Affordable ABA

Evaluation of Token Economies as Effective Behavior Strategies for Early Learners

Introduction

A token economy is a reinforcement system commonly used in the field of Applied Behavior Analysis (ABA). It is a supplemental tool to support behavior intervention strategies. Token economies are an effective contingency system in which tokens are earned for predetermined behavior, then exchanged for reinforcing items and activities. Often used as a behavioral intervention strategy, token economies can be an effective tool to increase desired behavior, and decrease the probability of maladaptive behavior. Based upon the principles of positive reinforcement, behavior which is followed by desireable outcomes increases the likelihood that the behavior will occur again. Token economies allow practitioners to differentially reinforce desired behavior, provide visual aids that show progress, help make reinforcement easily accessible across environments, and implement fading strategies to promote generalization of skills.

Building an effective token economy system goes much further than choosing and providing tokens for desired behavior. When implemented correctly, they are an effective tool for mitigating problem behavior and reinforcing alternative replacement behavior. In order to effectively develop the system, our intervention stems from the knowledge we have about how behavior develops, its history, and the purpose it serves for the individual. Beginning with the steps of a behavior assessment, we use the information we have about the learner, the reasoning behind the existing behavior, the learner's history of reinforcement, and skill deficits which contribute to the exacerbation of challenging behavior. Moving toward an understanding of the child and their functioning, we can develop individualized criteria in which the token economy will support our intervention for behavior reduction.

As behavior analysts, we not only rely on best practice procedures to teach and replace problem behavior, but it is also imperative that we can successfully train

others to implement the same procedures across environments. This involves the steps of pairing the token economy with a conditioned reinforcer, analyzing its effectiveness, and making adjustments. It is a positive practice procedure which supports our ability to avoid the use of punishment procedures, extinction procedures, and other aversive methods that have been used in the past to extinguish behavior.

Token economies are highly versatile and can easily be modified specific to the learner, the environment, and availability of reinforcement. They allow us to teach replacement behavior and systematically thin schedules of reinforcement in order to best generalize and maintain skills over time. Token economies are a useful tool that can be used by caregivers, practitioners, and any others who support early learners in their environment. They support a positive practice model and are highly beneficial to the learning and development of children with an autism spectrum disorder (ASD).

Section 1: Autism and the Correlation of Problem Behavior [11, 12, 13, 15]

ASD is a neurodevelopmental disorder manifesting with impairments across communication, social, and behavioral development. Children with ASD display problem behavior disproportionately higher than their typically-developing peers (Newcomb & Hagopian, 2018). Problem behavior is identified as behavior which poses a risk to the health or wellbeing of the individual or others in the environment, and is disruptive to daily functioning. Examples include externalizing behaviors such as self-injury (i.e., biting oneself, head banging, skin picking), aggression to others (i.e., hitting, kicking, biting, scratching), property destruction (i.e., throwing, breaking items and objects), and elopement (i.e., leaving the supervision of a caregiver). Problem behavior in children with ASD can manifest as

mild in some individuals, posing little to no immediate threat. In severe cases, problem behavior can become a chronic pattern requiring ongoing supervision and safety precautions. Some individuals may engage in only one form of problem behavior, while others can display multiple forms. As a result, this can reduce quality of life, limit access to the community, delay rates of skill acquisition, and in some cases lead to seclusion as well as physical and mechanical restraint.

While the cause of problem behavior is complex and varies among individuals, the inability to communicate effectively is thought to strongly correlate with the development of maladaptive behavior. ASD, communication deficits, as well as the severity of an individual's intellectual disability are associated with specific problem behavior, and are believed to contribute to the behaviors initial development (Newcomb & Hagopian, 2018). Behavior can be observed as many different topographies and is an operant learning process; learned behavior that changes as a result of its interaction with environmental consequences. Throughout the operant learning process, behavior is shaped when associations between reinforcement or punishment occur. Over time, as behavior comes into contact with reinforcement, the intensity and frequency of the identified behavior will strengthen. When in contact with punishing consequences, or the absence of reinforcement, the behavior is likely to decrease. As learning is in a constant state of evolution, when an individual can no longer access a functional reinforcer, replacement behavior topographies emerge. This can occur in the form of different, or new, maladaptive behaviors. It is our job to teach early learners how to appropriately access positive reinforcement as they navigate the operant learning process.

Because problem behavior has the potential to cause harm, disruption and distress, it is not uncommon for caregivers to respond and interrupt the behavior, or even take precautionary measures that avoid the behavior. By adjusting their own actions and routines, caregivers are able to prevent the behavior from

occurring. As a result, there exists the potential that problem behavior can inadvertently be reinforced. Understanding operant learning, reinforcement, behavior function, and reinforcement functions play a vital role in the development of behavior intervention. With this information, we can systematically teach and reinforce desired alternate replacement behavior. When combined, mitigation of contributing deficits (i.e., verbal mands), differentially reinforcing the replacement behavior, and eliminating reinforcement previously correlated with the undesired response, we have the ability to establish a strong foundation for behavior reduction intervention strategies.

Section 1 Reflection Question

Why do you think that language and problem behavior could be strongly correlated?

Section 1 Key Terms

Behavior - The portion of an organism's interaction with its environment that involves movement of some part of the organism.

Behavior Function - The reason a behavior continues is called the function of that behavior.

Consequence - A stimulus change that follows a behavior of Interest. Some consequences, especially those that are immediate and relevant to the current motivational state, have significant influence on the future behavior; others have little effect.

Correlation - The relationship between two sets of variables used to describe or predict information.

Operant Behavior - behavior that is selected, maintained, and brought under stimulus control as a function of its consequences; East person's repertoire of operant behavior is a product of his history of interactions with the environment.

Punishment - A basic principle of behavior describing a response consequence functional relation in which a response is followed immediately by a stimulus change that decreases future occurrences of that type of behavior.

Reinforcement - The basic principle of behavior describing a response consequence function relation in which a response is followed immediately by the stimulus change that results in a similar response that is occurring more often.

Topography - The physical form or shape of a behavior, the measurable and malleable dimension of behavior.

Section 2: Functional Behavior Assessment (FBA) [1, 3, 5, 6, 9, 10, 12, 14]

As we see across the field of ABA, treatment of problem behavior is an evidence based and data driven process. In order to implement any reinforcement system or behavior reduction plan, we must first determine what the behavior is and why it has developed in the first place. A Functional Behavior Assessment (FBA) represents one of the most commonly used supports for gathering information and identifying environmental factors which contribute to problem behavior. An FBA involves multiple ways to determine the external variables and reinforcing contingencies which maintain a specific problem behavior. The goal of this assessment is to understand the reasoning a behavior occurs and guide practitioners to reduce the rate of problem behavior while teaching functionally equivalent replacement behavior. The information gathered throughout the process provides us with the foundation we need to begin the steps of developing

an individualized intervention plan and token economy system for behavior reduction. Understanding the different functions of behavior is an important aspect of both behavior reduction as well as behavior prevention. We can use this knowledge to navigate contexts in which problem behavior commonly develops and be proactive through skill acquisition with children at risk for problem behavior.

Direct and Indirect Assessment

The main components of a FBA consist of two types of assessments. First, an indirect assessment, in which we collect information from those who interact with the learner such as parents, teachers, staff, and other caregivers, is one type of assessment. Second, completion of a direct, or descriptive assessment by the practitioner who will develop the behavior reduction plan, is another type of assessment. Both assessments serve to provide us with knowledge of what the problem behavior looks like, how it came to be, and why it continues.

Indirect Assessment

An indirect assessment involves gathering information from caregivers and other individuals who have directly observed the behavior. There are many ways to collect this information, often in the form of unstructured interviews and structured assessment screening tools. Behavior can display differently in different environments, in the presence of different people, and under different circumstances. Utilizing multi-dimensional methods to collect information can help behavior analysts better objectively understand the behavior in all contexts, and is especially important to practitioners who have not yet had an opportunity to directly observe the behavior. In this phase, we look at some of the following questions:

- What are the specific problem behaviors?

- What do these behaviors look like?

- When do they occur (i.e., setting, time, activity)?

- Which behaviors are a priority for intervention?

- Is there a safety risk?

- How do they interfere with daily functioning?

- What strategies have been implemented? Were they effective in any way?

Typically completed as an unstructured interview, the indirect assessment involves gathering information about the behavior. During this part of the assessment, behavior analysts collect and review any information that may help explain why the behavior occurs. In this portion of the assessment, it is always important to review and rule out any medical conditions. This can be done by reviewing relevant documents such as other provider reports, diagnosis and evaluation results, and medical history. Once you have determined there are no medical barriers to be addressed, it is then appropriate to move forward with behavioral treatment. During an unstructured interview, the practitioner meets directly with caregivers to discuss and collect relevant information. This discussion can be used to describe behavior topography, antecedent and consequence events, patterns such as places of occurrence, time of day, behavior that co-occurs, and other possible contributing factors. Close-ended indirect assessments include questionnaires such as the Functional Analysis Screening Tool (FAST), a behavior checklist, an interview questionnaire such as the Comprehensive Interview Took (CIT), and various behavior rating scales.

Direct Assessment

Descriptive assessment involves directly observing and recording the behavior in a natural setting. During this assessment, we will directly observe the child,

collecting information that may be related to the target behavior. Methods of data-recording range from anecdotal (i.e., written narratives), to highly systematic (i.e., documenting occurrences during five minute intervals) methods. Choosing the type of assessment to be used will depend upon the information gathered previously within the indirect assessment.

