Supporting Children with Down Syndrome

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Applied Behavior Analysis

• Based upon the work of Baer, Wolf and Risley (1968), applied behavior analysis emphasizes interventions addressing socially significant age-appropriate behaviors with immediate importance to the individual using precise measurement of those behaviors in need of improvement. Generalized behaviors, that is, behaviors that are maintained over time, appear in other environments, and extend to other behaviors, are targeted.

• A functional relationship between changes in behavior and the intervention being implemented is demonstrated. Interventions, derived from the basic principles of behavior (e.g., reinforcement, extinction), are described so that they can be easily replicated, and their effectiveness is measured by improvement in the individual's performance.
Down Syndrome and Behavior

• Challenging behavior not only precludes individuals with Down syndrome from learning opportunities within their environment, but also prevents them from accessing more typical educational and community environments as they approach preschool and school age.

• When placement in a general education or community setting does occur, challenging behavior is likely to be the cause of removal from these settings.

• This is particularly unfortunate, as general education settings have been found to lead to more positive outcomes for children with Down syndrome.
Down Syndrome and Behavior

• Behavior problems are very common in ALL children.

• 1 in 10 children has behavior problems that are serious enough to be diagnosed by a professional.

• Behavior problems are even more common in children with down syndrome. 1 in 3 children with down syndrome has behavior problems that are serious enough to be diagnosed by a professional.

• Many children with down syndrome have behavior problems that might not be diagnosed, but still cause problems for kids and their families.
What are Some of the Common Behavior Concerns?

- According to the National Down Syndrome Society (2017), children with Down Syndrome display problem behaviors, such as:
  - Wandering/elopement
  - Non-compliant/ stubborn/oppositional/task refusal
  - Inattentiveness/impulsivity
  - Obsessive/compulsive routines
  - Autism is seen in approximately 5-7% of individuals with Down syndrome. The diagnosis is usually made at a later age (6-8 years of age) than in the general population.
HOW IS ABA USED TO REDUCE BEHAVIOR? WHAT’S THE TRICK?

There is no trick to Applied Behavior Analysis (ABA). Unlike many other fields in psychology, ABA adds a scientific approach to the study of behavior; hence ‘analysis’.

An ABA practitioner observes behavior in the natural environment (the classroom, home, etc.) and identifies what in that environment is maintaining the behavior (why the behavior keep happening), as well as what environmental factors are preventing other behaviors from occurring. What maintains a behavior is known as its consequence, that is, what happens immediately after the behavior on a regular basis. More specifically, a consequence that results in the behavior happening again and again is known as a reinforcer. Therefore, for problem behaviors that are occurring very often, a behavior analyst would conduct observations to identify what exactly is acting as a reinforcer for that behavior. This is the key to effective intervention!

A behavior analyst will observe the client on multiple occasions before recommending any type of intervention for a problem behavior. They’ll observe the client during those times when the behavior is most likely to occur, and if it does, they’ll simply take notes on what’s happening. If they don’t intervene at that moment, don’t feel any way about it. They’re taking very important notes! They are tracking the consequences of the behavior to identify what could be maintaining it over time. Once they’ve identified the potential maintaining consequence, they’ll begin designing the most appropriate and likely to be effective intervention package for that behavior.
Efficacy of ABA

- Freely and Jones (2006) conducted a review of the research available on the use of ABA and children with Down Syndrome and reported promising information for ABA’s effectiveness with the following problem behaviors:
  - Flopping
  - Aggression
  - Property Destruction
  - Repetitive/Obsessive Behaviors
  - Task Refusal
  - Tantrums
# Reasons Why Children with Down Syndrome Have Problem Behaviors

