

Social Communication and Reinforcement in the Home

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Outline

- Home Environment
- Reinforcement
- Teaching using an ABA approach across Contexts: Skills in the natural environment
- Intensive Instruction
- Cultivating Sibling Interactions
- Training a Team
- Problem Behavior

Home



Complexities of the Home

Complexities of Home

- Cannot control many variables.
- Competing demands.
- Physical space often lends itself to relaxation and can be challenging to work in.
- Child/learner has a history in the home environment that is established.

Differences to Clinic/Educational Setting

- Often novel physical environment designed to promote learning.
- Limited history with instructors and instructional materials or play materials.
- Social expectations for relationship between teacher and student or client and provider are quite different.

What Interventions are Effective?

- Interventions grounded in the principles of Applied Behavior Analysis.
- A key component to successful implementation of interventions grounded in applied behavior analysis is a strong understanding of the use of reinforcement.
- Reinforcement is something that follows a behavior that increases the likelihood that same behavior will happen again in the future.

What Does Reinforcement in the Home Look Like ?



- Could look like... saying no!
- Edibles, tickles, activities,
- How do you know if what you have implemented is a reinforcer?



Sea of Toy Causalities

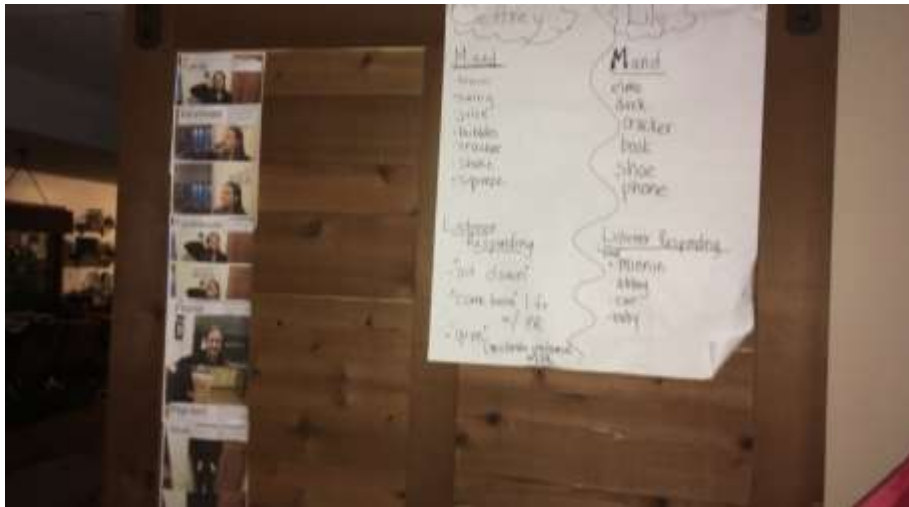




Transformation to Control Reinforcement



Playroom Designed to Promote Social Communication



Motivation is Key to Developing Communication

- Access to a child's most preferred items should be delivered through interacting with others.
- Allowing children to access highly preferred items without interacting with people does not help children to develop social and communication skills.
- When items and activities are always available they lose value.
- If the best things are accessed through interacting with people then children will interact more with people.

Teaching Across Contexts using an ABA Approach

- The specific strategies for social communication and behavior interventions will depend to a huge degree on the skills the child has (HFA vs. children with more significant language and social attention deficits).
- The instructional formats and behavior protocols presented are generally effective across a wide variety of learner profiles.

Natural Environment Teaching

- Natural Environment Teaching (NET): “NET involves focusing on the child's immediate interests and activities as a guide for language instruction” (Sundberg & Partington, 1998, p. 257)
- Can be used to generalize or teach new targets
 - At home
 - In classroom/clinic
 - At the park
 - Instruction is driven by MOTIVATION

NATURAL ENVIROMENT TEACHING

- Embeds teaching procedures and data collection systems into reinforcing activities.
- Mand training in the natural environment is often an incredibly helpful way to improve social communication and decrease problem behavior.