The goal of a direct assessment is to record measurable and validated information about the learner's behavior. One form of direct assessment is Antecedent-Behavior-Consequence (ABC), or anecdotal observation, recording. With this ABC recording, we record descriptive sequenced events as they occur in the natural environment. We look to yield descriptions of the behavior and relevant antecedents, behaviors, and consequences. The following are additional guidelines for conducting direct observation recording:

- Record everything the learner says or does

- Record everything that happens to the learner

- Make sure recording is objective in nature

- Record temporal sequences of events

- Record measurable dimension such as behavior duration, frequency, time, and intensity

- Be aware of possible interferences to validity, such as reactivity

- Carry out repeated observation over various locations, days, and times

When collecting data, it is important to keep in mind that these assessments have the potential to produce false positives for the function of attention (assessment results mistakenly determine attention to be the function). For example; in situations such as severe problem behavior, attention is often provided in order to keep the child safe. Due to the severity of the behavior, adults must intervene to

keep the child safe. Observational recording would show the behavior to be repeatedly followed by attention and may be misinterpreted as the function of the behavior, resulting in a false positive. False negatives may also occur in the case of escape maintained behavior as others in the environment inadvertently adapt their own behavior in order to avoid the problem behavior. Record these occurrences as well, making notes of potential intervening effects that could skew data.

In comparison to a controlled Functional Analysis (FA), a FBA does not involve experimental design or environmental manipulation for the purpose of determining correlation. Objective observational notes are collected, then analyzed for patterns, correlated events, and functional relationships. Following completion of direct and indirect assessment, the information gathered is analyzed to determine behavior function. We can now use the information gathered to examine functional reinforcement contingencies.

Functions of Behavior

Within the behavior analytic approach, we support our study with the foundational principle that behavior is learned and can be changed. All behavior, both desired and undesired, are a product of our interaction with the environment. Additionally, behavior is specific to the individual and their learning history. Behavior of similar topography may serve entirely different purposes for two learners. The FBA supports us to examine the history that has shaped the behavior and make informed decisions when developing an intervention plan. Through this learning process, behavior serves a purpose to the individual that is developed by successful and unsuccessful exchanges with the environment.

The function of behavior, in short, is the reason that an individual engages in a specific behavior. Behavior is maintained either through positive reinforcement (i.e., access to something) or negative reinforcement i.e., (removal of something).

There are four core functions of behavior (Ala'i-Rosales et al., 2018). Three of which can be classified as socially mediated (i.e., reinforced through interaction with others). These three include attention, escape, and access. The fourth is a non-socially mediated function, automatic reinforcement. This includes behaviors which are reinforced without direct interaction with another person. Automatic reinforcement is produced as a direct result of the behavior itself. When reducing problem behavior, it is common practice that the decrease of one behavior should be accompanied by reinforcement of a functionally equivalent replacement behavior. Interventions based on the topography of a behavior often require punishment procedures to compete with the unknown reinforcers maintaining interfering behavior. Topography based intervention does not aim to understand the cause of the behavior, the history of how it manifested, or the purpose that it serves the individual in communicating with others. In contrast, interventions which match the function of the behavior achieve the desired outcome by altering the learner's motivation to engage in the behavior, reduce reinforcement availability for the undesired behavior, and modify the availability of reinforcement to support replacement behavior as an equivalent behavior which allows the learner to access the same outcome.

Access to Tangible

The first function we will review is socially mediated positive reinforcement, access to tangible reinforcement. This is one form of positive reinforcement, and it occurs when behavior repeatedly results in the individual obtaining physical stimuli or material. Access in the early stages of development drive much of the communication skills that we learn. We have functional methods of obtaining access to what we want. There are many possibilities for how we are able to access stimuli. Some learners are able to get items themselves,others may ask for it verbally, many young learners will point to the item, and for other early learners we see the pattern of taking an adult's hand and leading them to the item. Next,

we will explore what happens when an individual has deficits which prevent access to skills they need to communicate. There are many barriers that can make effective communication difficult. Skills such as pointing, vocabulary repertoire, gaining attention and vocal imitation are all important skills that support effective communication skills. When we are unable to effectively communicate our wants and needs, we adapt to find methods of acquiring these things in ways that do produce access to the desired outcome. Problem behavior such as crying, grabbing at items, yelling and pushing can be very efficient ways to communicate what is needed and to successfully gain access to the item that is desired. High preference items with motivating operations such as hunger and thirst are strongly reinforced when access is acquired. Any behavior, appropriate or not, when the intent to gain access to an item is successful in doing so, will be strengthened each time the behavior proves to be successful for that person. When this pattern continues, the behavior will likely remain consistent when the antecedent emerges. While providing access to items may temporarily bring the problem behavior to an end, the behavior has a high probability of returning and over time becomes more difficult to extinguish. Behavior which consistently produces the consequences of obtaining a physical item or object has a maintaining function of access. Behaviors which have a function of access to tangible and under similar circumstances in the future are likely to occur again.

Escape

The second behavior function category is escape. This category is broken into two parts, escape and avoidance. These behaviors serve as very strong maladaptive and effective means of removing or preventing undesirable or aversive stimuli. Escape and avoidance maintained behavior are described within the category of social negative reinforcement. That is, they involve interaction with others and result in the removal of aversive stimuli. They are the postponing or termination of an aversive event. Escape maintained behavior has the potential to become

some of the most severe and dangerous behavior learners develop. We see this in everyday life, such as hanging up the phone on an unwanted call (escape) or blocking the number altogether (avoidance).

Escape maintained behaviors are those in which the behavior serves to stop the stimuli which are already in progress. If you've ever seen a child cover their ears in a noisy environment, the behavior of covering their ears successfully removes the aversive sound. They have successfully escaped the ongoing stimuli. Consider children in the classroom who are attempting difficult tasks such as reading or math. Pushing the paper away, closing the book, or scribbling on the worksheet can be escape maintained behavior. In challenging situations, we see children lash out in tantrums, hitting others or destroying items. Often resulting in removal from the area, these behaviors have been maintained by the function of escape. You may see this with young learners in the form of disruptive behavior during a classroom lesson, crying while a caregiver brushes their hair, or breaking a pencil while doing homework. Escape maintained behaviors are those in which the antecedent of an already in progress stimuli, followed by the problem behavior, comes to an end.

Avoidance behavior may look similar, but occur just before the aversive stimuli is presented. This can be seen in everyday life such as children asking for five more minutes before bed, or in the classroom when problem behavior occurs just before a specific subject or activity. We may see the child running out of the classroom as the teacher calls together the students for reading groups, kicking and yelling on the way to the bathtub, or engaging in disruptive behavior just before bedtime. These behaviors are developed as maladaptive methods to avoid a known, upcoming aversive situation. It can involve emotions such as fear and anxiety or worry. These emotions, which in many of our early learners can be observed by increased heart rate, flushed body heat or jitteriness, are the antecedent stimuli which prompt the behavior to avoid the situation which has

procured the aversive feeling. These coping strategies can prove to be an effective tool for avoiding stimuli, and such are considered to be avoidance maintained behavior.

Attention

Attention, otherwise described as social positive reinforcement, becomes the function when the behavior is strengthened by access to attention from others. Typically seen as responding to the individual in the form of a reaction. Social attention can be provided in many forms, sometimes observed as providing help to the person, comforting them, laughing, and in what would be seen as 'negative'' ways. Attention can also be provided in the form of correcting or reprimanding the learner. Any behavior, which is immediately followed by a response from another person, falls within the definition of social positive reinforcement (attention). Attention from others can be observed in many ways, some examples include verbal language, body language, behavior interruption, correction and prompting. When the behavior is immediately followed by a response from another individual, and the behavior continues to maintain over time due to this pattern of responding, it falls into the category of attention maintained behavior. There are different antecedents that may trigger the behavior itself. Attention based behavior sometimes develops when access to attention is infrequent, or if the individual does not have the repertoire to gain attention in a socially appropriate manner. Even when unintentional, attention can inadvertently be provided following the occurrence of an undesired behavior. Especially when we are confronted with severe maladaptive behavior that poses harm to the individual or others, caregivers often have no option other than to intervene in the moment to keep the learner safe. Attention can easily be mistakenly identified as for the function of behavior when attention is provided in an effort to keep the child safe. As practitioners, it is important to recognize when attention itself is the reinforcing function and when further analysis is needed to

safely understand the true function behind a problem behavior. For example, the child is presented with a drink, then the child begins to hit their head. The supervising adult says "no hitting", while blocking their head with a soft pillow. Although the behavior is immediately followed by attention, it is important to also consider escape as a potential function as well.

Automatic

There are two categories of automatic reinforcement. This comes in the form of automatic positive reinforcement and automatic negative reinforcement. Automatically reinforced behaviors are those which require no interaction from others in the environment (Ala'i-Rosales et al., 2018). The behavior itself produces the reinforcing consequence. These behaviors are most noticeable when the individual engages in the behavior all throughout the day, sometimes without a clear antecedent, when they are in the presence of others, and when they are alone.

Automatic positive reinforcement is often seen with self-stimulatory behavior. These behaviors produce the addition of a stimulus that reinforces the problem behavior. The visual stimulation a learner receives from wiggling their fingers can occur without the interaction of others. They may observe a flickering of the lights by flicking their fingers in front of them or by placing hands into food, producing the sensation of the sticky or squishy texture. Thumb sucking produces its own soothing effect, and behaviors like cracking your fingers or back may provide a sense of relief. These behaviors are common in that the individual engages in a behavior, and the reinforcing consequences are acquired immediately as a result of the behavior occurring.

Automatic negative reinforcement is similar to what we just discussed. These are behaviors in which the individual does not require any socially mediated interaction in order to access reinforcement. In this category though, the behavior

produces the effect of a stimulus stopping or going away. Most often when in the presence of aversive stimuli, the individual then engages in behavior that will remove the aversive stimuli. These behaviors serve to stop the occurrence of the aversive event and are able to do so by just engaging in the behavior. These behaviors occur in everyday life such as taking medication to get rid of a headache, driving a different route to avoid rush hour traffic, or turning the temperature up when the room is cold. These behaviors we engage in are reinforced by just engaging in the behavior and do not require the presence or interaction of another person. If you have ever seen a child cover their ears in a loud room, the act of covering their ears to reduce the level of noise has successfully functioned to remove the loud noise. Next time the child is in a noisy environment, they are likely to cover their ears again. Covering their ears now has a maintaining function of automatic negative reinforcement.

