining them. The functional assessment included direct observation, a Functional Assessment Observation Form (FAO) (O’Neill, 1997), a Functional Assessment Checklist for Teachers and Staff (FACTS), (March, Lewis-Palmer, Brown, Crone, Todd & Carr, 2000) and a Sequence (ABC) Analysis of Baseline Data. Upon the completion of baseline observations, the selected student was approached to determine their willingness to participate in the program. When the student agreed, the token economy program was discussed, a reinforcer assessment was completed as well as the formulation of a behavioural contract. Thus, the token economy was designed with direct input from the selected student.

The token economy program consisted of a weekly chart and goals that were set, which required the student to stay on-task for a specified amount of time, as well as a number of off-task behaviours that were permitted before no more reinforcers could be awarded. With each week, the amount of time required to stay on-task increased, and the number of off-task behaviours permitted per day decreased. The expectations, as well as the criteria for both target behaviours were clearly described to the student and are outlined in Appendix I. If the student was unable to make his weekly goals, he not only did not receive the opportunity to trade in his tokens for back up reinforcers, but also was required to repeat the same goals the following week. The student was unable to move onto the next goal level until he passed the required one for the current week.

Visual and verbal prompts were used in addition to the token economy system. Reminder rules and a sheet stating the weekly requirements were posted on the side of the students study carol. Upon receiving a token for appropriate behaviour, the student also received positive praise. Statements included “I really like how you are sitting with your feet on the floor and working on your language”.

The treatment phase of the program was designed to reach pre-determined treatment goals within a 7 week active treatment period. Data continued to be collected using duration and frequency recording throughout the treatment phase.
Chapter IV: Results

Functional Assessment Results

Functional Assessment Observation Form (FAO)

A functional assessment was completed to evaluate the functions of the clients frequent off task behaviours. The FAO was recorded from the beginning to the end of each day for two consecutive days. Most of the clients off task behaviour occurred when he was alone and unsupervised during times of independent seat work, when he engaged in frequent chair tipping, playing with school supplies that were not required for the task at hand, and looking around the classroom and day dreaming. Most of his behaviour were either ignored or went unnoticed by the classroom staff. There were minimal amount of disruptive off task behaviours during group activities, snack and lunch time, and recess.

Antecedent, Behaviour, and Consequence Chart (ABC)

The ABC Chart was completed during the morning half of the school day, which is when a large portion of the students independent school work was required to be completed. According to the observations, most of the clients off task behaviours were when he was given minimal instructions and little to no one-on-one assistance or encouragement with his independent seat work. When the client engaged in some form of disruptive off task behaviour (such as pencil tapping, or talking out, etc.) he was either approached by a staff member who inquired about the amount of work he had completed, and then either encouraged him to complete more, provided some one-on-one assistance, or he was simply verbally told to refrain from what he was currently doing and to get back to work. When the client was given more one-on-one assistance, he was able to complete at least 80% of his school work with no problems and rarely became distracted. It appeared as though the client engaged in frequent off task behaviour in order to receive one-on-one help with his school work.

Functional Assessment Checklist for Teachers and Staff (FACTS)

The classroom teacher and student researcher completed the FACTS. The results showed that the client engaged in frequent off task behaviour (not completing work, being disruptive, fidgeting etc) when he was left alone to complete his independent seat work, mostly in the first half of the day. He had little to no difficulty staying focused or completing computer work during free time activities. After working with and observing the client, it was apparent that he rarely needed any assistance with his school work, as the curriculum is individually tailored to each student. The client frequently asked for help before he has even begun schoolwork tasks or knew what he was to accomplish. It appeared that he seeks one-on-one support frequently of the teacher or the teaching assistant, in an effort to avoid completing the task himself. The staff typically told him the answers or wrote the answers down themselves. Most of the time when he is asking for help, he does not have any books open on his desk. The maintaining consequences of the clients off task behaviours appear to be the lack of attention by classroom staff, as they provide attention to other students that may have a higher need for one-on-one support. Another maintaining consequence of the clients off task behaviour is the support,
prompting, and one-on-one attention that he does receive once he is noticed being off task. Once he has received some direction or individual help, the client remains on task for a short amount of time.

Reinforcement Assessment:
Before the intervention program began, a reinforcement survey was completed with the client to assess which tokens or items would provide the most reinforcement to him throughout the program. The outcome of the reinforcement survey determined what items would be chosen as daily tokens, as well as other tangible items or activities that would be exchanged at the end of the school week. The survey was a simple three page check list with categories such as sensory and social reinforcers, areas of interests, tangible items, activity reinforcers etc. The results of the survey showed that the client would enjoy and respond well to dinosaur stickers and other “fuzzy” stickers. These stickers acted as his daily reinforcers.

Baseline Assessment Results
Data was collected for on and off task behaviour during both a baseline period and a treatment period. Baseline consisted of three consecutive, 50 minute independent work periods. On task behaviour was recorded using duration recording in ten minute intervals. Off-task behaviour was recorded using frequency recording, also using ten minute intervals. Both the baseline and intervention frequency and duration recording were conducted each day during a 50 minute independent work period from 9:30am to 10:20 am. The intervention (not including baseline) totalled 20 days, for a total of 1000 minutes or 16.6 hours of intervention.

During baseline, the chosen off-task behaviours (chair tipping, playing with unneeded school supplies, and day dreaming/looking around the classroom) were recorded according to the frequency of occurrence during each 50 minute seat work period, and graphed. During intervention, the frequency of these off task behaviours were recorded and graphed. On-task behaviours were also recorded during both baseline and intervention using duration recording and then graphed.

During baseline periods, a total of 90 instances of off-task behaviours were observed across three consecutive days. These 90 instances were comprised of the three chosen problem behaviours. Chair tipping occurred 35 times per 50 minute work period over the baseline period (M=11.67, SD= 8.18), playing with school supplies occurred 21 times (M=7, SD=2.83), and day dreaming/looking around the room was observed as occurring 34 times (M=11.33, SD=4.5).

