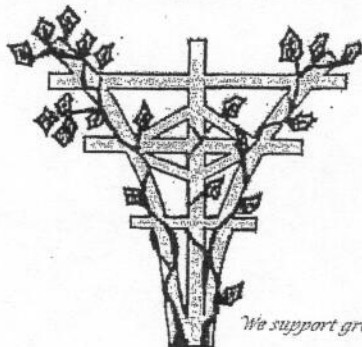


*Trellis Services, Inc.*



## Training Manual For Verbal Behavior Programs

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**Recommended Readings**

Christina Burk

Comprehensive Information on Verbal Behavior.  
[www.christinaburkaba.com](http://www.christinaburkaba.com)

Denise Freeman and Tracy Vail

Training Manual compiled for Verbal Behavior Training Seminars.  
[www.mariposaschool.org](http://www.mariposaschool.org)

Dr. James Partington and Dr. Mark L. Sundberg

The Assessment of Language and Learning Skills (The ABLLS):  
An assessment, curriculum guide, and skills tracking system for  
children with autism or other developmental disabilities.

Teaching Language to Children with Autism or Other  
Developmental Disabilities

Karen Pryor

Don't Shoot the Dog! : The New Art of Teaching and Training.

Susan Aud Sonders

Giggle Time

### Trellis Mission Statement

Our goal is to focus on the child's strengths and to individualize treatment planning for each child and family. We utilize systematic and well researched methodologies to provide effective and thorough treatment. We base our curriculum on an Applied Verbal Behavior model to assess, develop, implement goals, and monitor progress. Treatment addresses multiple domains, including speech and language, behavior modification, and sensory integration. Our defining goal is to teach children to love learning. Natural environment teaching and errorless instruction are used to build a reinforcing and nurturing learning experience.

## Introduction to Verbal Behavior

The Verbal Behavior methodology was created to address the language deficits of learners while utilizing the science of Applied Behavior Analysis (ABA) to determine treatment for the individual learner. Verbal Behavior (VB) is effective for learners who have developmental disabilities such as autism, mental retardation, Down Syndrome and Fragile X Syndrome. This introduction will focus on learners with autism.

The Verbal Behavior methodology was created to address the \_\_\_\_\_ of learners while utilizing the science of \_\_\_\_\_ (use acronym) to determine treatment for the individual learner.

Many people ask about the difference between ABA and VB. VB programs are a practice of ABA; the difference is that VB programs incorporate B.F. Skinner's Analysis of Verbal Behavior whereas traditional ABA programs are only guided by Skinner's principle of operant conditioning.

VB programs incorporate \_\_\_\_\_ analysis of \_\_\_\_\_ whereas traditional ABA programs are only guided by Skinner's principle of \_\_\_\_\_.

In the graph below you will find a general comparison of the two applications. Please realize that this is a generalization.

VB Programs	Traditional ABA Programs
Learning begins with pairing the instructor with reinforcement so that the learner views the instructor as a conditioned reinforcer. Therefore everything that the instructor and the learner do together is fun, including instruction.	Often learners attempt to escape from the work environment at the beginning of the programs until their escape behaviors are extinguished.
Manding (requesting) is a major focus of instruction. It is the first operant that is taught.	Manding is considered an advanced skill which is addressed later in the program.
Teaching begins in the NET (Natural Environment Teaching) and then time spent teaching at the table gradually increases. The learner goes back and forth from the table to NET frequently during the session.	Most of the formal teaching occurs at the table and then skills are loosely generalized to other environments.

<p>Errorless teaching procedures are used to maintain a high rate of reinforcement and reduce the opportunity for learners to practice errors. Most-to-least prompting is used to prevent learners from acquiring incorrect behaviors. Prompt dependency is eliminated through prompting, quick fading and transfer trials.</p>	<p>In some cases “no-no-prompting” procedures are still being used. With this prompting technique, the learner has the potential to practice the incorrect response multiple times before he is prompted to produce the correct answer. Least-to-most prompting often increases the learner’s frustration, decreases his opportunity to earn reinforcement, and provides multiple opportunities to practice the incorrect response.</p>
<p>Targets are mixed and varied so that learners stay “on their toes”. Directions (*SDs) are constantly changing so that the learner must attend to the language or the body movement as opposed to operating on auto pilot. Once a learner is successful in providing the correct response within one operant it is then transferred to another operant so that learning is a dynamic process that changes moment by moment.</p>	<p>Targets are originally presented in isolation, then distracters are added, and then skills are put into random rotation.</p>
<p>Instructors vary SDs* from the start of the programs so there may be six different ways to request something receptively: point to, show me, hand me, touch, find...</p>	<p>Often SDs are one specific phrase.</p>

\*SD stands for Discriminative Stimulus- a stimulus that sets the occasion for a response to occur because it has been associated with reinforcement in the past.