<table>
<thead>
<tr>
<th>Trouble controlling impulses</th>
<th>Trouble communicating</th>
<th>Trouble relating to other children and adults</th>
<th>Trouble managing frustration</th>
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<tbody>
<tr>
<td>• Children with down syndrome often don’t notice the “stop signs” that tell them not to behave in certain ways.</td>
<td>• When people cannot express themselves or understand others easily, they become frustrated. Children with down syndrome often have this difficulty.</td>
<td>• Many children with down syndrome are social and affectionate. But often, they may not know how to play efficiently with peers. This can be very upsetting to the child with down syndrome and can cause misbehavior.</td>
<td>• Many struggle to calm down and feel better when frustrations come up.</td>
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Behavior is Communication

• Everybody communicates through behavior. An infant may cry when she is hungry or wet, just like an adult may yawn when he is bored at work. Adults and children are communicating something through their behavior during every moment in every day, even if they are not aware of it.

• A child’s problematic or inappropriate behavior is a sign that he is upset and that something is not right.
Communication

• Effective communication skills and socially appropriate behavior are interrelated.

• We must address behavioral expectations regarding listening and attention because these are crucial to speech development.

• Children with Down syndrome can learn behavior skills when they are clearly taught and consistently enforced.

• It is important for educators and parents to work together on communication and behavioral concerns, as these will negatively impact a child’s learning or ability to interact socially with peers.
Why?
There is Always a Reason for Problem Behavior

- Children sometimes have trouble communicating, because they may not be able to verbally describe the problem or know what to do in a situation.
- At these times, children may act out their feelings or needs.
- Children engage in challenging behavior for a reason.
- The purpose may be getting someone’s attention, stopping an activity they don’t like, or satisfying sensory needs — but there is always a reason behind the behavior.
Causes of Inappropriate Behavior

• The most common form of inappropriate behavior in all children, including those with Down syndrome, is behavior designed to gain attention.

• Children with Down syndrome may be particularly be attention-seeking because:
  • They enjoy being the center of attention and dislike being ignored.
  • They are used to having an adult by their side all the time and resent the adult working with other children.
  • They are used to getting special treatment and object if it is withdrawn.
  • They have been successful in using attention-seeking behavior in the past to get their own way or avoid work.
Types of Challenging Behaviors (Walker & Gresham, 2014)

- **Externalizing Behaviors**
  - aggression,
  - rule-breaking,
  - intrusiveness,
  - opposition,
  - non-compliant,
  - Acting-out,
  - substance abuse

- **Internalizing Behaviors**
  - worry,
  - fear,
  - anxiety,
  - depressed or irritable mood,
  - social withdrawal,
  - somatic complaints such as: maladaptive thoughts and feelings
Potential Impact & Consequences

- Academic, achievement & school problems
  - Poor or inconsistent attendance,
  - Sporadic work completion,
  - Failure to seek assistance, dropping grades, school refusal

- Diminished self-esteem

- Poor social relationships

- Later and/or chronic mental health problems

- Substance abuse

- Suicidal thoughts, attempts, completion
Practical Strategies Based on ABA
Things you can do or try
What is Applied Behavior Analysis?

- ABA systematically applies procedures based on **behavioral principles** to the instruction and modification of **socially significant behaviors**.
How do ABA Methods Support Individuals with Down Syndrome?

- Increase behavior
- Teach new skills
- Maintain behavior
- Generalize behavior
- Narrow conditions of behavior
- Reduce interfering behaviors
How do ABA Methods Support Individuals with Down Syndrome?

Increase behavior

• to increase behaviors (e.g. reinforcement procedures increase on-task behavior, or social interactions)

Teach new skills

• to teach new skills (e.g. systematic instruction and reinforcement procedures teach functional life skills, communication skills, social skills)
How do ABA Methods Support Individuals with Down Syndrome?

Maintain behaviors

• to maintain behaviors (e.g. teach to fluency, self-monitoring procedures to stay on task)

Generalize or Transfer Behavior

• to generalize or to transfer behavior from one situation or response to another (e.g. skills learned at home transfer to playgroup)
How do ABA Methods Support Individuals with Down Syndrome?