A total of 100 minutes or an average of 33.3 minutes per day (M= 27, SD=10.61) of on-task behaviours were recorded using duration recording over the baseline period.

Figure 1 and 2 illustrates the baseline results for both off-task and on-task behaviours respectively.
Baseline Results for Off Task Behaviours

Figure 1: Baseline results for frequency of off-task behaviours (days 1-3)

Duration of On Task during Independent Seat Work Periods (9:30-10:20am)

Figure 2: Baseline Results for On-Task Behaviour
**Intervention Results: Increasing On-Task Behaviour**

By the end of the fifth week and into the sixth week, the client not only increased his total number of minutes of on task behaviour during the 50 minute independent work period, but also required less prompting, verbal praise and encouragement to complete seat work and stay on task. Over the twenty days that the token economy program was implemented, it proved to successfully increase the client’s on-task behaviour to an overall average of approximately 81% in the final week ($M=33.15, SD=13.42$). For an overall illustration of the raw data for the full intervention, see Appendix J.

![Intervention Results for Increasing On-Task Behaviours](image-url)

**Figure 3: Intervention Results for Increasing On-Task Behaviour**

On day six of the intervention program (week#2) the student was involved with some negative bus behaviour and had to meet with the bus driver and a classroom staff to discuss the incident. The student lost his recess and free time and appeared to be extremely upset and unmotivated to work, which resulted in only five minutes of on-task work during independent work time. However, due to his high performance during the other days that week, the client was able to make the weekly goal despite the lack of work on the tenth day, and was able to advance to the next goal level.

During week #3 (days nine to 12), the participant exhibited a very low level of motivation and interest in both school work and the intervention itself. The client seemed to be very tired, and became easily frustrated with the assigned work and other classroom peers. Days nine, 10, 11, and 12 of the program were accompanied by a lot of support from all classroom staff to stay on task. Many reminders and frequent verbal prompts were required to assist the student in meeting his daily goals. Unfortunately, on day 10, the student displayed no interest in the required work and chose instead to lie on the floor on a bean bag chair for the entire morning period. The client was continuously reminded of the
goals that were to be met, and what the outcome would be if no seat work was completed during that period. These reminders and prompts did not affect the student’s decisions, as he continued to lie on the floor, resulting in 0 min of on-task behaviour that day. Due to this lack of motivation and work completion, the student did not reach the weekly goal, and therefore had to repeat that goal level (of seven minute intervals before receiving reinforcement) the following week.

The student’s repeat of week three’s goals resulted in the following daily averages of assessed time spent in on-task behaviours: Monday 98%, Tuesday 56%, Wednesday 98% and Thursday 84%, for an overall weekly average of 84% of on task behaviour (the student was absent Friday).

The following two weeks of the token economy program were successful for the student. He required significantly less prompting not only to continue with his positive efforts throughout the work period, but also in the initial starting of his work and getting prepared at his desk to begin his work. Days 17, 18, 19 and 20 (week #5) the client preformed well despite receiving less prompting and praise (as per fading techniques) and not only increased the amount of time he spent on task, but also began increasing the actual amount of work he was completing. Some days the participant was able to complete all of the work required for that day in the 50 minute independent work period. Week #5 had an overall average of 77% assessed time spent in on-task behaviour, and week #6 (days 21, 22, 23) had an average of 81% of assessed time spent in on-task behaviour. The clients overall assessed time spent in on-task behaviour increased by 48% from baseline assessment (Appendix K).

**Intervention Results: Decreasing Off Task Behaviour**

**Chair Tipping**- Across baseline recording, the student was exhibiting approximately 35 occurrences of chair tipping per 50 min work period (m=1.3, SD=0.92). After the token economy was in place, and the client was aware of the number of off task behaviours that were permitted before reinforcement would no longer be awarded, chair tipping reduced to a minimal level, approximately once during work period.

**Playing with School Supplies**- During baseline, the student was playing with school supplies that were not needed for the task at hand approximately 21 times per 50 minute work period (m=0.5, SD= 0.97). After intervention, the participant was engaging in this off-task behaviour approximately only zero times per work period.

**Daydreaming/Looking out the window**- Across baseline, the participant was looking out the window and/or daydreaming about 34 times during the academic work period (m=0.9, SD= 1.48). After intervention took place, the client’s day dreaming behaviours were reduced to zero times per 50 minutes. During day 10, as stated above, the student appeared unmotivated and tired and completed no independent seat work that period. Off-task behaviour, specifically daydreaming, peaked this day in correlation to his lack of recorded on-task behaviour. As also stated above, days nine, 10, 11 and 12 the client appeared to find it difficult to stay focused, and therefore, also in relation to this, the frequency of off-task behaviour increased on those days as well. This was a total reduction of 9.4%.

Overall, the client went from engaging in 31% off-task behaviours during independent seat work periods, to just 5.5%, resulting in an overall reduction of 25.5% (Appendix L).
Figure 4: Intervention Results for Reducing Off-Task Behaviours
Chapter V: Discussion

Discussion of Results

The results of the present study supported that the token economy treatment program was effective in reducing classroom off-task behaviours and increasing on-task behaviours in a child diagnosed with ADHD. The data showed a significant improvement during and following the intervention from baseline levels of assessment. Hallowell & Ratey (1994, p.4) states that treatments for children diagnosed with ADHD should include education, structure, coaching and medication, and with these types of treatments, if implemented properly, the prognosis is usually good. They also describe children with ADHD as warm, creative, flexible, hardworking, loyal and innovative. However, the problems that their ADHD cause can be so severe that these positive qualities may never be fully expressed or recognized, and their strengths may seem wasted. It is hoped that once the individual receives proper treatment, the negative aspects of ADHD will recede, and the individual’s positive characteristics will flourish. These authors explain that it is both inexpensive and important to equip a classroom to be “ADHD friendly”. They suggest that the main expense should be teacher education regarding how to work with students with ADHD in a classroom, such as using behavioural techniques including reinforcement and economy programs. Methods such as these are non-disruptive to the other students, and may actually benefit the other students in the classroom. The literature supports that behavioural interventions have the positive effect of reducing disruptive behaviours and increasing positive ones with students diagnosed with ADHD in a classroom environment. Behavioural interventions are cost effective, and can be successful using simple tokens and positive praise statements and rewards. The findings of the present study fall in line with this body of literature as the behavioural intervention used was effective at decreasing off-task and increasing on-task classroom behaviours in a boy diagnosed with ADHD.