In VB programs learning begins with \_\_\_\_\_ the instructor with reinforcement so that work blends into play.

\_\_\_\_\_ is the first verbal operant that is taught.

\_\_\_\_\_ teaching procedures are used to maintain a high rate of reinforcement and reduce the opportunity for learners to practice errors.

Most-to-least \_\_\_\_\_ is used to prevent learners from acquiring incorrect behaviors. Prompt dependency is eliminated through quick prompting, fading and transfer trials.

## Evolution of ABA

### History

Skinner founded modern behaviorism. He distinguished himself from his fellow psychologists by calling his brand of behaviorism *behavior analysis*. In 1938 Skinner presented the principle of operant conditioning in his work called *The Behavior of Organisms*. Simply, operant conditioning is used to modify and teach new behavior by altering the consequences that follow the behavior of interest. Furthermore the

consequence that follows that behavior can affect the probability of that behavior occurring in the future.

Simply, operant conditioning is used to \_\_\_\_\_ and teach \_\_\_\_\_ by altering the consequences that follow the behavior of interest.

ABA programs have been evolving for students with autism since the 1960s from Ivar Lovaas' work. Lovaas was the first person to take the laws of Behavior and apply them to teaching children who have autism. He presented curricula and teaching procedures utilizing discrete trials to guide instruction.

### Discrete Trial

Through operant conditioning Skinner identified the relationship between antecedent stimuli (discriminative stimulus), operant response (behavior), and the reinforcer (consequence). This is known as a three-term contingency (A-B-C), the basic unit used in the analysis of behavior. The A stands for antecedent, the B stands for behavior, and the C stands for consequence. The three-term contingency (A-B-C) was also the first definition of the discrete trial.

The A stands for \_\_\_\_\_, the B stands for \_\_\_\_\_ and the C stands for \_\_\_\_\_.

### Verbal Behavior

VB programs utilize the principles of operant conditioning and verbal behavior. Skinner explains in his seminal work titled *Verbal Behavior (1958)*, that language is itself a behavior which is therefore able to be shaped by the principles of Operant Conditioning. Skinner analyzed the functional units of language which can also be referred to as verbal operants. Skinner identified nine verbal operants. While Skinner identified the same laws of behavior, he did not present ways to practically apply his principles to everyday life. Applied Behavior Analysts such as Drs. Lovaas, Partington and Sundberg developed ways to apply the science.

In 1998, Drs. Partington and Sundberg created an assessment, curriculum, and skills tracking system based on B.F. Skinner's Analysis of Verbal Behavior, called The Assessment of Basic Language and Learning Skills (ABLBS). This is the assessment and curriculum that guides VB programs.



**Skinner's Behavioral Classifications of Language (Verbal Operants)**

The following section will be presented in an errorless format. First you will be given the information. Note that the key words are underlined and the **basic concepts** are in boldface. Then you will be asked to complete a statement about the information using the exact same wording as it was originally stated. There are no trick questions here. This is meant to be easy so that you can acquire new skills as effortlessly as possible. The second time, the wording will be slightly different so that you learn the idea as opposed to the written formula. The third time, additional words and the order will be changed. The statements will continue to become more and more generalized so that you will begin to understand the concept in general.

Helpful Hint: You will be often asked to rewrite the key word. When you are answering the questions, give the technical term, unless it is already in the sentence.

There are nine behavioral classifications of language that were identified by Skinner (1957).

1. Mand-(**Demand or Request**) Asking for something that is currently wanted. A Mand may take the form of spoken language, ASL, gesturing or a picture exchange system.
2. Echoic-(**Vocal Imitation**) When the learner is repeating exactly what they hear.
3. Imitation- Repeating or **copying someone else's motor movements**.
4. Tact - (**Labeling**) Identifying something by name that is **in sight** such as objects, actions, events, relations, properties, etc.
5. Intraverbal- **Answering questions or making related comments**. A response to what another person says when the item or action in discussion is NOT present. Intraverbals are the sub-skills needed to hold a conversation.
6. Receptive-**Following directions** of others, complying with requests of others.
7. FFC- **Function, feature or class**. Talking about items by description.
8. Textual- **Saying** the word when **seeing** the written word.
9. Writing- **Writing** the word when **said aloud**.

**MAND-(Demand or Request)** Asking for something that is currently wanted. Manding may take the form of spoken language, ASL, gesturing or a picture exchange system.

1. \_\_\_\_\_ - **(Demand or Request)**. Asking for something that is currently wanted.
2. A \_\_\_\_\_ is when the learner makes a \_\_\_\_\_ or request.
3. When a learner requests something it is called a \_\_\_\_\_.
4. When the learner asks for something that he wants he is \_\_\_\_\_.
5. The learner is licking his lips for the cookie that you are eating. When the learner says "cookie" this is called a \_\_\_\_\_.
6. The learner climbs on the counter and reaches for the pie. The learner is \_\_\_\_\_ when he reaches for the pie.
7. When the learner signs water he is \_\_\_\_\_ for water.
8. The learner places a picture of ice cream in your hand and then you give him the ice cream. The learner just \_\_\_\_\_ for \_\_\_\_\_.