**Narrow conditions of behavior**
- to restrict or narrow conditions under which interfering behaviors occur (e.g. playing with trains has a time and a place)

**Reduce interfering behaviors**
- to reduce interfering behaviors (e.g. aggression, self-stimulatory behaviors)
What is ABA?

- Reduces frustration by building skills gradually and using prompting and reinforcement to support learning
- Effective way to teach many new skills
- Individualized
- Ongoing monitoring through data collection
What to Teach

Expectations

Foundational Communication
Expectations

• Give children the opportunity to repeatedly experience everything their peers do regardless of skill level.
Establish your Expectations: Home, School and Play Groups

- Expectations for meals
- Expectations for inside play
- Expectations for outside play
- Hand washing
- Expectations for diapering
- Expectations for bathroom
- Expectation for dressing
- Expectations for bedtime
- Expectations for car rides
- Expectations for community trips
Expectations for Bedtime

• Take off clothes and put them in the laundry hamper
• Change into pajamas
• Use bathroom (see bathroom expectations)
• Brush teeth
• Turn off bathroom light
• Get into bed when requested
Expectations: Community Trips (e.g., shopping)

- Use inside voice
- Keep hands to self or on a parent selected transition object from home if needed
- Stay with adult
- Sit in cart or walk along side adult
- Follow directions
- Wait in line patiently
Communication: Social

- Responds to name
- Responds to praise and rewards delivered by adults
- Returns greetings
- Makes a choice when items are presented
- Shares a toy with a sibling or peer
- Follows one-step direction to give
- Responds to emotions in others
Communication: Requests

• Make requests for desired items
• Make requests for needs
• Make requests for help
• Make requests for attention
Other Behaviors

- Requesting Help
- Making Choices
- Schedule or timer
- Saying Yes/No
How to Teach
What is Priming?
Priming is exposure to academic material or tasks before instruction.

Why should you use this strategy?
It gives children the chance to become familiar with the material or skills, and increases the likelihood they will learn and use key concepts.

Priming is most effective when it is built into the student’s daily routine.
Give Simple & Clear Directions

- Language is often difficult for children with down syndrome. The more complicated your speech, the less likely your child is to do what you want.

- So directions should be specific, directive (a request, not a question), and contain the fewest steps possible.
For Example

Say

• “Brush your teeth now, please.”

• “Please put your pajamas on.”

Don’t Say

• “Can you please go upstairs and brush your teeth before we have to leave for school?”

• “I already told you it’s time to get ready for bed! If you put on your pajamas, I’ll come read you a story.”
Establish a Routine, and Stick to it

• Every morning, most adults do their routine in the same order.

• For example: use the bathroom, take a shower, get dressed, have breakfast, brush teeth, get lunch ready to take to work. Having a routine makes life easier!

• The same is true for children with down syndrome, but routine is even more important. Your child is likely to do best when the day’s structure is the same as it was the day before. Try your best to make a routine and to help your child understand what that routine is.
Use Social Stories

- Create stories to address specific behavioral or social issues.
- Stories can include pictures if the teacher feels the use of pictures will help the student with comprehension and/or motivation.
- Stories can easily be created with PowerPoint, which allows teachers to insert digital photographs and video clips to enhance the stories.
Example

Going to the Grocery Store

Today, we are going to the grocery store. First, we will get into our car and drive to the store.

When we get there we will get a grocery cart or basket to fill with food.
Prompting

- Prompting involves helping the child give the correct response after a given request.
- When learning new tasks, a child needs help to understand the connection between the request and the desired response.
- Prompts increase the success of the child.
Types of Prompts

- **Verbal prompts**
- **Visual prompts**
  - Model prompts
  - Picture prompts
  - Gestural prompts
  - Positional prompts
- **Physical prompts**
  - Blocking
  - Initiation prompts
  - Full Physical prompts
Verbal Prompts

- **Verbal prompts** involve providing a verbal instruction, cue, or model.
- May overemphasize the correct word in an array of choices.
- Direct and indirect prompts:
  - Direct – “get your boots”
  - Indirect – “what do you need to put on your feet?”
Visual Prompts

Model prompts—is acting out the target behavior by an adult or another child. i.e. Showing the child.