Every student with ADHD has their own skills and behaviours, and therefore intervention strategies must be tailored to the student’s behaviours, grade level and structural constraints. These interventions and modifications are essential for the academic achievement and individual success of children and students diagnosed with ADHD (Reiber & McLaughlin 2004).

Strengths

Due to the small class size, it was easy to build rapport with not only the client selected for the intervention, but also with the other students and classroom staff. The classroom dynamics were favourable for conducting a behavioural program and allowed for few to no distractions, which resulted in full attention directed towards the client.

The intervention program was well supported by both the classroom staff and the participant’s guardian. There was effective communication and meetings held between the guardian and the agency staff, at which time the student’s progress and issues (such as the student’s sleep deprivation) were discussed.

The program was simplistic enough that the other classroom staff were able to understand the process and the goals, as well as provide the participant with praise and encouragement that was specific and appropriate. It was also basic enough that when the
staff was provided with updated progress notes and graphed information on improvements, the information was easy to read and decipher.

**Ethical Issues**

Ethical issues were addressed by ensuring that appropriate parental and participant consent were obtained prior to implementing the behavioural intervention. Contained in the consent form was information indicating that the parent and guardian could withdraw their child from the intervention at any time with no implications.

The program, being based on positive praise and reinforcement, did not involve any serious risks that could harm the client. In order to further assure that this was the case, the intervention was reviewed by the Research Ethics Committee for Psychology (REC-P) at St. Lawrence College.

The intervention program was implemented in a manner designed to ensure that peer discrimination was not an issue and that personal privacy was upheld. This was done so by keeping one-on-one interactions with the client, as well as the act of reinforcement and token exchange, discrete or in locations or during times when no other students were present.

**Limitations**

Several external, uncontrollable factors affected the client’s behaviours during the intervention process. Due to the small class size, many field trips and extra-curricular activities were scheduled. The class participated in a weekly swim and skate program, which was scheduled during the morning 50 minute independent work period slot, in which the treatment intervention took place. Time after lunch was designated for recess, free time and movies, and the students left at 1:30 p.m., leaving limited time during swim and skate days to complete the intervention in the afternoon period. Additionally, the multiple school Professional Activity (P.A.) Days and Agency P.A. Days resulted in many four day weeks, which significantly reduced the time and success directed towards the program. As a result, the clients daily schedule was often disrupted which made it difficult for him to focus and meet his daily goals.

The client’s living situation seemed to impact the weekly success of the token economy program as well. The client lived with his grandmother, but would stay at his mother’s house frequently over the weekend or throughout the week. Information provided by the client’s grandmother suggested that while at his mother’s house, there were no enforced bedtimes and therefore the client was up late frequently, and arrived at school tired, restless, irritable and unmotivated to reach his goals. This became particularly evident during the tenth day of the intervention. The client exhibited these fatigued behaviours, which resulted in the client’s complete lack of interest in the program. He instead chose to lie on the floor in a bean bag chair for the remainder of the day.

The class that the intervention was conducted in was a special agency classroom; therefore all the students were transported in from various areas of the city, and all of the students travelled on the same bus. There were frequently issues with behaviour on the bus, and consequences were enforced in the classroom. These consequences also affected the client’s willingness and motivation to participate in the intervention program.

Finally, the participant was also absent a number of days, which disrupted the success of the intervention.
Multilevel Challenges to Service Implementation

Challenges exist at four levels when implementing a behavioural change program in an educational setting. These four levels are: client level, program level, organizational and societal. The points below summarize the challenges encountered working with a student with ADHD in a specialized elementary school classroom.

The client level presented three main challenges, many of which are listed in the limitations section. The first challenge was the student’s attendance record. Several days of the intervention the student was absent from school with no reason or warning. This made it difficult for the client to meet his weekly goals and maintain steady participation. The second challenge involved issues related the client’s home-life, which were reflected at school in the client’s attitudes and mood. The atmosphere of the classroom and the problems of the other students in the classroom, sometimes resulted disruptions or incidents that negatively affected not only the client participating in the intervention, but also the other students and staff in the classroom.

At the program level, there were three main challenges. The first challenge was the effects of the other students in the class with diagnoses, who would sometimes also require one-on-one assistance with school work and behavioural control. This made it difficult to stay focused on the task at hand, and to maintain a working one-on-one relationship with the client. The second challenge was presented by each student’s individual diagnoses. There were several occasions which required multiple staff to deal with the other student. Staff members were often directly dealing with the other students or their issues, or were working with and controlling the rest of the classroom. This could occur at any time, sometimes resulted in the treatment program being neglected. The third challenge was balancing all the dynamics of the classroom. It was challenging to implement the intervention program, provide the required reinforcement to the client, monitor for desirable and undesirable behaviours, assist other student’s with school work, and help other classroom staff with classroom activities.