Natural Environment Teaching

Mand Training Natural Environment



Natural Environment Teaching: Song



NET Play-Based/ Approach

SAMPLE
NET
DATA
SHEETS

Vocal Production	
10 Min Intervals	Frequency
1	
2	
3	
4	

Tally of Correct Contextuals	Tally of Incorrect Contextuals

Number of Approach Behavior (during 10-minute probe)	Number of Escape Behavior (during 10-minute probe)

Vocalization count: _____

New vocalizations:

Natural Environment Teaching as Parents and Care Givers

- Opportunities to teach in the natural environment are always available.
 - It can be overwhelming to think about teaching all the time, but picking even just one skill can be incredibly rewarding.
- Great skills to work on in the natural environment.
 - Manding, “come here,” “give”
 - Motor imitation with objects or gross motor when playing with toys.
 - Contextually controlled listener responses with toys.
 - Responding as a listener when looking at books.
- It is crucial to know what skills the child can perform without assistance and what skills will need support when selecting what to work on in the natural environment. Some type of verbal behavior assessment must be conducted.

Moving from the Natural Environment to Intensive Instruction

- Naturalistic teaching has many benefits, but in some situations it can be difficult to provide enough opportunities to practice vital skills when capturing naturalistic opportunities.
- Many learners with autism often need multiple exposures to specific skills before a skill is mastered.
- Teaching only in the natural environment can limit the number of repetitions available which ultimately can make some skill development slower.

Fading Naturalistic Opportunities with Intensive Instruction:

LR Contextual Shake



Teaching Motor Imitation with Objects



Matching with Play Objects



Listener Response Contextual



Listener Response Contextual



Object Sort with Play Items



Discrete Trial Instruction

Intensive Teaching

- Discrete trial instruction is heavily supported in the literature as a research validated intervention for teaching individuals with autism.
- Discrete Trial Instruction Core Components:
 - Fast-paced, analyzes what comes immediately before and after each response, has set error correction procedure, embeds data collection of some type, and utilizes explicit delivery of reinforcement.
- Intensive teaching is one form of discrete trial instruction that has specific qualities.
 - Mixed and varied instructional demand presentation
 - Set errorless teaching and error correction procedures
 - Use of a variable ratio schedule of reinforcement
 - Embeds both easy and difficult skills

Intensive Teaching Session



Sibling Interactions

- Sibling interactions are an important part of all home environments.
- Developing meaningful and positive interactions and relationships can be challenging.
- A key foundation for the development of social behavior and positive sibling interactions is ensuring that the sibling is of value to his or her brother/sister.