**ECHOIC- (Vocal Imitation)** - When the learner is repeating exactly what they hear.

1. \_\_\_\_\_ - **Vocal Imitation**. When the learner is repeating exactly what they hear.
2. A(n) \_\_\_\_\_ is a vocal \_\_\_\_\_. It is when the learner repeats exactly what is heard.
3. An echoic can also be described as a \_\_\_\_\_.
4. When the learner repeats exactly what you say that is called a(n)\_\_\_\_\_.
5. The verbal operant that requires a learner to repeat after you is called a(n) \_\_\_\_\_.
6. Instructor: "Say, super duper"  
Learner "Super duper."  
This is an example what verbal operant? \_\_\_\_\_.
7. An echoic trial may sound like this:  
Instructor: "Say, super duper"  
Learner: " \_\_\_\_\_"

**IMITATION**- Repeating or **copying** someone else's motor movements.

1. \_\_\_\_\_ - Repeating or **copying** someone else's **motor movements**.
2. A(n) \_\_\_\_\_ is occurring when a learner repeats or \_\_\_\_\_ someone else's movements.
3. A(n) \_\_\_\_\_ can be described as repeating or copying someone else's motor movements.
4. When the learner lifts his arms up after you lift your arms up this is called a(n) \_\_\_\_\_.
5. The verbal operant that requires a learner to copy your motor movements is called a(n) \_\_\_\_\_.
6. Instructor: Says, "Do this" (and touches her nose with her finger)  
Learner: Touches his nose with his finger.  
This is an example of which verbal operant? \_\_\_\_\_.
7. An imitation trial may look like this:  
Instructor: says, "try this" and claps her hands.  
Learner: \_\_\_\_\_.

**TACT** - **Labeling or identifying** something that is **in sight** such as objects, actions, events, relations, properties, etc.

1. \_\_\_\_\_ - Identifying something that is in \_\_\_\_\_ such as objects, actions, events, relations, properties, etc.
2. A \_\_\_\_\_ is occurring when a learner \_\_\_\_\_ or **identifies** something that is **in sight** such as objects, actions, events, relations, properties, etc.
3. A \_\_\_\_\_ can be described as labeling or identifying something that is in sight.
4. When the learner sees a butterfly and says "butterfly" that is called a \_\_\_\_\_.
5. The verbal operant that requires a learner to label something that they see is a \_\_\_\_\_.
6. Instructor: "What are they doing?"  
Learner: "Having a mud fight"  
This is an example of which verbal operant? \_\_\_\_\_.
7. A tact may sound like this:  
Learner: Sees a butterfly and says, "Look it's a \_\_\_\_\_."

**INTRAVERBAL- Answering questions or making related comments.** A response to what another person says when the item or action in discussion is NOT present.

Intraverbals are the sub-skills needed to hold a conversation.

1. \_\_\_\_\_ - Answering \_\_\_\_\_ or making related comments. A response to what another person says when the item or action in discussion is NOT present. Intraverbals are the sub-skills needed to hold a \_\_\_\_\_.
2. A(n) \_\_\_\_\_ is occurring when a learner \_\_\_\_\_ questions or makes related \_\_\_\_\_ about something that is \_\_\_\_\_ present.
3. A(n) \_\_\_\_\_ can be described as answering questions or making related comments about something that is not present. It can also be described as a \_\_\_\_\_ to what another person says.
4. When the learner answers a "wh" question about something that is not present that is called a(n) \_\_\_\_\_.
5. The verbal operant that requires a learner to talk about something that is not present is a(n) \_\_\_\_\_.
6. Instructor: "What did you do in school today?"  
Learner: "I made a clay pot and ran around the field in gym."  
This is an example of which verbal operant? \_\_\_\_\_.
7. Instructor: "Mmm, I am in the mood for some gummy bears"  
Learner: "Gummy bears are sweet."  
This is an example what verbal operant? \_\_\_\_\_.

**RECEPTIVE- Following directions or complying with the requests of others.**

1. \_\_\_\_\_ - Following directions or complying with the requests of others.
2. When a learner follows \_\_\_\_\_ or complies with the \_\_\_\_\_ of others this would be called a \_\_\_\_\_.
3. A \_\_\_\_\_ can be described as following directions.
4. If you ask the learner to sit down that is called a \_\_\_\_\_.
5. The verbal operant that requires a learner to follow directions is \_\_\_\_\_.
6. Instructor: "Hand me the large bowl."  
Learner: Gives the large bowl to the instructor.  
This is an example of which verbal operant? \_\_\_\_\_.