Providing a model before moving into a physical prompt reduces physical management and promotes the learning of imitation.
Use Visual Prompts Schedules

- Many schools use this approach.
- Here is an example of an after-school routine shown visually. It tells a child that after s/he gets home from school, s/he needs to hang up her coat, have a snack, play, homework, play, and then go to park.
- This chart was easy to make and is easy to follow. Something like this might help your child move more smoothly through his day without so much work on your part.
Physical Prompts

• Blocking involves stopping an incorrect response or behavior before it occurs

• Initiation prompts involves helping the child to begin an action to complete a task

• Physical prompts involves physically assisting the child to complete an action.
Using the Correct System of Prompt

First
- wash hands

Then
- eat at table
Reinforcement

Positive
• Positive reinforcement works by presenting a motivating/reinforcing stimulus to the person after the desired behavior is exhibited, making the behavior more likely to happen in the future.

Negative
• Negative-taking something away to increase a behavior, like turning off the alarm clock, or a teacher removing a demand so the child will stop screaming.
Reinforcement

• All people use reinforcement in everyday life

• Something is a reinforcer if it increases the behavior that occurred immediately before the reinforcer was delivered.

• Categories of reinforcers - social, tangible, activity
## Examples of Reinforcers

<table>
<thead>
<tr>
<th>Natural</th>
<th>Child says “Car” and you give him the car</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social</td>
<td>High five, tickles</td>
</tr>
<tr>
<td>Activity</td>
<td>Swing, iPad, game</td>
</tr>
<tr>
<td>Tangible</td>
<td>Food, toy</td>
</tr>
<tr>
<td>Token</td>
<td>Sticker, check</td>
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</tbody>
</table>
Guidelines for Reinforcement

- Use descriptive praise for correct responses

  “You are working so hard to get your shoes on; we are ready to go outside!”

  “Thanks for closing the door, you are a great helper for Mommy.”

  “You asked for a cracker. That’s great. Here is a cracker.”

- Note: Praise is often not a reinforcer for all children. It must be paired with reinforcers in order to become a reinforcer.
Guidelines for Reinforcement

- If it doesn’t increase behavior, it isn’t a reinforcer. A reward is not the same as a reinforcer.

- So...each child will have different reinforcers.
Expanding Learning Opportunities

<table>
<thead>
<tr>
<th>HOME</th>
<th>SCHOOL</th>
<th>COMMUNITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily activities: eating, bath time, dressing, bedtime</td>
<td>Arrival and dismissal</td>
<td>Activities in the community: playground/park, library, YMCA</td>
</tr>
<tr>
<td>Play</td>
<td>Circle time</td>
<td></td>
</tr>
<tr>
<td>Physical activities</td>
<td>Centers</td>
<td></td>
</tr>
<tr>
<td>Music</td>
<td>Snack</td>
<td></td>
</tr>
<tr>
<td>Learning activities: reading, numbers &amp; letters</td>
<td>Recess/Movement</td>
<td>Playgroups/play dates</td>
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<tr>
<td></td>
<td>Group instruction</td>
<td>Neighborhood</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Extracurricular: soccer, dance, swim</td>
</tr>
</tbody>
</table>
What to do if a child isn’t progressing?

- Determine if the procedures have been implemented with fidelity/correctly
- Is the procedure appropriate for the goals
- Are the reinforcers working
- Is the child motivated
- Is the data being collected correctly
If you have told a child a thousand times and he doesn’t understand then it isn’t the child who is the slow learner.

-Walker Barbee
Thank You

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