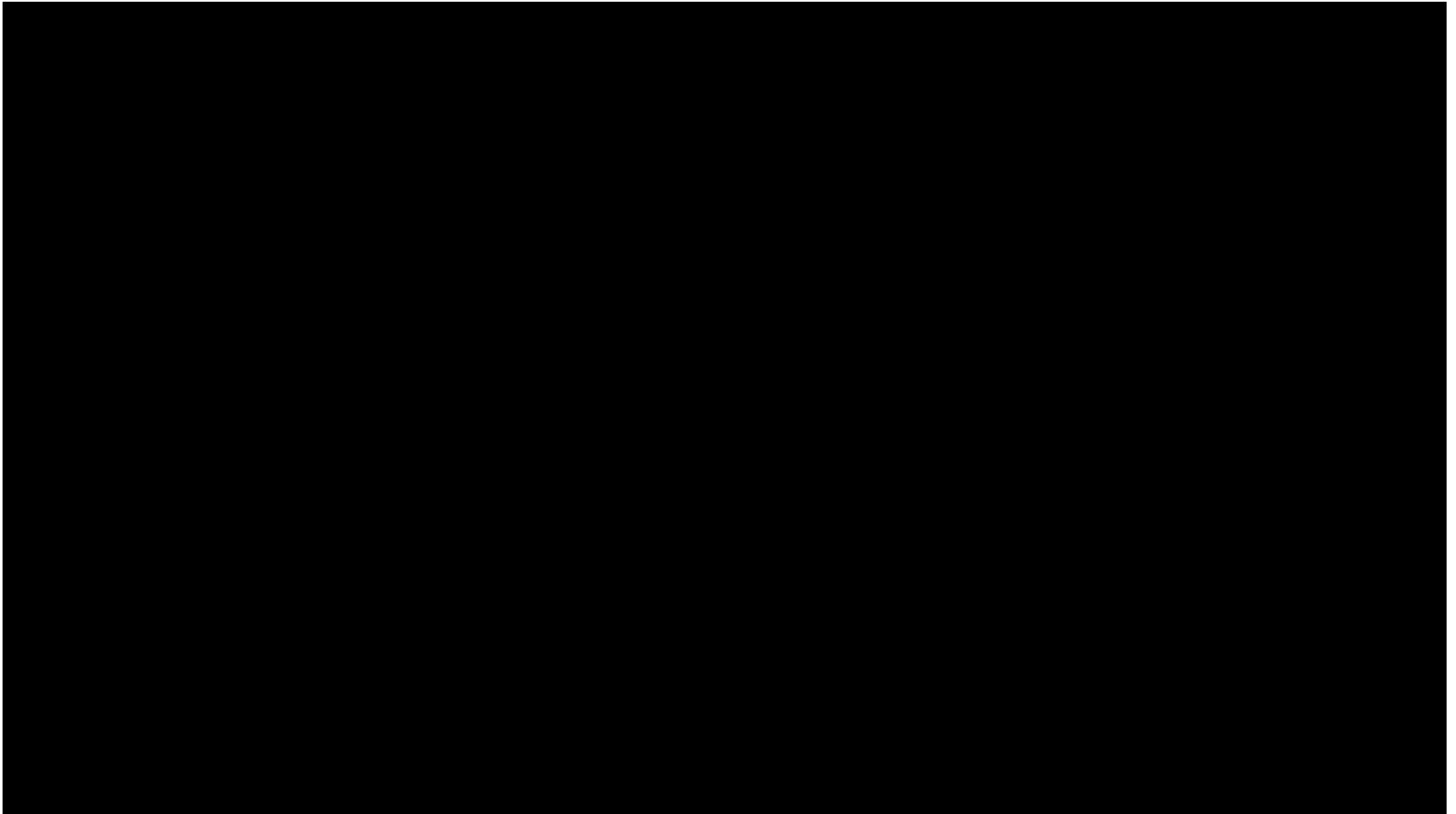
Conditioning a Sibling as a Reinforcer

- Skills to consider when developing a skill sequence (each sequence should be individualized based on learner needs).
 - Being in same play area absent of PB.
 - Accepting preferred item delivered by sibling.
 - Delivering a low-interest item to sibling.
 - Delivering a high-interest item to a sibling.
 - Requesting/manding for preferred items.
 - Accepting when a sibling takes an item.

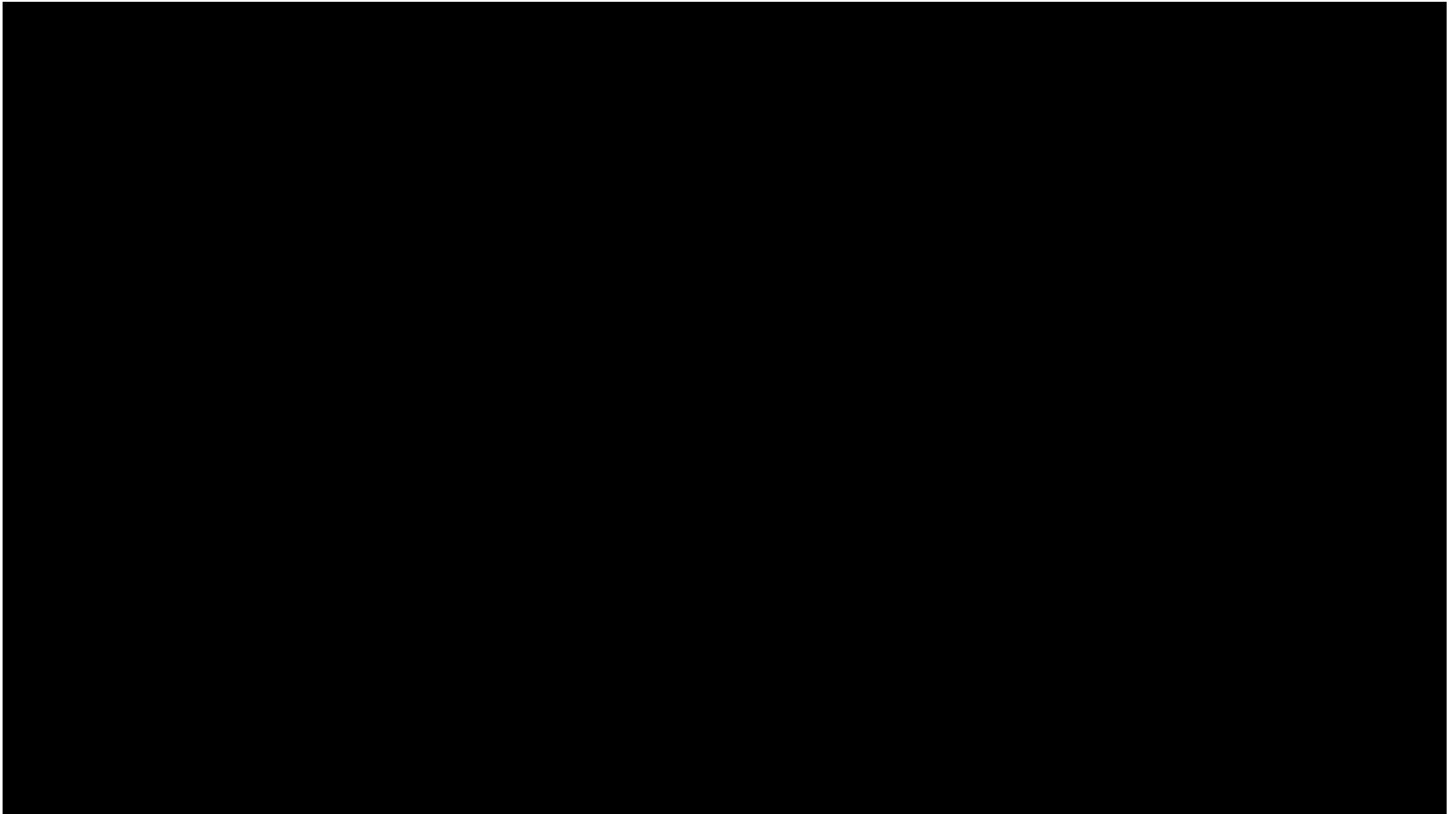
Key Considerations for Improving Sibling Play Interactions