7. A receptive may sound like this if the learner does it correctly.

Instructor: "Go put on your red boots."

Learner: Puts on his \_\_\_\_\_.

**FFC- (Function, Feature or Class)** Talking about items by description.

1. \_\_\_\_\_ - Talking about items by description(function, feature or class).

2. FFC stands for \_\_\_\_\_, \_\_\_\_\_, or \_\_\_\_\_.

3. When talking about FFCs the first F stands for \_\_\_\_\_.

4. A function describes what the item does. For example, if I say, "Hand me the one that digs up dirt", I may be describing a shovel. If I say, "Go sit in something that you ride in", I may be describing a \_\_\_\_\_. If I say, "Go find something to wear on your feet", I could be talking about \_\_\_\_\_ or shoes.

5. When talking about FFCs the second F stands for \_\_\_\_\_.

6. A feature addresses size, shape, color, or any other physical attribute. For example, if I say, "Hand me the big red one" when talking about bell peppers this requires the learner to identify which two attributes? \_\_\_\_\_ and \_\_\_\_\_.

5. When talking about FFCs the C stands for \_\_\_\_\_.

Class refers to categories. Some common classifications are fruits, clothes, toys, animals etc. I may say, "Tell me 3 animals". If a lunchbox is filled with a sandwich, soda, chips and an apple and I want the apple, I may say, "Pass me the \_\_\_\_\_".

6. If I say, "Can you collect all of the green ones and put them in the box?" This would be an example of which verbal operant? \_\_\_\_\_.

7. If the teacher says, "Tell me two things that have engines", this would be an example of which verbal operant? \_\_\_\_\_.

**TEXTUAL-** Saying the word when **seeing** the written word.

1. \_\_\_\_\_ - **Saying** the word when **seeing** the written word.

2. \_\_\_\_\_ behavior is occurring when a learner \_\_\_\_\_ a sign that says "closed for lunch" and then \_\_\_\_\_ "closed for lunch".

3. When a learner says, "dogs allowed" after they see a sign, this would be considered which classification of language? \_\_\_\_\_.

**WRITING- Writing the word when said aloud.**

1. \_\_\_\_\_ - **Writing** the word when **said aloud**.
2. \_\_\_\_\_ behavior is occurring when a learner is \_\_\_\_\_ when words are said \_\_\_\_\_ to them.
3. When a learner writes, "Five weeks of paid vacation" after they hear their new boss say this aloud, this is which classification of language? \_\_\_\_\_.

In applying the classifications of language to our everyday life, watch and see how one word can be applied to all of the 9 classifications of language.

Speaker	Chocolate Chip Cookie	Classification of Language
Learner	"Can I have a cookie?"	Mand
Learner	"Look there is a cookie."	Tact
Instructor	"I need something sweet."	Intraverbal
Learner	"Yeah me too, I am in the mood to eat a cookie."	
Instructor	"Say, cookie"	Echoic
Learner	"Cookie."	
Instructor	"Pass me a cookie."	Receptive
Instructor	"Pass me the one with chocolate chips."	FFC
-----	Your husband says, "Buy some cookies", and you write it down.	Writing
Instructor	"Do what I do." (break off a piece of the cookie)	Imitation
-----	You see a sign that says, fresh cookies, and then you say out loud "fresh cookies".	Textual

Learners may be able to talk about a cookie by using some of these classifications but possibly not all. A learner has not truly mastered a new concept until he can use it across all of the functions of language.

Try this on your own. See if you can identify the classifications of language.

Speaker	Swimming	Classification of Language
Learner	"Can I swim here?"	
Learner	"Look they are swimming!"	
Instructor	"Gosh, I am hot".	
Learner	"Yeah me too, I really would like to go swimming"	
Instructor	"Say, swim."	
Learner	"Swim."	
Instructor	"Show me how you swim on your belly"	
Instructor	Says, "Give me something you wear over your eyes."	
-----	The teacher says, "swim", and you write it down.	
Instructor	"Can you do this?" (front stroke)	
-----	You see a sign that says, swimming pool, and then you say out loud, "swimming pool".	

**Verbal Operant Quiz**

1. A \_\_\_\_\_ is when the learner makes a \_\_\_\_\_ or request.
2. When the learner answers a "wh" question about something that is not present that is called a(n) \_\_\_\_\_.
3. The verbal operant that requires a learner to label something that they see is a \_\_\_\_\_.
4. A \_\_\_\_\_ is occurring when a learner \_\_\_\_\_ or identifies something that is in sight such as objects, actions, events, relations, properties, etc.
5. When the learner asks for something that he wants he is \_\_\_\_\_.
6. The verbal operant that requires a learner to talk about something that is not present is a(n) \_\_\_\_\_.
7. Instructor: "Hand me the large bowl."  
Learner: Gives the large bowl to the instructor.  
This is an example of which verbal operant? \_\_\_\_\_.
8. A(n) \_\_\_\_\_ can be described as repeating or copying someone else's motor movements.