Intervention for automatically reinforced behavior is among the more challenging to replace behavior. It can be difficult to modify the environment, because we as caregivers are not the reinforcing consequence and therefore we cannot simply adjust our own behavior to produce change. We are unable to remove attention, withhold access, or prompt communication. The behavior accessing reinforcement is a direct result of the behavior itself. Some common interventions include dense schedules of reinforcement for reinforcing similar alternative behaviors, increasing the amount of time the individual goes without engaging in the behavior, or response blocking. Although it is of the more difficult to intervene, it is actually one of the less difficult to identify. As we previously discussed with the other functions, there are many factors and variables to consider in order to recognize false positives, and to maintain a safe environment while analyzing. Automatically reinforced behaviors occur all throughout the day. Individuals will engage in the behavior in different environments, in the presence

of a variety of people, when alone, and when in large groups. Due to this type of patterning, we are able to easily identify automatically maintained behavior.

Identifying the Function

Now that you have an understanding of the different functions, you are able to use that information to look for behavior patterns. As mentioned earlier, behavior analysis is based upon patterns and data. Given a complete analysis of the behavior and the environmental factors that do not exist in correlation of the behavior, we can hypothesize the function of behavior. As we make consistent and repeated correlations between the environment and the behavior, we can begin to look within these categories to support our findings. In the next section, we will put in play a scenario that shows how to systematically go about analyzing behavior and the environment in order to confidently develop a behavior function hypothesis. After we have a strong hypothesis, we are then able to manipulate the environment to support desired outcomes for positive replacement behavior and reduce the occurrence of problem behavior.

Functional Behavior Assessment Scenario

Review the scenario below, together we will walk through the steps of a FBA in a classroom setting.

Indirect Assessment

You are called to assist a teacher with James, a student who is having trouble in the classroom. James is a five-year-old boy and has just begun Kindergarten. He has attended school for approximately two months, and he is not making progress. You meet with his teacher to find out more about what is happening. She describes to you that he engages in disruptive behavior all throughout the day. She says he is smart and funny, but he is also a disruption to the class and nothing she has tried seems to work. He screams, cries, and yells when they line

up, so she has to hold his hand during most transitions. He never wants to go home, yells and throws items when they clean up, and cannot be a part of the group during rug time lessons. If she tries to get him to join the group, he yells. She tries to continue teaching, but if not attended to, James begins to aggress toward the other students. She says that once she can get him settled, he will participate in some activities but is easily frustrated and shuts down. The teacher tells you that she has tried giving him fidgets, wiggle seats, and a token board for good listening, but none of these have worked. You asked her to describe what the behaviors look like. She describes the behaviors as most often starting with screaming and yelling, then kicking, pushing, running away, and hiding. The teacher explains that she is unable to attend to James and effectively teach her class. To get by, she often gives James alternative tasks that keep him calm.

After receiving this description, you feel that you may not have enough information yet to form any correlation between the behavior and the environment. You explain to her the next steps of the assessment; first, you will provide the teacher as well as other caregivers with a few questionnaire assessments to complete. After you receive those back, you will then move on to a direct assessment in which you will directly observe James in the classroom.

Review the information in the FAST you received from the teacher below.

Client: James_____   Date:____11/01/21_____

Informant: Teacher_____   Interviewer: Practitioner_____

To the Interviewer: The FAST identifies factors that may influence problem behaviors. Use it only for screening as part of a comprehensive functional analysis of the behavior. Administer the FAST to several individuals who interact with the client frequently. Then use the results to guide direct observation in several different situations to verify suspected behavioral functions and to identify other factors that may influence the problem behavior.

To the Informant: Complete the sections below. Then read each question carefully and answer it by circling "Yes" or "No." If you are uncertain about an answer, circle "N/A."

Informant-Client Relationship

1. Indicate your relationship to the person:

        Parent   Instructor   Therapist/Residential Staff   __(Other)

 2. How long have you known the person?

        ___Years 2 Months

3. Do you interact with the person daily?   Yes   _No

4. In what situations do you usually interact with the person?

___ Meals   ___ Academic training

___ Leisure   ___ Work or vocational training

___ Self-care   _____(Other)

Problem Behavior Information

1. Problem behavior (check and describe):

    Aggression   Hits others and throws objects at them

    Self-Injury _____

    Stereotypy _____

    Property destruction Throws toys

    Other Running, Hiding

2. Frequency: __Hourly __Daily __Weekly   __Less often

3. Severity:

    __Mild: Disruptive but little risk to property or health

    __Moderate: Property damage or minor injury

    __Severe: Significant threat to health or safety

4. Situations in which the problem behavior is <u>most</u> likely to occur:

    Days/Times: Daily, Academics

    Settings/Activities : Classroom, Difficult tasks

    Persons present : Teacher, Peers

5. Situations in which the problem behavior is <u>least</u> likely to occur:

    Days/Times Not any specific time

Settings/Activities High enjoyable activities

Persons present: Teacher, Peers

6. What is usually happening to the person right <u>before</u> the problem behavior occurs? Engaged in an activity or task

7. What usually happens to the person right <u>after</u> the problem behavior occurs? I have to calm him

8. Current treatments: None at this time

1. Does the problem behavior occur when the person is not receiving attention or when caregivers are paying attention to someone else?	Yes No N/A
2. Does the problem behavior occur when the person's requests for preferred items or activities are denied or when these are taken away?	Yes No N/A
3. When the problem behavior occurs, do caregivers usually try to calm the person down or involve the person in preferred activities?	Yes No N/A
4. Is the person usually well behaved when (s)he is getting lots of attention or when preferred activities are freely available?	Yes No N/A
5. Does the person usually fuss or resist when (s)he is asked to perform a task or to participate in activities?	Yes No N/A
6. Does the problem behavior occur when the person is asked to perform a task or to participate in activities?	Yes No N/A

7. If the problem behavior occurs while tasks are being presented, is the person usually given a "break" from tasks?   Yes No N/A

8. Is the person usually well behaved when (s)he is not required to do anything?   Yes No N/A

9. Does the problem behavior occur even when no one is nearby or watching?   Yes No N/A

10. Does the person engage in the problem behavior even when leisure activities are available?   Yes No N/A

11. Does the problem behavior appear to be a form of "self-stimulation?"   Yes No N/A

12. Is the problem behavior <u>less</u> likely to occur when sensory stimulating activities are presented?   Yes No N/A

13. Is the problem behavior cyclical, occurring for several days and then stopping?   Yes No N/A

14. Does the person have recurring painful conditions such as ear infections or allergies?   If so, list:
    _____   Yes No N/A

15. Is the problem behavior <u>more</u> likely to occur when the person is ill?   Yes No N/A

16. If the person is experiencing physical problems, and these are treated, does the problem behavior usually go away?   Yes No N/A

Scoring Summary

Circle the number of each question that was answered "Yes" and enter the number of items that were circled in the "Total" column.

Items Circled "Yes"				Total	Potential Source of Reinforcement
1	2	3	4	_4_	Social (attention/preferred items)
5	6	7	8	_4_	Social (escape from tasks/activities
9	10	11	12	____	Automatic (sensory stimulation)
13	14	15	16	____	Automatic (pain attenuation)

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Direct Assessment

Now that you have received the questionnaire, you have a better idea of what to look for. The behaviors more specifically fall into the topography categories of aggression, property destruction, elopement, and hiding. These are what you intend to focus on looking for while observing, but it is still important to track other behaviors that seem related or may be maladaptive. You go to the classroom to observe. Before you begin, it is important to review the process with the teacher in order to have the least amount of reactivity possible and to see a display of the most typically occurring scenario. You let her know that you will be observing from across the room and will do your best not to interact with the children. Although, it is sometimes common for other classmates to run up to you and say hi, ask you who you are, or even ask for help with tasks like tying their shoes. You instruct the teacher to teach as she normally would without any alteration to the typical day.

You are only there to observe for a few hours and likely will not have a second opportunity for observation. You decide the best approach would be to do a descriptive narrative observation in order to obtain as much information as possible. See the sample below:

Antecedent (A)	Behavior (B)	Consequence (C)
"Let's get ready for lunch"	James cleans up	Transition to lunch
James is reading. The teacher places a worksheet in on the desk	James screams and hides under the desk with his book	James is removed from the classroom and is given a book to read in the hallway
Students are asked to clean up their food	James screams, kicks the teacher, and runs away with his food	Teacher helps the other students clean up then assists James
Peer takes toy from James	James scratches peer	Peer runs away
Transition to from play time rug time	James screams and kicks other students	James is guided to the rug area with the toy
"Please finish your picture and put the markers away"	James scribbles on his paper and screams, runs out of the room and down the hall	Teacher goes to get James, returns him to the room and walks him back to his seat
Teacher offers to let James help set up for a craft	James jumps and smiles	Teacher laughs and gives him items to set out
A bell rings indicating it is time to go home	James hides in his cubby	Teacher approaches James to calm him and packs his items for him
Teacher holding James had in line	James walks next to teacher	James goes home

Analyze

First, we look for any noticeable or obvious patterns. In this scenario, we can reasonably identify that transitions consistently precede the behavior. Transitions can be a common trigger for children with ASD, but our analysis of the problem

must be more in depth. Transitions involve many skills which could be a deficit for the learner. There are many reinforcement contingencies that could take place. It is not enough to stop there. Consider the following questions:

- What is the learner transitioning away from?