- Sibling skills are developed through use of differential reinforcement of target behaviors in play/recreational session.
- Adult vocal behavior should be limited.
 - The goal is for the play behavior to transfer to naturalistic social conditions where siblings are interacting absent of parent involvement.
- Use of social reinforcement from the instructors should be limited.

Siblings Pairing



Sibling Pairing Day 1



Data Collection

[illegible]

Sibling Pairing 2

Training a Team

- Training the family and caregivers to support interventions is a vital part of home-based interventions.
- Key considerations when developing a plan for home based services
 - Where will training take place? At home? Clinical setting?
 - Who do we want to implement (parents, caregivers)?
 - How vital is immediate competence? For example does the learner demonstrate severe problem behavior?
 - This could effect the frequency of needed visits

Format: Behavioral Skills Training

- Instructions, modeling, role play/rehearsal, & performance feedback.
- The amount of time spent on any one area depends heavily on the skills being acquired and the experience of the family.
- Often times it is necessary to teach some direct instructional procedures to families to assist with the generalization of skills to naturalistic behavior situations.
- Teaching parents and caregivers to directly implement all skills through training allows families to be able to advocate for their child across situations.

BST In Home Training

Key Principles to Successful Home Training

- Contacting immediate reinforcement for the family is just as important as the child contacting immediate reinforcement.
- All skills should be sequenced systematically based on the needs and skills of the family.
- Program/environmental considerations for variables that affect the family members are just as important as the variables that are directly linked to the learner.

Sample Family Note

- [Sample](#) Family Training Note
- Key elements:
 - Primary topics discussed
 - Data on learner and family behavior to back up recommendations
 - Concise recommendations that are likely achievable based on family/caregiver's level of training and time to commit to suggested interventions.

Problem Behavior



Addressing Problem Behavior

- Requires a clear understanding of why particular behaviors are occurring and under which circumstances they occur.
- Addressing problem behavior effectively requires equal weight be given
 - To changing the environment and situation so that there is no need/reduced benefit for problem behavior
 - Teaching other behaviors so the behavior is no longer relevant
 - Eliminating the benefits of demonstrating the problem behavior

What are the A-B-Cs?

- Antecedent- Something that occurs immediately before a behavior
- Behavior- the actual behavior that occurs (observable/ measurable)
- Consequence- Something that happens immediately after the behavior
- Other considerations- lack of... or too much?
 - food, sleep, attention (satiation/deprivation)

Functions of Human Behavior

- To gain something
 - (Socially mediated positive reinforcement)
 - Attention
 - Access to item or activity
- To remove an undesired circumstance
 - (Socially mediated negative reinforcement)
 - Escape or delay
 - Demand
 - Attention/person
 - Item

Problem Behavior



Problem Behavior: Bubbles

- What is the hypothesized function... WHY?
- Reduce motivation for PB:
 - Give lots of interactive attention freely
 - Provide dense reinforcement absent of PB
 - Provide frequent prompted opportunities to request
- Alternative Behavior:
 - Teaching giving to sibling and manding to sibling
- Eliminate Effectiveness of PB:
 - Provide limited attention for PB
 - Remove access to preferred items or activities
 - Do not re-engage/ limited attention until child is demonstrating appropriate behavior.