9. A(n) \_\_\_\_\_ is a vocal \_\_\_\_\_. It is when the learner repeat exactly what is heard.
10. \_\_\_\_\_ - Talking about items by description (function, feature or class).
11. If the teacher says, "Tell me two things that have engines", this would be an example of which verbal operant? \_\_\_\_\_.
12. The learner climbs on the counter and reaches for the pie. The learner is \_\_\_\_\_ when he reaches for the pie.
13. When a learner writes, "five weeks of paid vacation" after they hear their new boss say this aloud, this is which classification of language? \_\_\_\_\_.
14. Instructor: "Mmm, I am in the mood for some gummy bears"  
Learner: "Gummy bears are sweet."  
This is an example of which verbal operant? \_\_\_\_\_.
15. When the learner sees a butterfly and says "butterfly" that is called a \_\_\_\_\_.
16. The verbal operant that requires a learner to follow directions is \_\_\_\_\_.
17. When the learner repeats exactly what you say that is called a(n) \_\_\_\_\_.
18. The verbal operant that requires a learner to repeat after you is called a(n) \_\_\_\_\_.
19. When the learner lifts his arms up after you lift your arms up this is called a(n) \_\_\_\_\_.
20. The verbal operant that requires a learner to copy your motor movements is called a(n) \_\_\_\_\_.
21. If you ask the learner to sit down that is called a \_\_\_\_\_.
22. FFC stands for \_\_\_\_\_, \_\_\_\_\_ or \_\_\_\_\_.
23. When a learner says, "dogs allowed" after they see a sign, this would be considered which classification of language? \_\_\_\_\_.
24. How many classifications of language are there? \_\_\_\_\_.
25. Who was it that identified the nine classifications of language? \_\_\_\_\_.



Speaker	Cotton Candy	Classification of Language
Instructor	"Say, cotton candy."	
Learner	"Cotton candy."	
Learner	"Look there is some cotton candy."	
Instructor	"I need something sweet."	
Learner	"Yeah me too. I am in the mood to eat some cotton candy."	
-----	Your daughter says, "Buy some cotton candy" and you write it down."	
Instructor	"Hand me that cotton candy."	
-----	You see a sign that says <i>cotton candy</i> and then you say out loud "cotton candy".	
Instructor	"Can you do this?" (tear off cotton candy and put it on your tongue)	
Instructor	"Give me something that you eat that is pink."	
Learner	"Can I have some cotton candy?"	

## The Foundation of a VB Program

There are three crucial elements that are needed before any teaching can happen: Pairing, Reinforcement, and Instructional Control.

### **Pairing**

Before teaching can begin you must pair yourself with reinforcement so that the learner will want to interact with you. The learner will see you as someone special so that anything that you do together, even work, is fun. This is the first step in teaching the student to love to learn.

Before teaching can begin you must \_\_\_\_\_ yourself with reinforcement so that the learner will want to interact with you.

Pairing may look different for different learners. Generally you will know if you are paired if the learner comes towards you when you walk through the door, seeks you out to play, and allows you to interact with him and his toys.

Pairing is not always easy. Some of our students have not yet learned that being with others is fun. Some have experienced people (especially their siblings) trying to take away their toys, so they may not want to play with others at first. Depending upon the learner it may take some time, perceptive observations, and creative thinking to earn their trust.

The learner's behavior will tell you what they like, want, and need. If we are open minded and take the time to truly see the learner and their behavior we will be able strategically become a positive addition to their environment.

1. Observe if the learner likes loud voices, soft voices. You can pair your voice with reinforcement by saying the learners name and using short phrases to describe what you are doing during a fun activity.
2. Observe if he enjoys gross motor, creative or pretend play.
3. Watch to see how the learner self stimulates. This will help you determine what sensory activities to try.
4. Does the learner like foods that are sweet, salty, chewy or crunchy?
5. Be the giver of good things. During pairing we want to be known as givers, not as takers.

6. If the learner is playing by themselves, try to join in the activity by making it more fun with you than with out you. This is a process. You will learn by trial and error how to interact with the learner.

Here are a few ideas on how to engage a learner who is only comfortable playing by themselves at the moment. If a learner is playing with a toy alone try some of the following ideas.

- Put some of his favorite foods on his toy. Eventually the learner will turn around as to encourage you to give him more treats.
- If he is moving an object around make a sound effect that may be fun or amusing to the learner.
- Shine a flash light on the toy to make it more interesting.
- If the learner is engaged in self-stimulatory behavior by looking out of the window you could try going out side and look through the other side of the window, offering his favorite gross motor activity such as swinging. You may also try scratching or tickling his back while he is looking out the window with the intention of redirecting his attention to you.
- If the learner is concerned with his toys that go in a box, empty the box and invite the learner to sit in the box with his toys. Move him around in the box. Bring in a blanket and drape it over his head, pulling it off in an engaging way.