There were four challenges at the organizational level. The first was due to the fact that the classroom was not a board of education classroom but is run by an external agency. Various aspects of this arrangement made implementing a behavioural program difficult. There was a lack of support from a higher source that could assist in individual testing, formulating Individual Education Plans for each student, and obtaining additional resources that would benefit the students and staff. The second challenge was that the scheduled school days in this classroom were approximately two hours shorter than a regular classroom. Once recesses, free time, snack and lunch time and other special extra activities were accommodated, there was limited time remaining to implement a behavioural program dependant on academic performance. The third challenge involved the number of school days that were available to implement a program. The specialized classroom was granted school board P.A. Days as well as agency P.A. Days, and consequently there were a number of four day weeks, which disrupted the flow of the intervention. The fourth and final challenge involved a constant change in schedule and need for flexibility to cope and adapt with the classroom dynamics, staff changes and staff and student absences.

The fourth and final level at which challenges were faced is at the societal level. Here, there were two main challenges. Firstly, it is a challenge for these children to be in a classroom with less than eight students, and then return to or be reintegrated into a normal
class size. Although there was a lot of staff support and assistance in the classroom, and the students learned some valuable skills and lessons, it is questionable as to whether they would be able to generalize these skills into a classroom with more students, with less attention and a lower number of classroom staff. There was increased pressure and emphasis on teaching and explaining the importance of generalization, which increased stress and classroom lessons plans for skill teaching. Not only did the classroom staff have to meet criteria according to curriculum, but then had to also teach the students social skills for generalization into a regular classroom. The second challenge was collaborating with other outside agencies that were involved with the students, such as Children’s Aid Services, their home schools and other various case workers. These agencies frequently visited the classroom and removed the students from the classroom for meetings and evaluations, once again disrupting the classroom atmosphere, schedule and order.

**Contribution to Behavioural Psychology Field**

The results of the case study demonstrated that a token economy program, dependant on appropriate academic success and aimed at increasing on-task behaviours and decreasing off-task behaviours can be successfully implemented in a classroom setting with a child diagnosed with ADHD. It is hoped that the client will able to maintain the skills and motivation throughout the remainder of his time in a specialized class, and that the positive effects of the program will generalize across environments, and particularly the transition into a normal classroom and even into secondary school.

**Recommendations for Future Research**

Recommendations for future research would be to expand this token economy program into a regular board classroom in the hopes that a regular school board classroom with a larger number of students would assist with the generalization into other environments and other levels of education. An additional recommendation would be to conduct an intervention for longer than just 50 minutes per day, therefore making the behaviours required of the student more engrained in his/her repertoire.

Another recommendation would be to try and implement this type of economy in non-educational settings, such as on the school ground, the bus and also at home to promote generalization for gains to non-academic settings and increase opportunities for skills practice.

In summary, children with ADHD would benefit from having economy based, reinforcement programs in all the main environments and settings of their lives, thus keeping behavioural expectations consistent. Token economy programs that are based in a student’s classroom should generalize into the home, where although the target behaviours may differ, the reinforcement for exhibiting these positive behaviours could still be reinforced and praised. This unity of interventions across settings may increase the child’s successfulness, and thus reduce the severity of problem behaviours associated with ADHD.
References


Appendix A: Consent Form

PARENT CONSENT FORM

St. Lawrence College
100 Portsmouth Ave.
Kingston, Ontario K7L 5A6
October 1st, 2008

Dear parents and guardians:

Your child, has been selected to participate in a 14-week learning support program designed to enhance student success at school. This program is being offered by Sara Gervais, a 4th year student in the 4-year Behavioural Psychology degree program at St. Lawrence College, as a part of her placement experience and an applied thesis. As part of her training so far, Sara has taken courses in applied behaviour analysis, developmental psychology, childhood and adolescence, as well as in counseling, ethics, professional practice, and other areas. Sara will be helping out in your child’s classroom on a daily basis from September 2nd to December 5th, 2008. She will be working with your child’s teacher and will be supervised by Dr. Yolanda Fernandez, a faculty member at St. Lawrence College.

The program is unique in that it will be tailored to your child, taking into account his/her strengths and needs. It will be based on observations of your child during the school day while he/she is participating in typical daily activities. Based on these observations, the overarching goal will be to reduce his off-task behaviours (fidgeting, chair tipping, finger snapping, playing with and tapping his pencil) as well as daydreaming and looking around the room during independent seat work periods and increase on-task behaviour. This will be done by providing verbal praise and tokens when on-task behaviours are observed. The tokens will later be exchanged for small items of interest to a child. Each week, there will be goals or standards set, which the child has to reach in order to receive the small items. Additionally, your child will be prompted as to the appropriate behaviour he/she should work toward and will be involved in creating an agreement (behavioural contract) as to what the goals for classroom behaviour will include. This program will be integrated into your child’s regular schedule in a positive way and he will continue to participate in all classroom activities.

In the past, we have found that children benefit from this type of learning support program, but there are no guarantees that every child will benefit. The possible benefits of this program are an increase in academic and social success, reduction in problem behaviours and an increase in compliance. There are minimal risks of participating in this program. Some of the risks may be little to no effect from the behavioural program, or an inability to generalize the learned skills into other academic and social situations. All effort will be made to ensure that risks are minimized.

This opportunity is being offered to your child and the decision to participate is voluntary. If you wish your child to participate in this program, Sara will work with your child individually and/or in groups. Your child will also be asked if he wishes (assents) to participate and may refuse. If you choose to participate, you have the right to withdraw at any time. All information obtained about your child will be kept confidential (to do this, your child will be given a code name and information will be stored in a secure location). Only your child’s teacher and principal will be informed of his participation. Your decision to participate or not will not affect how your child will be treated within the school system. No information from this program will be included in any school report or documents. Upon request, we will gladly share a copy of a brief report of the program. If at any time, you have questions, comments or concerns about your child’s participation, please contact faculty supervisor, Dr. Yolanda Fernandez, 613-351-8189, or Susan Keene, agency supervisor, 613-384-7278. If you don’t wish your child to participate, please inform us as soon as possible so that we may offer this opportunity to another child.