- What is the learner transitioning to?

- How noisy are the transitions? Is the process of the transition itself aversive?

- Does the learner have any skill deficits that would interfere with the transition itself (i.e. fine motor delay that makes it difficult to clean up)?

- Does it occur when moving away from preferred or nonpreferred activities?

- Does it occur when moving to preferred or nonpreferred activities?

- Are there any other noticeable patterns we should consider?

Hypothesis

Now that you have interviewed the teacher and collected ABC data, it is time to interpret the information. In order to form a hypothesis of the function, we will examine the assessment for patterns of behavior and environmental events. Then, we can hypothesize the function of the problem behavior. If problem behavior occurs most frequently when access to attention is unavailable, it is reasonable to suggest the function of the problem behavior would be access to attention. If the problem behavior repeatedly occurs following the placement of a demand, we can argue that escape from demand is the reinforcing contingency. If the pattern seems to show an unpredictable or high rate of occurrence throughout the day, we would consider the possibility of automatic reinforcement.

1. What is the target behavior to be measured for reduction?

a. Following each triggering event which results in a form of maladaptive behavior, James is frequently observed to scream which is then accompanied by a secondary behavior such as running away, hiding, and throwing items. Additionally, we will attend to the behaviors of aggression towards peers (which was observed by scratching and kicking), elopement, hiding, and destruction of items. If we are able to hypothesize a functional relationship that correlates across all topographies, then we can develop a function based definition.

2. What are the antecedent and consequence events which trigger the behavior of screaming?

    a. In this scenario, the initial pattern that can be easily identified is the preceding event of transition from one activity to another. To explore this concept at a deeper level, let's look at the context and similarities of these transitions. In each of the above recordings, James is engaged in an activity without maladaptive behavior. Next, we see multiple instances in which that activity comes to an end, and James is prompted to stop. Given this information, it is safe to hypothesize that lack of attention is not a preceding event, and is not the primary functional reinforcer. We can also hypothesize that automatic reinforcement can be eliminated as there is a clear antecedent-behavior contingency. This narrows our focus to the possibility of the function being escape maintained behavior, or access to tangibles. We can now hypothesize one of the three;

        i. The function is access, given that removal of access precedes each occurance of the behavior.

        ii. The function is to escape from the transition itself.

      iii.   The function is avoidance of the event which follows the behavior.

3.   What are the consequences that reinforce the interfering behavior?

    a.   Let's take a look for any patterns of consequence events, and potentially identify what the maintaining renforcer could be. If escape is the functional relationship, we would expect to see that an active demand will be repeatedly removed following the occurrence of the problem behavior. If the contingency is avoidance, we would see the behavior occur before the demand begins and is not placed again. For access, we would expect to see a pattern of James acquiring something tangible following each behavior. In this scenario, following each occurrence of the problem behavior, James either continues to engage in, or is returned back to the original activity. This would suggest that the functional relationship is hypothesized to be maintained by access to tangibles.

4.   Contingency hypothesis

Antecedent (A)	Behavior (B)	Consequence (C)	Function (F)
Termination of access to a preferred activity	Scream which can be heard by others	Continued engagement in the preferred activity	Access to tangibles

5.   Overview

    a.   To make sure that we consider all dimensions of this contingency we have hypothesized, lets review the information:

i. Motivating operation: James is engaged in appropriate behavior while reading, coloring, and eating.

ii. Antecedent-behavior contingency: Removal of access to the above items/activities.

iii. Behavior-consequence contingency: James acquires access to the same activity he was previously engaged in.

Moving forward with treatment, we next explore the concept of Function Based Treatment (FBT). This is the founding principles which will guide our decision over the upcoming steps of planning and intervention development. FBT has two major components: (1) withholding reinforcement that maintains the target (problem) behavior, and (2) providing reinforcement to strengthen an appropriate alternative behavior. These are the beginning steps of developing a behavior intervention.

Section 2 Reflection Question

What is the importance of using more than one tool to gather information from a caregiver?

Section 2 Key Terms

Access - A contingency in which behavior is followed by acquiring or obtaining stimuli.

Attention - A contingency in which a behavior acquires social attention from other people.

Avoidance - A contingency in which a response terminates an upcoming stimulus.

Automatic - Circumstances in which behavior is evoked, shaped, maintained, or weakened by environmental variables occurring without direct manipulation or other people.

Escape - A contingency in which a response terminates (produces escape from) an ongoing stimulus.

Socially Mediated - A contingency in which an antecedent stimulus and/or the consequence for the behavior is presented by another person.

Section 3: Intervention Procedures [2, 3, 4, 5, 9, 10, 12, 14]

FBT

This format of intervention is based upon the consensus of the information gathered and its suggested indication of behavior function. FBT serves to use the motivating power that the function has to develop an intervention. Behavior function is the root of why behavior occurs and with a carefully formulated plan, can be altered to hold the same power for a more appropriate replacement behavior. FBT is based upon two main components:

1. Withholding reinforcement to what maintains the target behavior (behavior extinction).

2. The use of reinforcing consequences to strengthen a behavior that is an appropriate alternative (the replacement behavior).

It is not uncommon for function based behavior to change in topography over time and throughout treatment. Function based behavior provides tools that address the underlying cause (function) of a behavior, not just the topography.

Extinction

In the most general aspect, behavior extinction occurs when reinforcement, which was previously available, is removed. The steps of developing this procedure begin with first identifying precisely what the maintaining reinforcer is then implementing an intervention in which reinforcement is withheld. Extinction procedures used alone often result in an extinction burst, a sudden increase in the intensity, frequency, or duration of the behavior targeted for decrease. Extinction procedures often entail spontaneous recovery, a sudden recurrence of the behavior after treatment has shown to be effective. As stated earlier, behavior that is reduced without an alternative replacement often changes in topography. With that being said, extinction on its own has the potential to create new or different undesirable behavior serving the same function. In severe cases, for learners who display potentially dangerous behavior, the extinction burst phase has the potential to be dangerous. Many interventions are able to be designed and implemented without producing an extinction burst. When carefully designed to include a functionally equivalent replacement behavior with high rates of reinforcement, we are able to reduce the potential of an extinction burst occurring.

Non-Contingent Reinforcement

Non-contingent reinforcement (NCR) is an empirically supported treatment in the field of ABA (Cooper et al., 2020). Similar to other interventions, it is often used alongside extinction procedures, and typically within the category of socially mediated reinforcement in which access to reinforcement is able to be withheld. NCR is a strong and effective intervention in which access to the reinforcer is provided based on a set of criteria independent of the problem behavior. The problem behavior does not provide access to nor result in withholding access to reinforcement. Reinforcement is delivered on a fixed or variable schedule,

reducing the motivating operation of the problem behavior. This is an effective intervention which allows for a fading criteria which will thin the schedule of reinforcement over time. NCR is often paired with other interventions designed to replace problem behavior with alternative and appropriate replacement behavior (Newcomb & Hagopian, 2018).

Differential Reinforcement

Differential reinforcement is an intervention which combines the behavior reducing principals of extinction with the reinforcement of alternative appropriate behavior. It is one of the most widely used interventions and is malleable for the practitioner who can implement it in different ways. Overall, however implemented, it is designed to simultaneously decrease problem behavior and increase desired behavior by reinforcing one and not the other. While there are many variations of differential reinforcement, the two most widely used include differential reinforcement of other behavior (DRO) and differential reinforcement of alternative behavior (DRA), (Newcomb & Hagopian, 2018).

Differential Reinforcement of Alternative Behavior (DRA)

The DRA designed intervention reinforces the occurrence of a desirable alternative behavior and withholds reinforcement in the presence of the undesirable behavior (Cooper et al., 2020). For example, DRA can occur by providing access to a toy when the child points and withholding access if they cry, yell, or grab at it. The DRA has a dual effect of both weakening the undesired behavior while strengthening the desired behavior. The DRA allows us to modify reinforcement rates to compete with the strength of the reinforcement in which the undesired behavior is paired with. We are able to set the alternative behavior on a very dense schedule of high quality reinforcement while placing the problem behavior on extinction or thin the schedule of reinforcement over time. In most cases, the alternative behavior and the problem behavior are mutually exclusive.

They have topographies which cannot occur simultaneously. This makes it almost impossible for the learner to emit both behaviors and more likely for them to engage in the desired behavior. In order to successfully implement this procedure, the alternative behavior must consistently result in access to reinforcement as the learner expects. As in any behavior, strengthening comes from immediate and consistent access to reinforcement. Initially, this occurs with continuous reinforcement, then transitioning to an intermittent schedule of reinforcement.

Differential Reinforcement of Other Behavior (DRO)

The DRO procedure is described as reinforcement of 'other' behavior. In this procedure, only when the behavior targeted for reduction is present, the learner is not provided with reinforcement (Cooper et al., 2020). Reinforcement delivery is contingent upon the absence of the problem behavior. Rate of reinforcement can be delivered in more than one way. An Interval DRO is designed to produce reinforcement contingent upon completion of a predetermined interval of time without the problem behavior occurring. In a momentary DRO, delivery of reinforcement is provided at specific times. At that time, the observer checks to see if the learner is engaged in the problem behavior. If not, then reinforcement is delivered. With the DRO procedure, there is no specific criteria for what behavior needs to be observed, only the criteria that the problem behavior is not occurring at a given time. A DRO procedure can be especially effective for behavior which occurs at high rates such as pica eating disorder, self-injury, biting and other automatically reinforced behavior. DRO procedures are set on a time based schedule of reinforcement and can be on a fixed interval, varied interval, and fixed or varied momentary schedule. Benefits of a DRO allow us as practitioners to begin in small increments, very slowly increasing the DRO interval. We can slowly increase the duration of intervals and if shown signs of regression, decrease the interval until success and access to reinforcement is met. This procedure can begin

in the therapy environment, then after establishing, transition to other environments.