As you can see, this is a creative process and can be lots of fun. Enjoy yourself. Everything that you try won't work, expect that. Don't be discouraged. Keep trying. This is a process.

Initially, when pairing with the learner, be sure not to place **demands** such as asking questions or requesting them to do things even with the toys that they are playing with at the time. Ask parents not to pull the learner from a reinforcing activity when you arrive so that you don't become associated with the termination of reinforcing activities. Bring the next activity into the existing one if possible or use an item from the existing activity to transition into the next.

Initially, when pairing with the learner, be sure not to place \_\_\_\_\_.

It is helpful to use reinforcers that you can easily control and can be delivered multiple times such as edibles, music, and movie clips. Edibles and certain toys can be given in small portions. It is also important to have toys and/or foods that the learner only has access to when you are pairing. Lastly, continue to set aside time to pair (this includes parents as well.) Once your demands increase you need to work to maintain the positive relationship. Pairing **never** ends!

Pairing \_\_\_\_\_ends!

## Reinforcement

A reinforcer is any event that follows a behavior and increases the probability of a behavior happening again under similar circumstances. Any behavior that is already occurring can be reinforced so that it occurs under stimulus control. A behavior is under stimulus control when it reliably occurs under the same conditions.

A reinforcer is any event that \_\_\_\_\_ a behavior and \_\_\_\_\_ the probability of a behavior happening again under similar circumstances.

When we begin working with new learners, many have a limited repertoire of truly desired items (reinforcers), but that can be changed. We can expose them to many activities similar to what they already like and use the principles of pairing (see pairing handout) to create more reinforcers. Pair a salient reinforcer with a neutral object and the object will then take on the properties of the salient reinforcer and become a conditioned reinforcer. For example, take a glow in the dark squeeze toy and pair that with a blanket: go under the blanket, sit on the blanket, somehow bring the blanket into play with the squeeze toy. After some time the blanket on its own will be a reinforcer. Remember to always pair social reinforcers with primary reinforcers.

Pair a \_\_\_\_\_ reinforcer with a \_\_\_\_\_ object and the object will then take on the properties of the salient reinforcer and become a conditioned reinforcer.

Keeping your reinforcers effective is essential to keeping yourself paired with reinforcement. Keep the following acronym in mind, DISC: it stands for deprivation, immediacy, size and contingency.

**Deprivation**- *Does the learner rarely get the reinforcer?* If he gets it too much he will be satiated and no longer want it. Deprivation will increase the value of a reinforcer because the person hasn't had the item for a while. For example, if a child leaves their favorite stuffed animal at a friend's house and they are able to retrieve the stuffed animal a week later, the stuffed animal will have a higher degree of reinforcer effectiveness than if the child had access to it all week long. Satiation will decrease the value of a reinforcer. If the child has been playing with the stuffed animal all week, it may not be that desirable anymore.

To determine if the principle of deprivation is being applied, ask yourself, *does the learner \_\_\_\_\_ get the reinforcer?*

Deprivation will \_\_\_\_\_ the value of a reinforcer. Satiation will \_\_\_\_\_ the value of a reinforcer.

**Immediacy**- *Are you responding within two seconds of the desired behavior?*

One of the most important ways to communicate which behavior you want the learner to repeat is by the timing of reinforcer delivery. If your timing is too late you may end up reinforcing the wrong behavior.

To determine if the principle of immediacy is being applied, ask yourself *are you responding within \_\_\_\_\_ of the desired behavior?*

**Size**- *Is the amount of the reinforcer worthwhile?*

Some learners would be happy to mand for one french fry. Others would need ten french fries to make it worthwhile. If the learner seems to be losing their desire for an item, attempt to offer them a larger amount and see if that changes their behavior. This will tell you what is worthwhile to them.

To determine if the principle of size is being applied, ask yourself, *is the amount of the reinforcer \_\_\_\_\_?*

**Contingency** - *Is the reinforcer given only after the desired behavior occurs?*

It is important to limit the learners access to reinforcers used during teaching sessions so that they remain strong reinforcers.

To determine if the principle of contingency is being applied, ask yourself, *is the reinforcer given \_\_\_\_\_ the desired behavior occurs.*

**Instructional Control**

Instructional control involves becoming associated with the delivery of reinforcers (pairing) and developing a history of reinforcing compliance to your instruction.

An easy way to begin is with giving simple directions so that the learner can access reinforcers. Once initial pairing has occurred you may blend in small requirements for access to reinforcement to initiate instructional control. For example, if the learner wants to watch a video request him to sit down while watching. If learner wants to go outside have him stand up so that you can help him put on his coat. All of these demands have built in reinforcers.