Please sign form on next page and return it to the school as soon as possible.
I, ______________________ (print parent's name), give permission for my child, ______________________ (print child's name), to participate in a personalized learning support program offered by Sara Gervais at ______________________ (school's name). I understand that his participation is voluntary and that I may withdraw my consent at any time. If I have any questions, I may contact Sara's college supervisor, Dr. Yolanda Fernandez.

**NOTE:** all information identifying your child will be removed from any reports to protect confidentiality and a copy of this consent form will be provided to you.

___ I agree for my child to participate in this intervention/project conducted by Sara Gervais

___ I do NOT agree for my child to participate in this intervention/project conducted by Sara Gervais

___ I consent for the data collected as part of this intervention/project to be put in a report in the college library.

___ I consent for the data collected as part of this intervention/project to be presented at a conference and/or published in a peer reviewed journal or professional publication.

Parent/Guardian Signature: ______________________ Date: __________

Printed Name: ______________________

Witness/Teacher Signature: ______________________ Date: __________

Printed Name: ______________________

SLC Student Signature: ______________________ Date: __________

Printed Name: ______________________
Appendix B: Behavioural Contract

Behavioural Contract

This contract will begin starting every morning at 9:30 a.m. until 10:20 a.m., and will run from Tuesday October 21st, and will continue until Friday December 5th, 2008.

This contract states that knows and understands the following responsibilities and conditions that are expected of him on a daily basis, from arrival at school, throughout the day, including lunch and snack times, and at recess, until the end of the day.

1. Concentrate on his work (one of his outstanding goals set previously by the pathways staff)

2. Don’t fiddle with school supplies that are at his desk (math set, scissors, glue, pencils, ruler and blank paper)

3. Don’t daydream - feels as though this happens the most when he is working on his math

4. Keep feet off of the heater that is under his desk

5. Don’t look out the window

6. Practice listening closely and following directions as soon as asked to do something

If he meets these requirements, and meets his daily and weekly goals, then he will receive daily tokens, which can be traded in at the end of the week for a special item or privilege.

The daily tokens are: fuzzy and dinosaur stickers

To be exchanged at the end of the week for: various special activities, such as extra computer time, extra time outside, playing at the park, special treats etc. (will vary from week to week ( will choose at beginning of the week what his end of the week prize will be)
Fines/Penalties

If a staff member fails to earn 1 or more tokens for an extended amount of time, and myself and the other staff feels that it is due to unreachable goals, then that weeks goals and conditions will be re-evaluated. However, there will be no removal of tokens that have already been earned, the token for the current interval will simply be withheld, and will have the opportunity to earn his token for the next interval.

We, the undersigned, agree to honour the terms of the agreement listed above.

Sara Hernais (contractor)

<table>
<thead>
<tr>
<th>(contractee)</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>(witness)</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>(date)</th>
</tr>
</thead>
</table>
Appendix C: Sample Reinforcement Survey

Reinforcer Assessment

Name:__________________________

Date:__________________________ School:________________________

Use the checklist below to indicate preferred items.

Sensory and social reinforces
☐ Rocking
☐ Swinging
☐ Back Rub
☐ Being Brushed
☐ Twirling
☐ Jumping
☐ Smelling items (e.g., stickers)
☐ Stim time
☐ Applause
☐ Attention from specific individuals
☐ Verbal praise
☐ Smiles
☐ Tickles
☐ Eye contact
☐ Being left alone
☐ Hugs
☐ High five
☐ ____________

Tangible Items
☐ Candy
☐ Cookies
☐ Chips
☐ Fruit
☐ Cereal
☐ Snacks
☐ Drinks
☐ Stickers
☐ Toys
☐ Games
☐ ____________

Areas of Interest
☐ Airplanes
☐ Animals
☐ Trucks
☐ Cars
☐ Dinosaurs
☐ Trains
☐ Buses
☐ Maps
☐ Math
☐ Machines

Activity Reinforcers
☐ Going for a walk
☐ Free time
☐ Playing with toys
☐ Outside activities
☐ Drawing
☐ Painting
☐ Bike riding
☐ Puzzles
☐ Listening to music
☐ Job responsibility (at home / at school)
Appendix D

Areas of Interest (cont’d)

☐ Numbers
☐ Letters
☐ Computers / computer games
☐ Shapes
☐ Science
☐ List favorite places to go
☐ List favorite movies
☐ List favorite songs
☐ List favourite cartoon characters / celebrities

☐ ______
☐ ______

Dislikes
List noises

☐ ______
☐ ______

List activities

☐ ______
☐ ______

List any known fears

☐ ______
☐ ______

List foods

☐ ______
☐ ______

List animals

☐ ______
☐ ______

Other dislikes

☐ ______
☐ ______

Activity Reinforcers (cont’d)

☐ Watching television
☐ Playing with toys
☐ Snack time
☐ Computer
☐ Reading / being read to
☐ Making choices
☐ Social activities
☐ Leisure activities

☐ ______
☐ ______
<table>
<thead>
<tr>
<th>Process</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>128.</td>
<td>listen to tape recorder</td>
</tr>
<tr>
<td>129.</td>
<td>have a shadow show</td>
</tr>
<tr>
<td>130.</td>
<td>play with computer</td>
</tr>
<tr>
<td>131.</td>
<td>stringing beads</td>
</tr>
<tr>
<td>132.</td>
<td>turn water off/on</td>
</tr>
<tr>
<td>133.</td>
<td>sunshine and shadows</td>
</tr>
<tr>
<td>134.</td>
<td>hinges</td>
</tr>
<tr>
<td>135.</td>
<td>smelling spices</td>
</tr>
<tr>
<td>136.</td>
<td>blank</td>
</tr>
</tbody>
</table>

**Processes Reinforcers**

1. fishing game
2. train delivery
3. bean bag throw
4. dart board
5. grab bag
6. surprise box
7. spinner
8. reinforcers hidden between worksheets
9. random timer bell
10. blank
### Appendix D: Functional Assessment Observation Form (FAO)