Adult Reminders are a Must!



Identifying and Maintaining

REINFORCERS

Activity 1: Reinforcer Identification

- You and a partner will each get a sheet of paper and a bag of goodies.
- You will each take a turn acting as the child & the caregiver.
- When acting as the child, you will use very little language (try none) to communicate preferences.
- The “parent” will present various items and based on reading “student” body language and behaviors determine the preference level of the items.
- As the “parent” make your best attempt to rank order the preference level of the items.
- Also make sure to note the items the “child” shows no interest in at all.
- Switch roles

Reinforcement

- Remember that motivation changes over time, and just because something was motivating in the morning does not mean that same thing will be motivating in the afternoon.
- Changes in conditions often alter the reinforcing value of items/activities/people.
- Mix and vary the type, magnitude, and delivery of reinforcement to keep it strong and engaging.

Use of Promise Reinforcers

- Offsetting value of escape by advertising the value of compliance!
- When we follow directions life gets better!

Increasing Value of Compliance

USE OF PROMISE REINFORCER

- Determine a reinforcer that the student will want at that moment. (Example: the student just had a salty snack and likes to have a drink)
- Hold the reinforcer so the student can see it but do not make it too obvious.
 - You don't have to wave it around and say "Look what I have, etc".
- Give the instruction (example: "It's time to _____", or "Come here we're going _____")
- If he follows the direction he gets the reinforcer.
- If he doesn't follow through the first time the direction is given, he does not get the reinforcer but the direction needs to be followed.

Promise Reinforcer Protocol & Fidelity

	YES	NO	N/A
Did I determine a reinforcer that the child wanted at the moment?			
Did I hold the item so that it was visible to the child just before and as I presented my instruction?			
Did I present a clear instruction I wanted the child to follow? (ie: "It's time to_____")			
If the child complied with my instruction within 4 seconds, did I immediately deliver the item?			
If the child did NOT follow the instruction within 4 seconds, did I remove the item and follow through on the demand given (repeat instruction and prompt as necessary until compliance without problem behavior)?			
If follow through was needed, did I make sure to have the child engage in at least 2 more easy responses before I re-instated reinforcement?			
Did I provide better reinforcement for those response with immediate compliance free of problem behavior?			

Activity 2: Practicing the Use of a Promise Reinforcer

- With partner, one person will act as the child and the other as the care giver.
- Practice the procedure we just reviewed in each role at least twice...
 - The child will comply once and not comply once.
 - This is to make sure you are well prepared to respond to either situation.
- Try to use with a “come” direction and another demand (like time to put on your PJs)...
- Switch roles...

What if...

THE CHILD DOESN'T COMPLY?

What to do if child doesn't comply:

- Plan for this!
- Prevention is best policy...if you can do everything possible to make sure child will comply you will be better off
 - (but in the real world, that will not always be possible)
- Strategy for once the demand is placed and the child is not following the direction...
 - Keep “demand on” until fulfilled (escape-extinction).

Stick to it!!

- Best not to withdraw demand in many situations
- Will get worse first few times you do this
 - May require stick to-itiveness for a while but will pay big dividends
- This process may not always be possible: better to withdraw demand earlier than later (if it has to be withdrawn)...although it is not best to move to easier direction, there are times that this will be necessary.
- Better consequences for compliance than non-compliance.
- Do NOT pull out reinforcers AFTER direction has been given
- If no compliance when promise SR+ used, withdraw promise SR+

Escape-Extinction Checklist

1. If problem behavior occurred when you presented a demand/instruction, did you keep demand on (escape extinction) until the direction was completed while maintaining safety of child?	Y	N	N/A
2. Once the child complied with original demand without problem behavior, did you present at least 2 other easy tasks?	Y	N	N/A
3. If child complied with tasks presented without presenting problem behavior, did you reinforce him?	Y	N	N/A
4. Did you make sure to reinforce less after running the escape extinction than when you reinforce during cooperative responding?	Y	N	N/A
5. If during the presentation of easy tasks, Student reverted to problem behavior, did you repeat steps 1 through 4?	Y	N	N/A
6. After having used escape extinction, did you evaluate your demand and situation to determine the possible reason why problem behavior occurred and what you need to change in the future to increase compliance?	Y	N	N/A
Percent correct steps			____/6

Activity 3: Practicing keeping “demand on”

- One person will be in care-giver role and the other will act as student and then you will swap.
- Practice the procedure we just reviewed in each role at least twice...
 - The child will comply quickly once and not comply once.