The most important rule is not to ask a learner to do something that you can't prompt. You can't prompt a learner to produce a verbal echoic, so you wouldn't want to make that demand. The second rule is to keep the demands low and easy especially during the initial phases. You want the learner to develop a history of complying with ease.

The following is a progression of how instructional control is developed.

1. Pairing yourself with reinforcement- edibles/items/actions
2. Learner mands for items/edibles/actions and gets it, reinforcement also given for engaging in any play/approaching any new item

3. Begin placing demands intermittently between mands/reinforcement-  
beginning demands include "sit down" (prior to getting a snack), "give me  
cup" (prior to filling with drink)- related to reinforcer and environment
4. Increase instructional control within each activity
  - o Learner remains in activity
  - o Learner requests "all done" to end
  - o Environment is sanitized
  - o All activities labeled so mands can be developed
  - o Maintain VR schedule within activities
  - o Establish a number of short activities by pairing/reinforcing
  - o Child led/teacher directed activities are established by gradually  
increasing VR
5. Increase amount of time in activities, breadth of skills addressed
6. ITT begins to generalize skills mastered in NET

### Elements of a VB program

The following elements define an effective Verbal Behavior program:

1. Manding is the first and most important skill taught
2. Instruction is guided by the learners Motivative Operation
3. Errorless teaching procedures are employed to maintain a reinforcing  
environment
4. Most-to-least prompting is used to ensure skills are learned accurately and quickly
5. Correction procedures are utilized to inform the learner of the correct answer in a  
neutral manner
6. Skills are mixed and varied to keep the learner "on their toes"
7. Easy and hard tasks are interspersed to create behavioral momentum and increase  
confidence in responding
8. Fluency training teaches the learner to respond quickly and accurately.

### **Manding**

The first goal of a VB program is to provide the learner with an effective way to ask for what he wants. This is called a mand, which can be most easily remembered as a demand or request for something. The mand is the only verbal operant that actually benefits the speaker. This is where instruction must begin. Teaching manding first has many benefits: it **prevents many maladaptive behaviors from forming**, gives the learner some **control over his environment**, and most importantly, creates opportunities for the learner to **access reinforcement frequently**.

Teaching manding first has many benefits: it \_\_\_\_\_ **many maladaptive behaviors from forming**, gives the learner some \_\_\_\_\_ **over his environment**, and most importantly, creates opportunities for the learner to **access** \_\_\_\_\_ **frequently**.

Maladaptive behaviors are actually mands that have developed because there was no other way for the learner to express the need. When a learner is screaming and banging at the back door because he wants to go out, this is a mand for “open the door”. Since he has not learned any other way to ask for it, he created a way on his own. Teaching mands first will prevent problem behaviors before they happen.

One of the reasons that people with autism engage in self-stimulatory behavior is because their access to reinforcers outside of themselves is limited by their lack of ability to ask for them. Teaching manding first provides many opportunities for learners to access reinforcers in their environment.

Learners can mand vocally or by using alternative communication methods such as sign language or a picture exchange system (PECS). Choosing an alternative communication method is a complex topic that cannot be effectively addressed in this introduction. Significant benefits have been found in utilizing sign language and PECS in evoking vocal verbal behavior.

### **Motivative Operation (MO)**

In order for the learner to mand he must want the item or activity. The Establishing Operation (EO) or the Motivative Operation (MO) is the factor **which temporarily alters the value of an event or stimuli as a reinforcer**. Deprivation will increase the value of a reinforcer because the learner hasn't had the item for a while. Satiation will decrease the value of a reinforcer. In order to conduct mand training the MO must be present. Skilled instructors will work to capture and contrive the learner's MO and use that moment as a teaching opportunity.

### **Capturing an MO**

During meal time a learner may want something to drink. This is the time to capture the MO for juice and teach the mand.

### **Contriving an MO**

This means to manipulate a situation so that an MO is created. For example, if we want the learner to mand for ball. We might use the ball in a fun and exciting ways to entice the learner to want to access the ball.

The Establishing Operation (EO) or the Motivative Operation (MO) is the factor **which** \_\_\_\_\_ **alters the** \_\_\_\_\_ **of an event or stimuli as a reinforcer.**

**Ineffective teaching procedures** will decrease the value of the reinforcer being used and increase the value of escape. This is an example of a “Competing MO.”

**Effective teaching procedures** will allow the MO to be captured and **maintained** in learning situations.

**Effective Teaching Procedures**

The follow teaching procedures are the elements that maintain a successful VB program.

1. **Most-to-least prompting** utilizes prompting and quick fading. When teaching a new skill use a 0-second delay prompt, so that an error is not made and then inadvertently learned.

The first time that you introduce a skill, provide enough of a prompt so that the learner is successful. Not all learners need to begin with a full physical prompt. The level of prompting needed is a clinical judgment.