**Table Example: Functional Assessment Observation Form**

<table>
<thead>
<tr>
<th>Time</th>
<th>Condition 1</th>
<th>Condition 2</th>
<th>Condition 3</th>
<th>Condition 4</th>
<th>Condition 5</th>
<th>Condition 6</th>
<th>Condition 7</th>
<th>Condition 8</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10:00</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>11:00</td>
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<td></td>
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<tr>
<td>12:00</td>
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<td></td>
</tr>
<tr>
<td>13:00</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14:00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15:00</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16:00</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17:00</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18:00</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19:00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20:00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Name:** [Insert Name]

**Starting Date:** [Insert Date]

**Ending Date:** [Insert Date]
Appendix E: ABC Recording Chart

**ABC Chart**

**Date:** September 12th, 2008  
**Recorder:** Sara Gervais

<table>
<thead>
<tr>
<th>Time</th>
<th>Antecedent</th>
<th>Behaviour</th>
<th>Consequence</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:30am</td>
<td>Teacher sends students to desk for seat work</td>
<td>Client goes to desk and begins to play with school supplies</td>
<td>His off task behaviour goes unnoticed by staff due to staff working with other students</td>
</tr>
<tr>
<td>9:42am</td>
<td>Cooper is reminded to get his work done</td>
<td>Client then begins to work</td>
<td>He receives verbal praise for completing one piece of independent work</td>
</tr>
<tr>
<td>9:50am</td>
<td>Teacher and other staff working with other students</td>
<td>No attention- Client begins to look around/ daydream</td>
<td>Staff member notices, and client then receives 1-on-1 help</td>
</tr>
<tr>
<td>10:00am</td>
<td>No attention by staff members</td>
<td>Client asks for help with his seat work</td>
<td>Receives 1-on-1 help and completes 2 pages of work in workbook</td>
</tr>
<tr>
<td>10:12am</td>
<td>Getting close to snack time- staff putting out snack items on table</td>
<td>Client begins to look around the room and tip and rock in his chair</td>
<td>Client instructed by staff to continue with his work until it is snack time</td>
</tr>
<tr>
<td>10:15am</td>
<td>Students instructed to clean up and get ready for snack time</td>
<td>Client immediately cleans up his work and goes to get his snack</td>
<td>Receives verbal praise for following instructions</td>
</tr>
<tr>
<td>10:45am</td>
<td>Students instructed to go to their desks and continue their independent work</td>
<td>Client takes his time getting to his desk, looks around etc</td>
<td>His off task behaviour goes unnoticed by classroom staff, he continues to look around/daydream</td>
</tr>
<tr>
<td>10:48am</td>
<td>No attention from classroom staff</td>
<td>Begins tapping his pencil on the side of his desk</td>
<td>Told by a classroom staff to get to work</td>
</tr>
<tr>
<td>10:52am</td>
<td>No attention from classroom staff</td>
<td>Client is sitting at his desk and begins to play with his hair</td>
<td>This behaviour goes unnoticed by staff because they are helping other students. Client continues to engage in the off task behaviour</td>
</tr>
<tr>
<td>10:58am</td>
<td>Teacher and staff are working</td>
<td>Client begins asking</td>
<td>Classroom staff tells</td>
</tr>
<tr>
<td>Time</td>
<td>Activity</td>
<td>Action</td>
<td>Notes</td>
</tr>
<tr>
<td>--------</td>
<td>---------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>11:06am</td>
<td>Other students are allowed to be playing on the computer</td>
<td>Client begins to be out of seat, wondering around the class</td>
<td>Classroom staff provide him with 1-on-1 assistance with his work</td>
</tr>
<tr>
<td>11:15am</td>
<td>Receives approximately 10-15 minutes of 1-on-1 help from a staff member in the class</td>
<td>Completes 1 piece sheet of work assistance</td>
<td>Gets free time</td>
</tr>
<tr>
<td>11:30-12:30 pm</td>
<td><strong>LUNCH TIME</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12:40pm</td>
<td>Instructed to be in seat to complete any unfinished work</td>
<td>Wanders around the classroom</td>
<td>Told my a classroom staff to go sit in his seat</td>
</tr>
<tr>
<td>12:43pm</td>
<td>Independent seat work period</td>
<td>Client begins playing with the pieces in his Math set</td>
<td>This behaviour goes unnoticed by classroom staff because they are busy with other students, and because client off-task behaviours are undisruptive to others</td>
</tr>
<tr>
<td>12:46pm</td>
<td>No attention from classroom staff</td>
<td>Client begins tapping school supplies (that are unneeded for the task at hand) on the edge of his desk</td>
<td>Classroom staff tells him to stop tapping and to get to his school work</td>
</tr>
<tr>
<td>12:53pm</td>
<td>No attention from classroom staff</td>
<td>Client asks for help (he doesn’t have any work open on his desk)</td>
<td>Classroom staff goes to Client, assists him with finding the work page he is to complete and gives him instructions on how to complete the worksheet</td>
</tr>
<tr>
<td>12:57pm</td>
<td>No attention</td>
<td>Client is working well independently after being given instructions as how to correctly complete the assigned work</td>
<td>Client receives verbal praise for working well independently</td>
</tr>
<tr>
<td>1:03pm</td>
<td>Finishes daily work</td>
<td>Earns free time</td>
<td>Plays on the computer</td>
</tr>
<tr>
<td>1:15pm</td>
<td>Told to return to seat for end of day routine to commence</td>
<td>Client takes his time getting off the</td>
<td>Teacher instructs client to sit in his desk</td>
</tr>
<tr>
<td>Time</td>
<td>Event</td>
<td>Client's Behavior</td>
<td>Staff's Interaction</td>
</tr>
<tr>
<td>-------</td>
<td>-----------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>1:18pm</td>
<td>Other students are being chosen to move up on their goal charts and get their coats and boots on</td>
<td>Client continues to wander and not remain seated</td>
<td>He is told my the classroom staff again to remain in his seat or he will be the last one to be able to get ready for home-time</td>
</tr>
<tr>
<td>1:20pm</td>
<td>Told by staff to clean up and tidy up desk and area around desk</td>
<td>Client was sitting at desk when he was instructed to do this. He ignored the instruction and began tipping his chair</td>
<td>Told again by classroom staff that he was going to be the last one to leave</td>
</tr>
<tr>
<td>1:23pm</td>
<td>Reminded/prompted again to clean up his desk</td>
<td>Begins to clean and tidy up his desk area</td>
<td>Encouraged to continue cleaning</td>
</tr>
<tr>
<td>1:27pm</td>
<td>Finishes cleaning up desk and area</td>
<td>Got to go move up on his goal chart and begin to get coat and shoes on for home time</td>
<td>Was proud of himself that he got to move up on the goal chart</td>
</tr>
<tr>
<td>1:30pm</td>
<td>Told to continue packing up bag and putting things in his bag that needed to go home</td>
<td>Packed his bag slowly and with many interruptions and distractions</td>
<td>Was the last one outside and was late for the bus</td>
</tr>
</tbody>
</table>
Appendix F: Functional Assessment Checklist for Teachers and Staff (FACTS)