You may have noticed that the DRO procedure does not include a replacement behavior. Typically it is used in the case of extreme high rates of problem behaviors for individuals who have a limited repertoire of appropriate replacement behavior. In this case, it is important that practitioners are careful not to inadvertently strengthen other undesired behavior. While the DRO can be used independently, it can also be combined with other procedures. A DRO can be an effective supplementary tool to an intervention already in place.

Functional Communication Training (FCT)

Functional Communication Training (FCT) is a form of the DRA procedure. FCT is a widely used procedure that focuses on establishing communication as the alternative behavior in competition with the problem behavior (Newcomb & Hagopian, 2018). As opposed to non-contingent reinforcement, which aims to reduce the motivation for a reinforcer, FCT uses the existing motivating operation (MO) to guide the replacement behavior and achieve the same reinforcer. Now, we can have a functionally equivalent alternative behavior. As mentioned in section one, communication deficits are strongly correlated with problem behavior as problem behavior is commonly understood to be a form of communication for many individuals. In this case, it would make sense to assume that the ability to communicate what an individual wants or needs is a powerful skill. Consider the following example:

> *When at home with his parents, Sam engages in frequent episodes of crying in the presence of his mother. He walks to the kitchen, attempts to grab items, and cries until his mother arrives. She provides him with different choices, and then prompts him to point to the item that he wants. He is often able to be soothed after being provided with options of food or water.*

As practitioners, we can hypothesize that the behavior of crying has a function of access. FCT would be a useful approach to replace crying with a form of communication in which Sam is able to identify what he wants.

Typically, FCT is approached in two steps. The first step is done by completing the functional behavior assessment. The second step is to develop a replacement communicative behavior. FCT can include many different forms of communication from pointing, to Augmentative and Alternative Communication (AAC) devices, and verbal language. Responses are selected based on the child's existing skills and are reinforced in a natural environment simply by engaging in replacement communicative behavior. It is a stepping stone for beginning the process for behavior reduction as it builds a platform for which the individual is able to access functionally equivalent reinforcers with a high density reinforcement system. FCT can then be modified in order to work on skills such as waiting for attention or access to certain items and by thinning the schedule of reinforcement to work on other related deficits (Cooper et al., 2020).

Section 3 Reflection Question

What are the potential effects of decreasing a problem behavior without reinforcing a replacement behavior?

Section 3 Key Terms

ABC Recording - A form of direct, continuous observation in which the observer records observed events related to a target behavior.

Attention contingency - A contingency in which a response is strengthened by the presentation of social attention from others.

Automatic contingencies - Circumstances in which behavior is evoked, shaped, maintained, or weekend by environmental variables occurring without direct manipulation by other people.

Avoidance contingency - A contingency in which a response prevents or postpones the presentation of a stimulus.

Contingency - Refers to dependent and/or temporal relations between operant behavior and its controlling variables.

Escape Contingency - A contingency in which response terminates an ongoing stimulus.

Functional Analysis - In the context of determining the purpose of problem behaviors for an individual, functional analysis entails experimental arrangement of antecedents and consequences representing those in the person's natural routines so that their separate effects on problem behavior can be observed and measured.

Functional Behavior Assessment - Systematic method of assessment for obtaining information about the purpose a function problem problem Behavior serves her person; results are used to guide the design of an intervention for decreasing the problem behavior and increasing appropriate behavior.

Functionally Equivalent - Serving the same function or purpose; different topographies. Behaviors are functionally equivalent if they produce the same consequences.

Reactivity - The effects of an observer and measurement procedure on the behavior being measured. Reactivity is most likely when measurement procedures are obtrusive, especially if the person being observed is aware of the observer's presence and purpose.

Target Behavior - The target behavior is the response selected for intervention; it can be defined either functionally or topographically.

Section 4: Token Economy Development [2, 5, 7, 8, 13]

Token economies are one type of formal behavior contingency strategy which modifies behavior through the delivery of conditioned reinforcers. One main feature of token economies is the delivery of tokens after the occurrence of a predetermined desired behavior. While tokens on their own are not a form of reinforcement, through the process of paired conditioning we are able to establish a value that holds behavior altering effects (Cooper et al., 2020). They allow us to provide immediate reinforcement, and they indicate visual progress toward long term larger incentives. One of the main benefits of using a token economy is that we are able to develop a bridge of delay between the performance of the behavior and the delivery of reinforcement (Andzik et al., 2022). Similar to the relationship many of us have with money, prior to pairing, it has no physical value within itself. When we have acquired the conditioned reinforcer, this produces the signal to us that access to acquiring the desired reinforcer is now available. Learners are able to acquire and exchange them for items or activities which do hold reinforcing value. Tokens serve a similar function. The token itself has no intrinsic value. When implemented correctly, we pair tokens with a conditioned reinforcer in which the token can then take on reinforcing functions. The token in turn is then able to reinforce the behavior immediately and effectively increases the likelihood that it will occur again.

The token economy relies on behavioral principles as a strategy for reducing problem behavior and reinforcing replacement behavior. Research supports the effectiveness of token economies and as a behavior reduction strategy, it can be combined with other intervention approaches with flexibility and easily generalizable capabilities. The token economy is a commonly used and highly researched behavioral intervention strategy. It is used in many different settings and can be applied to a variety of behaviors. They can be successful when

implemented by practitioners, teachers, caregivers, and any other personnel support the child has.

A token economy, or a token reinforcement system, consists of three main components. The first component is the target behavior, or the behavior in which you intend to reinforce. Secondly, another component is the individual tokens which will be applied upon occurrence of the target behavior. The third component is a menu that shows the backup reinforcers that can be acquired by trading in the tokens. These are preferred items, activities or other reinforcing stimuli in which a learner can exchange for. Within the system, we must consider all dimensions of behavior change principles. In the section, we will learn how to identify and define a targeted behavior, identify what medium of token we will select, review schedules of reinforcement, establish when and how tokens can be exchanged, assess the effectiveness of the system, and plan how we can utilize token economies to promote generalization of skills.

Designing the Token Economy

Identify the Target Behavior

Now that you have gathered enough information to understand the behavior, what it looks like, when it is likely to occur, what function it serves, and other relevant information, it is time to move on to identifying your target behavior. Practitioners should choose an intervention for a replacement behavior that matches the function of the problem behavior to the best extent possible. This is the behavior in which you will define, target for reinforcement, and develop your token economy around. Function of behavior is a powerful reinforcer and can be used as such within the token economy. This means that if a problem behavior functions as a form of access to tangibles, the replacement behavior should serve to acquire the same access to tangible results. Especially when treating escape

maintained behavior, the use of extinction procedures can produce undesirable and impractical side effects.

Classroom Scenario Continued

Go back to the scenario of James in the classroom. We have already established that transitions away from preferred activities or items served as the function of the problem behavior. The next step will be to define the behavior that we intend to reinforce and design a token economy that will result in access to reinforcement. The overall goal in that scenario is to improve James' ability to transition from high preference to low preference activities and tasks and tolerate removal of access to items. Going back to the previous section where we reviewed types of interventions, this scenario would prove most successful with the use of differential reinforcement. Now, let's choose a focus for James. As his tolerance at this time is very low, let's choose an intervention with the ability to provide high density reinforcement at first but can quickly fade. For this example, we will implement a DRA procedure with time intervals. In selecting our alternative behavior, it is important to consider the following items. The behavior should (1) already exist in the learners repertoire, (2) require less effort than the problem behavior, (3) occur frequently enough to provide sufficient opportunities for reinforcement, and (4) be likely to receive reinforcement in the learner's natural environment after thinning the DRA schedule. By selecting an alternative behavior which meets these criteria, we are able to improve the likelihood of success.

Define the Target Behavior

Before any behavior goes under a system for change, it must be defined clearly and objectively. ABA derives its validity on the basis of behavioral effects which can be reproduced. If the definitions are not able to be replicated by others, then we will not be able to acquire meaningful data. Well written definitions of the target behavior are a necessity for the practitioner when developing a token

economy system. There are two types of target behavior definitions. Behavior can be defined either functionally or topographically. Function-based definitions are based upon the functional relationship the behavior has with the environment (Cooper et al., 2020). This is especially common when more than one behavior, or behaviors of similar topography, are maintained by the same function. Function based definitions should be used when the outcome, or function, of a behavior is most important. It should also be used when the functional definition is simpler or more concise than topography based definitions and when it encompasses all relevant forms of a response class. Topography based definitions describe behavior specifically based upon their physical shape or form (Cooper et al., 2020). The definition itself does not have any direct relation to the functional outcomes of the behavior and cannot suggest the function of behavior as each occurrence of the behavior may not produce the same functional outcome. While topography does play an important role in defining target behavior, it should not be used solely to select a target behavior for intervention without further information.

A strong reliable definition of target behavior provides an accurate, complete, and concise description of the behavior. It states what the behavior looks like in measurable terms and also includes what is not within the definition in the form of non-examples. A definition such as "listening to the speaker" is neither a specific nor measurable definition. The definition needs to be objective, referring only to the observable characteristics of the behavior. It should be clear in a manner in which other observers could read and readily identify its occurrence in an observation. Furthermore, the definition needs to be complete, identifying boundaries of exactly what is included in the response and what is not. Below are three questions which are commonly used when testing a definition of a target behavior:

1. Is the description measurable? For example, can you count the number of times that it occurred, time how long it took place, or identify a clear start and end to the behavior?

2. If you were to share the definition with another professional, would they be able to know exactly what to look for and correctly measure it?

3. Are you able to break down a behavior into smaller components? Can the behavior be defined more specifically in smaller components? If so, it should be re-defined.