Considerations for Addressing Problem Behavior

- Don't delay addressing the problem... Behaviors are shown to respond much more quickly over time if responses from parents/care-givers occur immediately after a behavior of concern.
- What you may consider a reward or a punishment is not necessarily what your child may consider a reward/punishment.
- Avoid any unnecessary language/ discussion with escalated child
- Avoid bargaining and negotiating

Over for now vs. Over FOREVER!

- Be careful!! Ending a behavior in a particular moment does not mean you've decreased the likelihood of the behavior happening in the future.
- Avoid big extremes for taking away desired things & items that last for long periods of time and are disconnected.

Hold your ground...

- Don't make any promises or ultimatums you can't keep or don't intend to keep.
- Don't provide access to a desired item/ activity/ or attention while children are demonstrating problem behavior or directly following behaviors of concern.
- This is one reason it is so important to stay calm when giving directions.

Get support!

- There is NO one expert on this issue
- BUT what works best is known...careful control of what parents and caregivers do before before they give a direction and what they do after the direction is given is vital.
- Parents and families working as teams as much as possible

Popularized Interventions

CLARIFYING PROCEDURES

Clarification of Strategy:

Picture Schedules

- May be of some benefit, but also can lead to problems such as
 - When picture schedule indicates non-preferred activities that evoke problem behavior.
 - When the picture schedule does not adequately “show” what the child is to do.
- Sometimes the right picture isn’t available and picture schedules can be a lot of work!
- Are we trying to adapt the rest of the world for them or are we preparing them to adequately interact with the real world?

Clarification of Strategy: Social Stories

- Social stories work only when the child benefits from a verbal description of what will happen and can follow the “rules”...
- Setting clear rules and following up with consistent consequences is generally even more effective.
- As a general rule, simple is better-
 - This will improve clarity, consistency!

Clarification of Strategy:

Aversive Control “the bad cop”

- Aversive control often does not transfer to other people, environments, or situations.
- Examples of aversive control yelling, spankings...
- How you might recognize aversive control
 - “I am going to tell your Dad/ Mom/ Grandma and then you’ll be in real trouble.”
- We want our children to respond the same way to all individuals that they encounter, other approaches tend to be more successful and transference across people and environments.

Clarification of Strategy:

Use of “time out”

- Use of “time out” as a general strategy has its strengths and weaknesses.
- It is important to avoid use of time out in a removed location if a child is in an undesired environment or situation.
- If timeout is used at these times, you are likely strengthening the problem behavior and increasing the likelihood it will happen again in the future.
- If the student is demonstrating problem behavior during a non-preferred task or activity, delaying the activity by implementing time out, may be actually giving the child what they want.
 - Think about procrastination....

Clarification of Strategy: Advanced Warning

- Although a warning can be helpful in some situations, generally speaking, overuse of the advanced warning procedure can be problematic.
 - If you know some thing bad is coming, it typically does not make you want to do it any more.
 - Sometimes in life we don't have warning.
 - We want all children to be able to flexibly transition throughout various environments in a moments notice.
 - How can we alternatively teach this skill?
 - Interruption- Transition

References

- Alberto, P.A. & Troutman, A.C. (2008). *Applied Behavior Analysis for Teachers* (2nd ed.). *Pearson*, Upper Saddle River, New Jersey.
- Barbera, M.L. (2007). *The Verbal Behavior Approach*, *Jessica Kingsley Publishers*, Philadelphia, PA. 35.
- Carbone, V. J. (2014). *Select topics in applied behavior analysis and the analysis of verbal behavior*. PaTTAN Training. Slides 112-134.
- Carbone, V. J., & Roxburgh, C. A. (2013). The effect of varying teacher presentation rates on responding during discrete trial training for two children with autism. *Behavior Modification*, 37(3), 298-323.
- Carbone, V. J., Morgenstern, B., Zecchin-Titti, G., & Kolberg, L., (2007). The Role of the Reflexive Conditioned Motivating Operation (CMO-R) during Discrete Trial Instruction of Children with Autism, *Journal of Early and Intensive Behavior Intervention*, 4: 658-680.