Functional Assessment Checklist for Teachers and Staff (FACTS-Part A)

Step 1
Student/Grade: Sarah Evans
Interviewer: 
Respondent(s): 
Date: Oct 08, 2008

Step 2
Student Profile: Please identify at least three strengths or contributions the student brings to school.
Social, energetic, polite

Step 3
Problem Behavior(s): Identify problem behaviors
- Tardy
- Unresponsive
- Withdrawn
- Language Arts
- Transition
- Recess
- Reading
- Lunch
- Science
- Transition
- Block Studies
- Art

Describe problem behavior: unorganized, hard to stay focused

Step 4
Identifying Routines: Where, When and With Whom Problem Behaviors are Most Likely.

<table>
<thead>
<tr>
<th>Schedule (Times)</th>
<th>Activity</th>
<th>Likelihood of Problem Behavior</th>
<th>Specific Problem Behavior</th>
</tr>
</thead>
<tbody>
<tr>
<td>Before School</td>
<td>Low</td>
<td>1 2 3 4 5 6</td>
<td>asks for help, although doesn't need it.</td>
</tr>
<tr>
<td>10:00</td>
<td>Math</td>
<td>1 2 3 4 5 6</td>
<td>engaged in free time</td>
</tr>
<tr>
<td>9:30</td>
<td>Transition</td>
<td>1 2 3 4 5 6</td>
<td>engaged in free time</td>
</tr>
<tr>
<td>9:45</td>
<td>Language Arts</td>
<td>1 2 3 4 5 6</td>
<td>only reads short stories, not off task.</td>
</tr>
<tr>
<td>10:30</td>
<td>Recess</td>
<td>1 2 3 4 5 6</td>
<td>engaged in free time</td>
</tr>
<tr>
<td>9:35</td>
<td>Reading</td>
<td>1 2 3 4 5 6</td>
<td>engaged in free time</td>
</tr>
<tr>
<td>11:35</td>
<td>Lunch</td>
<td>1 2 3 4 5 6</td>
<td>engaged in free time</td>
</tr>
<tr>
<td></td>
<td>Science</td>
<td>1 2 3 4 5 6</td>
<td>engaged in free time</td>
</tr>
<tr>
<td>10:45</td>
<td>Transition</td>
<td>1 2 3 4 5 6</td>
<td>engaged in free time</td>
</tr>
<tr>
<td></td>
<td>Block Studies</td>
<td>1 2 3 4 5 6</td>
<td>engaged in free time</td>
</tr>
<tr>
<td></td>
<td>Art</td>
<td>1 2 3 4 5 6</td>
<td>engaged in free time</td>
</tr>
</tbody>
</table>

Select 1-3 Routines for further assessment: Select routines based on (a) similarity of activities (conditions) with ratings of 4, 5 or 6 and (b) similarity of problem behavior(s). Complete the FACTS-Part B for each routine identified.

Functional Assessment Checklist for Teachers & Staff (FACTS-Part B)

Student/Grade:  
Interviewer:  
Respondent(s):  
Date: Oct 03, 2008

Step 2  
Routine/Activities/Context: Which routine (only one) from the FACTS-Part A is assessed?  

<table>
<thead>
<tr>
<th>Routine/Activities/Context</th>
<th>Problem Behavior(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>language arts</td>
<td>talking, playing wisecracks, breaking in class</td>
</tr>
</tbody>
</table>

Step 3  
Provide more detail about the problem behavior(s):

- What does the problem behavior(s) look like?  
  looking out the window, tipping in chair, tapping pencils, making noise.
- How often does the problem behavior(s) occur?  
  Problem behavior occurs everyday b/w 9:30-10:30 (the most)
- How long does the problem behavior(s) last when it does occur?  
  usually about 5-7 min before until prompted.
- What is the intensity/level of danger of the problem behavior(s)?  
  If not prompted, he may sit for a total of 15 min.

Step 4  
What are the events that predict when the problem behavior(s) will occur? (Predictors)

<table>
<thead>
<tr>
<th>Related Issues (setting events)</th>
<th>Environmental Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>illness</td>
<td>reprimand/correction</td>
</tr>
<tr>
<td>drug use</td>
<td>structured activity</td>
</tr>
<tr>
<td>negative social</td>
<td>physical demands</td>
</tr>
<tr>
<td>conflict at home</td>
<td>socially isolated</td>
</tr>
<tr>
<td>academic failure</td>
<td>with peers</td>
</tr>
<tr>
<td></td>
<td>activity too long</td>
</tr>
<tr>
<td></td>
<td>tasks too difficult</td>
</tr>
</tbody>
</table>

Step 5  
What consequences appear most likely to maintain the problem behavior(s)?