Overall, the most important factor is that your definition can be measured. This process involves applying quantitative labels of what will be observed.

Classroom Scenario Continued

Let's put together a definition for the scenario with James in the classroom. We can now identify our behavior for reduction. In this scenario, it would be best to define the behavior by function.

Problem Behavior: *Tantrum*

Functional Definition: *One or more instances in which James engages in any of the following behaviors which is preceded by the antecedent of a preferred activity or task coming to an end. Behaviors include aggression towards others, property destruction, and elopement. The behavior begins at the onset of any of the following observable behaviors, and comes to an end after a duration of 1 minute or more in which the following are not observed.*

Aggression Towards Others: *in the form of physically using his body or an item/ object and coming into contact with another person with enough force to make a sound that can be heard by another person within one foot away or further and/or enough force to leave a visible mark that can be seen by others. Examples include*

scratching, open hand slapping, closed fist punching, kicking, biting, and throwing objects. Non examples include unintentional force such as playing soccer which results in the ball unintentionally coming into contact with another person.

Property Destruction: *Any instance in which following directions to transition away from a preferred activity, James uses his body to cause damage to an object or item in which the damage can be seen by another person. This includes but is not limited to ripping, throwing, and banging objects which results in an observable mark on the item or the object it comes into contact with. Non examples include unintentionally knocking an item off the table resulting in breaking, accidental ripping of paper while putting it in a folder.*

Elopement: *Elopement includes any instance in which James moves from the intended area resulting in him being more than two feet from the designated area without permission from an adult for any duration of time. Examples include hiding under the table, running out of the room, exiting the group learning area or hiding in another room. Non examples include running to the other end of the playground and then back to get a ball, walking toward his caregiver at pick up, or getting up to sharpen a pencil then returning to his seat.*

Next, we need to clearly define the target behavior for reinforcement and set parameters for what does meet the criteria.

Replacement Behavior: *Appropriately transitions away from preferred items or activities.*

Definition: *Any instance, preceded by the antecedent of a verbal or nonverbal cue to stop a preferred activity, in which James does not engage in aggression, destruction or elopement, and is observed to stop what he is doing within 10 seconds of the cue and begins the steps of cleaning up the activity or begins the steps of moving to the next activity or task given. Example: The teacher announces "please clean up," and James stops after three seconds, the absence of the*

problem behavior can be observed by the caregiver, and occurs for the targeted time interval of five seconds which is then followed by him standing up and waiting to be called on.

Select Tokens

The next step of the process in developing a token economy system is to choose the format for which you plan to deliver reinforcement. There are many forms in which you can deliver tokens, but the general criteria maintains the rule that tokens are a visual component which show progress. Examples of commonly used tokens include check marks, coupons, card punch holes, stickers, stamps, filled in boxes and so on. When choosing the tokens you plan to deliver, consider ways in which you can individualize the system for the learner. Tokens should be safe, being cautious not to use items that can be ingested, are sharp, or can cause harm in any other way. Token economies should be desired to be quickly and easily accessible, and so tokens should not be cumbersome in any way. They should be something that can be produced only by the person implementing the token economy plan and not something the learner is able to gain access to on their own or outside of the intervention. If the learner is able to acquire tokens in any other way, it will reduce the value they hold as a reinforcer. Finally, token economies can be developed based upon the specific interests of the learner. Using individualized themes of activities, shows, and high preference topics, token economies can be developed that have themes to them. When working with this theme, caution should be noted that the theme is not a cause for distraction, but choose topics of interest that improve the effectiveness of the token economy. Additionally, they should be durable, readily able to be dispensed, and easily replaceable.

Develop Backup Reinforcers

The next step in the process is to develop a menu of backup reinforcers. Backup reinforcers are the items or activities that are made available for the learner to exchange their token for when criteria has been met (Andzik et al., 2022). Backup reinforcers should be available immediately upon meeting criteria for completion of acquired tokens. Choosing backup reinforcers should be based upon your analysis of the function of behavior. If possible, tokens should be exchanged to acquire the functionally equivalent reinforcer. If working on escape maintained behavior, it can be very effective to use the opportunity of terminating a task when criteria has been met. This can be a very powerful tool to use when working on increasing the time a learner engages in a difficult task. Access to items can be reinforced by providing access to the desired stimuli and over a period of time thinning the schedule to build a strong ability to wait for acquiring that object or item. Additionally, a menu of reinforcers can consist of a simple list of what is available, and are things that often take place in the natural environment. Common backup reinforcements include time with a favorite toy, completing a favorite classroom job, time with a preferred teacher, high preference games, or special gifts. Caution should be used to ensure that ethical values are followed. Access to basic human needs, such as food and water, should not be withheld.

Establish a Token Exchange Ratio

As you build the token economy, a clear criteria needs to be set that outlines exactly when and how tokens will be exchanged for the backup reinforcer (Cooper et al., 2020). If given a list, this may look like the learner choosing from the items listed, or the options can be displayed on a table for choice. In addition to the method in which backup reinforcers are presented for choice, there also needs to be a set criteria for when they can be exchanged. When first introducing a new or difficult skill, it is likely that the rate of reinforcement will be dense. Some learners may need frequent exchange opportunities, or the criteria for the target behavior

may include a slow or quick fading process. With a simple and straightforward exchange criteria, you may implement a system in which, when 10 tokens are acquired, they can be exchanged for any item on the backup reinforcer menu. For more advanced learners, we have the option to provide a layered system for exchange. Options for 5, 10, 15, and 20 tokens can be developed, giving the child the opportunity to choose to exchange, or to wait for a more powerful reinforcer.

Token Removal

Removal of tokens, or, a response cost contingency is considered a negative punishment procedure. This contingency system would incorporate the removal of tokens when inappropriate behavior or the problem behavior is observed. While this has been shown to be an equally effective system for increasing desired behavior, best practice suggests that positive practice approaches are used prior to the use of punishment procedures in the field of ABA (Cooper et al., 2020). If used, this step of the procedure should be clearly identified as part of the token economy system. The behavior for which tokens are removed is clearly defined, the learner should be made aware of what will result in the loss of tokens, and how much the behavior will cost. Criteria of a set number can be put into place, or the use of a scale (i.e., the seriousness of the behavior) can determine lesser to higher removal criteria.

Testing the System

The very last step of developing the token economy system is to test it out and make sure it can be implemented without interference (Cooper et al., 2020). Prior to implementing the system with the learner, take time to implement it hypothetically. Observe the learner in their natural environment, tally mark each time you would deliver a token to the learner, and record data that can be used for assessment and analysis later on. Ensure that the learner has the opportunity to access reinforcement at the rate that would produce an effective intervention

system, that the exchange criteria is reasonable, and that backup reinforcers are available to the learner when criteria has been met. After Implementation of the system, you can refer back to the data to confirm that the rate of the problem behavior has decreased, and the rate of the replacement behavior has increased. This will be the comparative information that can be used to make adjustments to the system if the results are not obtained that had been hypothesized that would take place.

Section 4 Reflection Question

Why is it critical for the behavior definition to be measurable?

Section 4 Key Terms

<u>Backup Reinforcer</u> - A backup reinforcer is a reward in exchange for earned tokens (associated with a token economy reward system).

<u>Exchange Criteria</u> - The specific rules that outline when and how tokens can be exchanged for a backup reinforcer.

<u>Reinforcement System</u> - Reinforcement systems are methods to provide consequences following particular behaviors. The purpose of these consequences is to make it more likely that these behaviors will occur again in the future.

<u>Target Behavior</u> - Target behavior is the behavior identified to be changed, the prescribed behavior. This behavior can be defined either by function or by topography. A functionally defined target behavior identifies a response by its effect on the person or the environment.

<u>Token Economy</u> - A token economy used within an ABA teaching program is a system for providing positive reinforcement for engaging in target behavior resulting in delivery of a visual token which can later be exchanged for reinforcers.

Section 5: Implementing a Token Economy [4, 5, 7, 8, 13]

Pairing Tokens as Conditioned Reinforcers

When a token economy is first introduced, the tokens themselves hold no value as a reinforcer, so tokens are initially paired with a correct response. Through this step of the process, a relationship is established between the token and a positive experience. By doing this, the tokens develop the ability to modify behavior as a result of the learner's history of paired positive experience. Depending on the individual learner, this initial training may take minimal time and effort, and for others it could require longer or repeated sessions. Typically, within only a 30-60 minute period of time, a three-step process is able to be implemented that will pair the tokens as a conditioned reinforcer and teach the learner the value of tokens as well as how the exchange system works.

Step 1: Begin by showing, giving examples, and modeling how the system will work. You can describe, use visual prompts, or provide written step by step directions. With most learners, providing a short lesson will be sufficient, providing an example similar to the following:

> *Today, I will show you this token system. This is your token, you can earn one by stopping what you are doing when I say "stop." I will watch to see if you do that and when you do, you will earn one token. Each time this happens, you will earn one token until you have filled the token board with five tokens. After you have received five tokens, you can exchange them for any of the items on the table. You will be able to play with the item for five minutes, then you can exchange for another item by earning another five tokens.*

Step 2: Model how the system will work. Engage with the learner, prompting them to perform the desired behavior. Immediately following, provide social

reinforcement along with a token. Practice this a few times until the learner has shown that they understand what to do. A simple role play such as the following would be appropriate:

Describe what you will do.

"I want you to pretend you are drawing, and when I say "stop," I want you to put the crayon right here in this cup. Ready, set, go!"'

Wait for a short interval of time

"Stop."

Observe the learner to see if they correctly engaged in the desired behavior, then present the token as described.

Step 3: Review and model the exchange procedure. Continue with the above practice and model until the learner has acquired the quantity of tokens required to exchange for a reinforcer. When they have successfully done so, present the options in the manner that the system is planned to do so and allow the learner to exchange their tokens.