References

- Cooper, J.O., Heron, T. E., Heward, W. L., (2007). Applied Behavior Analysis. *Pearson*, Upper Saddle River, New Jersey.
- Delprato, D.(2001). Comparison of discrete-trial and normalized behavioral language intervention for young children with autism. *Journal of Autism and Developmental Disorders*, 31(3), 2001.
- Dozier, C., Iwata, B., Thomason-Sassi, J., Worsell, A., & Wilson, D. (2012). A comparison of two pairing procedures to establish praise as a reinforcer. *Journal of Applied Behavior Analysis*, 45: 721–735.
- Fantino E, Romanowich P., (2007). The effect of conditioned reinforcement rate on choice: A review. *Journal of the Experimental Analysis of Behavior*, 87:409–421.
- Gottman, J.M., Coan, J., Carrere, S., & Swanson, C. (1998). Predicting marital happiness and stability from newlywed interactions. *Journal of Marriage and the Family*, 60(1), 5–22.
- Kane, M., Connell, J., & Pellecchia, M. (2010). A quantitative analysis of language interventions for children with autism. *The Behavior Analyst Today*, 11(2), 128-144.
- Kates-McElrath, K. & Axelrod, S. (2006). Behavioral intervention for autism: a distinction between two behavior analytic approaches. *The Behavior Analyst*, 7 (2), 242-252.

References

- Mace, F. C., Mauro, B.C., Boyajian, A.E., & Eckert, T. L. (1997). Effects of reinforcer quality on behavioral momentum: Coordinated applied and basic research, *Journal of Applied Behavior Analysis*, 30, 1-20.
- Meier, A., Fryling, M.J., & Wallace, M.D., (2012). Using high probability foods to increase the acceptance of low probability foods, *Journal of Applied Behavior Analysis*, 45; 149-153.
- Miklos, W. M., (2012-2018). Training, Guidance, & Discussion, PaTTAN Autism Initiative, PaTTAN.
- National Autism Center (2009). The National Autism Center's, National standards report, *National Autism Center*, Randolph, MA, i-160.
- Polick, A.S., Carr, J.E., & Hanney, N.M., (2012). A comparison of general and specific praise in teaching intraverbal behavior to children with Autism. *Journal of Applied Behavior Analysis*, 45; 593-599.

References

- Prelock, P.A., Paul, R., & Allen, E.M. (2011). Evidence-based treatments in communication for children with autism spectrum disorders. In *Evidence-Based Practices and Treatments for Children with Autism*. Springer Science and Business Media, 93-169.
- Smith, T. (2001). Discrete trial training in the treatment of autism. *Focus on Autism and Other Developmental Disabilities*, 16(2), 86-92.
- Sundberg, M. & Michael, J. (2001). The benefits of Skinner's Analysis of Verbal Behavior for Children with Autism. *Behavior Modification*, 25, 698-724.
- Sundberg, M., Partington, J.W. (1998). *Teaching Children with Autism or Other Developmental Disabilities*. 255-272.
- Riviere, V., Becquet, M., Peltret, E., Facon, B., & Darcheveille, J.C., (2011). Increasing compliance with medical examination requests directed to children with autism: Effects of a high-probability request procedure, *Journal of Applied Behavior Analysis*, 44; 193-197.

References

- Schlinger, H.D., Derenne, A., & Barson, A., (2008). What 50 years of research tell us about pausing under ration schedules of reinforcement, *The Behavior Analyst*, 31: 39-60.
- Shahan T. A., (2010). Conditioned reinforcement and response strength, *Journal of the Experimental Analysis of Behavior*, 93: 269-289.
- Shahan T. A., & Podlesnik C. A., (2008). Conditioned reinforcement value and resistance to change. *Journal of the Experimental Analysis of Behavior*, 89: 263–298.
- Walker, H., Ramsey, E., & Gresham, F. (2004). Antisocial behavior in schools: Evidence-based practices (2nd ed.). Belmont, CA: Wadsworth.
- Wilder, D.A, Allison, J. Nicholson, K., Abellon, O. E., & Saulnier, R. (2010). Further evaluation of antecedent interventions on compliance: The effects of rationales to increase compliance among preschoolers. *Journal of Applied Behavior Analysis*, 43; 601-613.