<table>
<thead>
<tr>
<th>Things that are Obtained</th>
<th>Things Avoided or Escaped From</th>
</tr>
</thead>
<tbody>
<tr>
<td>adult attention</td>
<td>hard tasks</td>
</tr>
<tr>
<td>peer attention</td>
<td>reprimands</td>
</tr>
<tr>
<td>preferred activity</td>
<td>switching activities</td>
</tr>
<tr>
<td>money/things</td>
<td>physical effort</td>
</tr>
<tr>
<td></td>
<td>adult attention</td>
</tr>
</tbody>
</table>

SUMMARY OF BEHAVIOR

Identify the summary that will be used to build a plan of behavior support.

Step 6  
Setting Events & Predictors | Problem Behavior(s) | Maintaining Consequence(s) |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>being tired, different</td>
<td>getting independent</td>
<td>writing, reading</td>
</tr>
<tr>
<td>medication schedule</td>
<td>looking around, doing</td>
<td>work</td>
</tr>
<tr>
<td>change of routine</td>
<td>unneeded</td>
<td></td>
</tr>
</tbody>
</table>

Step 7  
How confident are you that the Summary of Behavior is accurate?  

<table>
<thead>
<tr>
<th>Not very confident</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Very Confident</th>
</tr>
</thead>
</table>

Step 8  
What current efforts have been used to control the problem behavior?  

<table>
<thead>
<tr>
<th>Strategies for preventing problem behavior</th>
<th>Strategies for responding to problem behavior</th>
</tr>
</thead>
<tbody>
<tr>
<td>Schedule change</td>
<td>reprimand</td>
</tr>
<tr>
<td>seating change</td>
<td>Office referral</td>
</tr>
<tr>
<td>curriculum change</td>
<td>Detention</td>
</tr>
</tbody>
</table>

### Appendix G: Sample Baseline Recording Sheet for On-Task Behaviours

**Duration Recording for On Task Behaviour during Independent Seat Work Periods**

Date:________________________

Day # of baseline recording:____

Client Name:__________________

Meds: yes no

<table>
<thead>
<tr>
<th>Interval</th>
<th>Trial #1</th>
<th>Trial #2</th>
<th>Trial #3</th>
<th>Trial #4</th>
<th>Trial #5</th>
<th>Trial #6</th>
<th>Trial #7</th>
<th>Trial #8</th>
<th>Trial #9</th>
<th>Trial #10</th>
<th>Trial #11</th>
<th>Trial #12</th>
<th>Trial #13</th>
<th>Trial #14</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:30-9:40</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9:40-9:50</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9:50-10:00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10:00-10:10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10:10-10:20</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
### Sample Baseline Recording Sheet for Off-Task Behaviours

<table>
<thead>
<tr>
<th>#</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<p>| | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Client Name:**
- **Day # of Baseline Recording:**
- **Date:**

---

*Frequent Recording for Off-Task Behaviors during Independent Seat Work Periods*
Appendix I: Student's Criteria for Reinforcement

Don't talk to other students during seat work time
Don't be out of your seat

Others
Don't tap school supplies on desk or make noise that can disturb
Don't look around the classroom/look at other students
Don't look out the window
Don't rock or tip your chair

Don't play with school supplies

DON'T

Don't busy with another student
Ask for help by raising your hand or quietly ask a staff member that
Sometimes else

DO

Work on your seat work until you are told by a staff member to do
Only have school supplies that are needed out on your desk
Sit properly—back on the back, but on the seat; feet on the floor
Keep your 2 feet on the ground
Keep all 4 legs of your chair on the ground

DO
### Appendix J: Raw Data for Baseline and Intervention

<table>
<thead>
<tr>
<th>Week #</th>
<th>Day</th>
<th>Total Time on Task (min)</th>
<th>Chair Tipping</th>
<th>Playing with School Supplies</th>
<th>Daydreaming/Looking out Window</th>
</tr>
</thead>
<tbody>
<tr>
<td>BL 1</td>
<td>1</td>
<td>36 min</td>
<td>4</td>
<td>9</td>
<td>17</td>
</tr>
<tr>
<td>BL 2</td>
<td>2</td>
<td>36 min</td>
<td>23</td>
<td>9</td>
<td>11</td>
</tr>
<tr>
<td>BL 3</td>
<td>3</td>
<td>28 min</td>
<td>8</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>1</td>
<td>4</td>
<td>24 min</td>
<td>3</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>1</td>
<td>5</td>
<td>48 min</td>
<td>1</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>6</td>
<td>5 min</td>
<td>3</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>2</td>
<td>7</td>
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<td>1</td>
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<td>9</td>
<td>28 min</td>
<td>0</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>10</td>
<td>0 min</td>
<td>0</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>3</td>
<td>11</td>
<td>21 min</td>
<td>4</td>
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<td>0</td>
</tr>
<tr>
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<td>12</td>
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<tr>
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<td>13</td>
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</tr>
<tr>
<td>4</td>
<td>14</td>
<td>28 min</td>
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<td>0</td>
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</tr>
<tr>
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<td>15</td>
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</tr>
<tr>
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</tr>
<tr>
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<tr>
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<td>0</td>
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</tr>
<tr>
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<td>20</td>
<td>36 min</td>
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</tr>
<tr>
<td>6</td>
<td>21</td>
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</tbody>
</table>
Appendix K: Intervention Results for Increasing On-Task Behaviours

![Graph showing intervention results for on-task behaviour. The graph compares baseline and treatment phases, with days numbered from 1 to 23 on the x-axis and minutes on the y-axis. There is a notable increase in minutes spent on task during the treatment phase compared to the baseline phase.]
Appendix L: Intervention Results for Decreasing Off-Task Behaviours

![Intervention Results for Decreasing Off-Task Behaviour](image)

- Chair Tipping (Thin trendline)
- Playing With School Supplies (Thick trendline)
- Daydreaming/ Looking Out Window (Dashed trendline)