Throughout this process, additional modeling and prompting may be needed. Continue to practice and pair the tokens until you feel that you can begin the system in a natural environment. Now that you have practiced, the tokens should hold a value of reinforcement for behavior modification.

Managing Problems

As the procedure begins and continues to take place, the practitioner should maintain ongoing monitoring of the system to ensure that it is implemented correctly and is effective. The plan should be followed as written and tokens delivered contingent upon the desired behavior and immediately following the desired behavior. The exchange criteria should be followed as planned as well as

all aspects of what the learner expects within the system to be correctly implemented. If the system starts to lose value or does not hold the intended value that was intended, it would be acceptable to return to the conditional pairing phase of the procedure. Continued monitoring of the value of reinforcers should be monitored. Satiation reduces the effectiveness of reinforcers, and preference assessments can be used to update and change the exchange menu options.

Observe and look for any behaviors which may interfere with the effectiveness of the system. Perhaps the learner chooses to hold onto the tokens without exchanging them, or they look to trade them too quickly. Both can be situations which prevent the learner from accessing reinforcement which is intended to increase the desired behavior. These situations can in turn develop new and unrelated behavior which interfere with the purpose of the token economy. Be sure that the criteria for token pairing, delivery criteria, and exchange criteria are followed correctly. When done correctly, tokens are able to develop into a generalized conditioned reinforcer, and can be implemented to support further behavior intervention.

Training Others

Training others in the use of the token economy is an essential step in supporting the success of the system and supporting the needs of the learning. Provide a clear step by step guide for implementation. Make sure that the problem behavior and the replacement behavior are clearly defined. Be sure that they are objective, measurable, and observable. The system should not be intrusive or cumbersome, or the reliability that others will have the capacity to implement may not be substantial enough for it to maintain effectiveness. Teach, model, and observe others implementing the system as designed. Consistency is a very important piece of behavior modification, and it is imperative that all individuals who

implement the plan do so. Take time to review the reasoning behind the system, the function of the behavior, and the plan for replacing a problem behavior. Caregiver buy-in is a necessary component when training others and should be considered throughout the entire duration of the economy system development. Prepare others by reviewing what to expect, reviewing how to prevent potential problems, and what to do if problems do arise.

Maintain ongoing communication with those who are implementing the token economy. A behavior change strategy is only effective if it is implemented consistently and correctly. Plan to troubleshoot problems together, collaborate with those who are using the system, and support the changing needs of the child, the environment, and those involved.

Evaluating Effectiveness

ABA is a data driven science. Data are taken before, during, and after any intervention is implemented. Without doing so, behavior analysts would be unable to determine if an intervention has been successful. Additionally, if the system that a behavior analyst develops does not produce the desired change, then it is necessary to understand why and to make appropriate adjustments. Beginning with baseline data, record data on the occurrence of the problem behavior prior to implementation. Maintain ongoing data collection throughout the intervention and review the data on an ongoing basis. Look for ascending and descending trends, taking into consideration any potential outliers. If the problem behavior decreases as planned, continue to increase the expectation and thin the schedule of reinforcement. Begin to implement generalization and maintenance strategies and monitor for regression.

In the case that regression does occur, consider returning to a denser schedule of reinforcement, using interobserver agreement to look for any implementation deficits and communicate with caregivers to rule out other environmental factors.

If there is no behavior change at all, and you are sure the plan is being implemented correctly, return to the assessment stage of the process for further information.

Generalization

Generalization of skills is among one of the most important steps of any behavior change strategy. Behavior analysts want to help their learners acquire new skills and engage in appropriate behavior across all environments. Through the process of thinning the schedule of reinforcement, we build a foundation in which the learner can independently perform the skill without adult intervention. Next, we ensure that the learner is able to do so in a variety of locations and with a variety of people. Transition the system to different caregivers, working to arrive at the same independent responding criteria. Over time, record data on the problem behavior and the replacement behavior, checking to confirm that the child has maintained the same rate of responding. Initially, this can be done on a regular basis, starting at once a week. Over time, if no regression occurs, maintenance data can be recorded at a less frequent rate.

Section 5 Reflection Question

Why is caregiver buy-in important, and what might you do if you don't have it?

Section 5 Key Terms

Conditioned Reinforcer - A previously neutral stimuli, which functions as a reinforcer as a direct result of prior pairing with one or more reinforcing stimuli.

Generalization - A behavior change that occurs across subjects and settings.

Intrusive - The level of intrusiveness refers to how much effort is required by an individual.

Maintenance - The extent to which the learner continues to perform the target behavior after a portion of the intervention has been terminated.

Modeling - A behavior change strategy in which learners acquire new skills by imitating demonstrations of the skills by live or symbolic models. The model shows, demonstrates,, or conveys exactly the behavior the learner is expected to perform.

Regression - Regression is what would describe, for example, a child who has learned a skill and either gradually or all at once no longer demonstrates the ability to do what they previously learned.

Section 6: Case Study

Max is a social child who enjoys being in the presence of others. He makes eye contact, approaches others, and initiates interactions. He is a curious boy who enjoys participating in activities within both group and 1:1 settings. He seeks out social feedback, enjoys receiving praise and is quick to smile, laugh, and show excitement by clapping, stomping, and saying "Yay!" Max has made a great deal of progress learning to follow directions, tolerate delayed gratification, tolerate minor frustrations, and improve his attention to a task. When services started, Max had difficulty waiting for desired items and outcomes. He would repeat words, bang on surfaces, swing arms, and swipe materials while vocalizing and crying, and occasionally hit interventionists. He would escalate rapidly whenever access was delayed, denied or when asked to do something other than what he wanted. A token system was introduced to improve functional communication and to gradually improve his ability to tolerate delayed gratification. Max learned the token system quickly and now requests tokens at the beginning of sessions. Two months later, when you check in to see how things are going, you observe that some of the previous behavior has re-emerged. Max sat for approximately two

minutes before running away from the group, hit a peer while waiting for a snack to be handed out, and cried when prompted to stay seated during a group read aloud.

1. What would be the first steps to take in figuring out the cause for regression?

2. Collaboration between teachers and interventionists is primarily via a notebook or email. What implications does the present have while reconfiguring your intervention plan?

3. What recommendations would you present to resolve the current problem?

Section 7: Case Study Review

In this section, we will review the case study presented.

1. What would be the first steps to take in figuring out the cause for regression?

   Based on the information in the case study, we do not yet have any detailed information regarding how interventions in place have been implemented and if they are being implemented correctly. The first step in resolving the issue would be to observe the interventionist implementing the token system. Take interobserver agreement data and look for potential errors while delivering a token system.

2. Collaboration between teachers and interventionists is primarily via a notebook or email. What implications does the present have while reconfiguring your intervention plan?

Collaboration and ongoing communication is an imperative part of maintaining consistency. Without direct communication, or ongoing training between the two parties, it is possible that the intervention is being implemented inconsistently. Follow up is difficult given the lack of direct contact between the interventionists and family, and interventionists from various disciplines and daycare staff share information regularly. A recommendation for monthly collaborative meetings can be made.

3. What recommendations would you present to resolve the current problem?

The first steps would be to set up observation times in each setting that the token economy is being used. If in fact, the system is being implemented correctly, the next steps would be to review potential environmental factors that are preventing the plan from working as outlined. If no information is found, then the behavior analyst can return to the assessment phase to review the behavior function and reformat the plan with the information collected.

Section 8: Case Study

Evan currently receives ABA three times a week for 90 minutes at The Children's Center Preschool. He attends the program five days a week, from 8:00 am until 4:00 pm. Evan typically greets his provider with a smile and goes to session willingly. The provider works individually with Evan for 60 minutes and provides push in services for 30 minutes. Evan is familiar with the routine of his program and works well when there is a high level of consistency and predictability to his routine. He is highly active and enjoys movement activities such as running, jumping, and spinning. In the event of changes to his usual routing (i.e., walking a different route, a new person is present, a change in schedule), maladaptive

behaviors are triggered. This is observed as crying, running away, hiding, and long lasting attempts to pursue the usual routine (i.e., will run to the therapy room he normally goes to). Evan is currently making moderate progress toward his goals. Evan has some words in his vocabulary but does not use them with functionality. He has mastered the sign for "more" and is working on learning 'water', 'eat', 'help', and 'all done'. Evan continues to work on increasing time on tasks, following one-step directions, pointing as a means of communication, and improving tolerance for transition and changes in routine.

In the classroom, Evan has difficulty navigating the setting of the room and remaining within the expectations of the program. Evan usually needs a high level of prompting in order to engage in the classroom routine and follow the rules of the classroom. Over the course of the last month, Evan has begun to show increased aggression toward peers. Evan has been seen to hit, kick, bite, pull hair, and run past and knock over classmates. On some occasions there is a noticeable motivation, such as a peer having a desired toy. On some occasions, the behavior seems to be unprovoked, no clear antecedent is identifiable. Without continuous physical prompting through all activities, Evan engages in behaviors such as climbing on furniture, pulling down and throwing toys, aggression toward peers, entering staff only areas, and running away. At no time is the therapist able to have more than arms length proximity without these behaviors occurring. Evan has little safety awareness and finds himself in dangerous situations (i.e., standing on the table near the edge, climbing on top of the chair). At this time, there is a concern for the safety of Evan. Evan has received the current level of services for three months, and progress has been little to none.

1. What would you consider to be the most important issue to address first?

2. Identify the replacement behavior you would recommend for reinforcement.

3. What intervention strategy would you choose to address the problem behavior?

Section 9: Case Study Review

In this section, we will review the case study presented.

1. What would you consider to be the most important issue to address first?

Safety is always of the utmost concern. While there are many issues that need to be addressed in this scenario, none will be achievable without first establishing a safe environment for Evan to learn. Given this information, the immediate focus should be to reduce all behaviors which pose physical harm to Evam himself, and those around him. A behavior reduction plan should be implemented immediately to reduce the following behaviors:

- Climbing

- Running

- Pushing

- Throwing

- Elopement

- Hiding

- Hitting

- Kicking

- Biting

- Hair pulling

2. What intervention strategy would you choose to address the problem behavior?

Given the frequency at which the chosen behaviors occur, and the vast variety of situations in which they occur with limited knowledge of antecedents, the best course of action would be to begin a high density DRO procedure. The DRA procedure would be ideal, but given that Evan has a limited skill repertoire, enforcing a DRA procedure has the potential to draw out how long the intervention will take effect. A DRO with a very dense schedule of reinforcement and highly motivating reinforcers would be the best first step.

3. Identify the behavior you would recommend for reinforcement.

Given that we have chosen a DRO procedure, we have the opportunity to allow a variety of behaviors to fall into the criteria for reinforcement. As Evan has limited functional skills, this will ensure that he is able to access reinforcement as frequently as possible. The DRO procedure outlines that the behavior targeted for reinforcement would be any which are not outlined in the list of those targeted for reduction. The only criteria we would be careful to maintain is that reinforcement is not provided for any other or new maladaptive behaviors which pose a safety risk.

Section 10: Case Study

Mason is an adorable 34-month-old child who presents with significant behavioral issues, sensory integration, and language processing delays. He attends a Toddler Developmental Group program where he receives two X 45 minutes of ABA therapy, and home ABA at five X 90 minutes per week.

Mason has improved significantly in his work skills and most days works cooperatively within his ABA programs. However, his rate of learning is slow, negatively impacted by memory, word retrieval, and behavioral issues. This also

negatively impacts his comprehension as well. Mason often can be oppositional, refuse to complete the target behavior, or does the opposite of what is being prompted.

Behaviors

Mason has made some progress in regards to behavioral needs in the home and community, though there are still concerns with compliance and safety. Mason generally greets his therapist with a smile and hug upon arrival as well as departure. On occasion, Mason will 'grunt' when he is greeted and become increasingly resistant when addressed further. When the behavior is ignored and he is given time and space, Mason is then able to engage with a positive demeanor.

Mason understands the work protocol and is able to stay focused on a task for approximately 5-10 minutes. When focused and interested, Mason engages with a positive attitude, follows directions, and completes activities correctly. If Mason does want to engage in a particular activity, he will avoid the task by either throwing the item, walking away, or intentionally completing the activity incorrectly. Mason is usually more compliant when allowed to choose between two activities and when given frequent praise throughout.

Mason experiences difficulty with sensory regulation. He wears soft clothing without tags, becomes upset when he hears loud noises, and is sensitive to certain food textures. This does seem to have improved with exposure and modeling of self soothing skills. Mason is self-sufficient with eating and is able to advocate for what he wants.

There are a great number of behavioral and safety concerns within the home and community. At home, Mason is often defiant, will challenge directives, and do the opposite of what he is asked. When corrected, Mason states things such as, "You

don't tell me to get down!" or "You don't tell me not to throw that!" Mason has difficulty accepting when he is told no and will tantrum, cry, and hit when he is not given his way. When Mason's needs are not immediately met, he has difficulty waiting and engages in repetitive language. In the car, Mason screams throughout the entire duration of the trip with no antecedent, takes off his shoes and throws them, and yells at his parents and siblings. In the community, Mason often tantrums, is non-compliant when given directions, cries, and runs away. Mason will ignore his parents when addressed and often has to be removed from stores and restaurants.

Recently, on an apple picking trip, Mason whined and complained through most of the outing, wanting to be picked up by Mommy. After being denied attention, he began pulling his pants down. Strategies such as planned ignoring helped, but he continued the misbehavior throughout the entire outing. He would not be encouraged or redirected into more cheerful participation. Mom reports he is often like that with her. However, when he was able to lead the activities, he was cheerful and playful (i.e., going through a corn maze). Mom reports that this is typical behavior for Mason. Mason's behavioral needs are of great concern at this time. We are working to extinguish these negative behaviors and promote productive and positive methods of communicating his needs, setting rules and limits, and providing both immediate reward as well as consequence for his behavior.

Mom reports that Mason has recently begun to bite himself when he is upset or not getting his own way. Also, Mason has recently begun to spit his food onto other family member's plates during dinner with no antecedent. His brother reports that he always goes to visit in his room, and touches things he's not supposed to touch in order to get a big reaction from his brother. While we were at a team meeting, Mason went to the kitchen and started to play in the knife drawer.

1. Discuss the role of parent collaboration and intervention consistency in this scenario, and how you would approach working collectively to intervene.

2. In the scenario, it appears that the problem behaviors occur in many different environments. How would you develop the token economy to ensure that it is accessible to caregivers?

Section 11: Case Study Review

1. Discuss the role of parent collaboration and intervention consistency in this scenario. How would you approach working collectively to intervene?

Throughout the description above, it is apparent that the behavioral challenges described are prevalent at home and in the presence of the parents. In order to successfully implement a token economy system, consistent parent training will be a necessary component both at the start of, and throughout the implementation of the system. After developing the system, the parents will need intensive training. To begin, a review of the assessments conducted, the behaviors targeted for reduction, the behavior functions, and the plan for behavior modification and reinforcement should be completed. Next, the behavior analyst will want to provide training sessions in order to teach Mason's caregivers to correctly identify the replacement behavior, deliver tokens correctly, and follow the exchange criteria. After the behavior analyst feels confident that they can independently carry out the plan outside of session, continued training should take place on a desk schedule at first. To ensure that the plan is being implemented correctly, it is helpful to take interobserver agreement (IOA) data. Continue to review the plan with caregivers as needed and provide additional training. As behavior improves, and the implementation

of the plan maintains consistency, training sessions can be faded to less frequent collaboration sessions.

2. In the scenario, it appears that the problem behaviors occur in many different environments. How would you develop the token economy to ensure that it is accessible to caregivers?

In the case study, it clearly outlines a variety of locations where the family frequents, and behavior takes place. The system needs to be accessible in the home, during meals, in the car, and the community. This will require a system that is easy to travel with, requires minimal effort to deliver tokens, and a menu of backup reinforcers which are accessible in all different locations. Having a bag of toys may not be a feasible option for delivering immediate token exchange reinforcement while driving. Additionally, tokens must be able to be easily transported and able to be delivered quickly, and safely. Token systems designed with easy to use velcro can be a suitable option or devices such as handheld tally counters can be used. After choosing a design, prepare a back-up menu that will be easy to access. At home, there may be a larger set of options but in the car fewer options may be available. Given that the number of options may be limited in certain locations, having high preference reinforcers accessible in those situations could be beneficial. In the car, the options should be something that the child can navigate independently and in the community, choices that are easily transported should be used.

Section 12: Case Study

The provider attends the Childhood Center with Bryce three days a week for two hours. Bryce is adjusting to his classroom. He has continued for his 2nd year in this program. Bryce enjoys playing with cars and typically chooses this activity

unless engaged in others by an adult. He has limited play and usually repeats a motion with the car or lines them up across the rug. He does expand his play skills when modeling is provided. Bryce participates in classroom activities better when there is a high level of structure embedded. When the students engage in free play, Bryce can be easily overstimulated and engage in aggression towards himself and others. Bryce shows awareness of the classroom routine but has difficulty complying with the rules and routines. When the class begins to clean up, he becomes agitated and throws items.

In order to better serve Bryce, the provider has met with his other providers and gathered the following information:

Parents Report:

The therapist meets with Bryce's mother at drop off and pick up each day at school. The parents have noted some progress related to Bryce's ability to stay focused and on task. He engages in activities for longer, completes them more thoroughly, and has expanded his ability to use toys appropriately and with function. They have expressed concerns regarding his progress with speech, indicating that Bryce has made little to no progress in his use of functional language. Bryce engages in aggressive behavior towards himself and others when frustrated and experiences a high level of difficulty regulating auditory stimulation.

Physical Therapy:

At this time Bryce is working on regulating sensory stimulation and remaining on task long enough to complete gross motor activity with the therapist. In the past, it has been difficult to engage Bryce in sessions though he has made some progress and will now partially complete assigned tasks. Due to difficulty remaining on task and heightened behavioral challenges, she is unable to complete planned tasks and often stop sessions early.

Occupational Therapy:

His therapist indicated that he has made significant progress with sensory regulation and remaining on task. When overstimulated, Bryce knows to go to the swing, lays on it in a prone position and chooses the activity appropriately. Bryce experiences significant delay in gross motor skills. In regards to a sensory diet, the therapist has suggested regular breaks in which he can seek out a quiet space and use a swing if available.

Speech:

Bryce continues to experience difficulty engaging in sessions. He has made little progress over the past year. It has been suggested to provide Bryce with choices and prompt him to point and use one-word phrases to request.

1. Describe some important features of developing a token economy when working with a large group of professionals?

2. How would you go about training others to implement the token economy system?

Section 13: Case Study Review

1. Describe some important features of developing a token economy when working with a large group of professionals?

   Because there are so many people involved in Bryce's case, it is going to be very important that the system is able to be followed consistently. It should also be a system that will be beneficial to Bryce in all of the different settings. Due to the fact that all the providers have a focus on different skills, we will want to make sure that the target behavior is something that will support his ability to function in all of the environments. The tokens

themselves should be very easy to transport, and the backup reinforcer menu should include options that are reasonably accessible in all environments.

2. How would you go about training others to implement the token economy system?

The best course of action in this scenario would be to hold a collaboration meeting in which all the providers would be able to train on the system together. Then, after implementation, the practitioner should continue with ongoing training and troubleshooting to ensure that the plan is being executed correctly.

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