On successive trials (opportunities to demonstrate the skill), the instructor must attempt to fade their prompt so that the learner can demonstrate the skill more independently. The number of teaching trials prior to fading will be dependent upon the child’s learning profile.

It is not always possible to get an unprompted response on the first or second try. It is more important to keep learning fun and easy than to push the learner to respond without the prompt in the beginning.

2. **Correction Procedure**

If an error is made or you don’t get a response within 2-3 seconds, use the correction procedure:

1. Repeat the SD
2. Provide the correct answer (prompt with a 0-second delay)
3. Transfer trial

The instructor immediately re-presents the skill and fades the prompt; this is called a transfer trial (in this procedure the transfer trial involves a transfer to a less prompted response). Anytime a prompt is provided the instructor attempts to fade the prompt further in the next trial. It may look like this.

<b>Instructor /Learner</b>	<b>SD/Response</b>	<b>Correction Procedure</b>
Instructor:	“Point to the chip.”	
Learner:	No response	
Instructor:	“Point to the chip.”	Repeat the SD
Learner:	Points to chip with full physical prompt	Provide the correct answer (prompt with a 0-second delay)
Instructor:	“Point to the chip.”	Transfer trial
Learner:	Points to chip with partial physical prompt or no prompt depending on the learner	
Instructor:	Immediately reinforces if more of an independent response is given.	



The next level of prompt fading is to gradually separate the prompted from unprompted responses with previously mastered tasks (distracters) to which you know the learner will respond correctly, then return to the target to get an unprompted response. This type of correction procedure would only be effective for learners that truly have the skill mastered and can withstand responding to at least 5 demands prior to reinforcement.

Instructor/ Learner	SD/Response	Prompt-Transfer-Distracter Probe Correction Procedure
Instructor:	“Point to the chip.”	
Learner:	No response	
Instructor:	“Point to the chip.”	Repeat the SD
Learner:	Points to chip with full physical prompt	Provide the correct answer (prompt with a 0-second delay)
Instructor:	“Point to the chip.”	Transfer trial
Learner:	Points to chip with no prompt	
Instructor:	“Touch your head “	Distracter
Learner:	Touches head independently	
Instructor:	“Point to the chip.”	Probe
Learner:	Points to chip with no prompt	
Instructor:	Reinforces	

3. **Targets are Mixed and Varied** so that learners stay “on their toes”. SDs are constantly changing so that the learner must attend to the language or the body movement as opposed to operating on auto pilot. Specifically the operants are mixed and varied. It may look like this.

Instructor/ Learner	SD/Response	Operant
Instructor:	“What is it?”	
Learner:	“Car”	Tact
Instructor:	“Say, vroom vroom”	
Learner:	“vroom vroom”	Echoic
Instructor:	“Do this” <i>rolls car</i>	
Learner:	<i>rolls car</i>	Imitation
Instructor:	“Nice work! What do you want to do now?”	
Learner:	“Wash the car”	Mand

The above example could be done in NET or during Intensive Teaching Time (ITT) at the table.

**4. Transfer Trials Across Operants**

Once a learner is successful in providing the correct response within one operant it is then transferred to another operant so that learning is a dynamic process that changes moment by moment. Remember that learners who are diagnosed with autism may be able to talk about an item within one function, but may not generalize the concept across all operants without direct teaching. For example a learner may be able to label (tact) a cookie but not be able to request (mand) one.

<b><u>Mand to Tact</u></b>	
Instructor: "What do you want?"	
Learner: "Chip"	(mand)
Instructor: "What is it?"	
Learner: "Chip"	(tact)

<b><u>Imitation to Receptive</u></b>	
Instructor: "Do what I do" ( <i>stomps feet</i> )	
Learner: <i>Stomps feet</i>	(imitation)
Instructor: "Stomp your feet"	
Learners: <i>Stomps feet</i>	(receptive)

<b><u>Receptive to Tact</u></b>	
Instructor: "Touch the cat"	
Learner: <i>Touches cat</i>	(receptive)
Instructor: "What's this?"	
Learner: "Cat"	(tact)

<b><u>Echoic to Intraverbal fill-in</u></b>	
Instructor: "Say, meow"	
Learner: "Meow"	(echoic)
Instructor: "The cat says _____"	
Learner: "Meow"	(intraverbal)

Things to Remember:

1. Transfer trials should be done quickly and fluently.
2. Transfer trials are flexible and can be done in any order depending on the learner's strengths.
3. Not all responses need to be transferred to another operant.

**5. Intersperse Easy and Hard Tasks**

In order to maintain a reinforcing environment you need to have an 80/20 ratio of easy to hard tasks. **80%** of the tasks should be mastered skills (easy) and **20%** should be acquisition skills (new, more challenging). Remember the acronym DISC. The environment will remain reinforcing depending on how often, how soon, how much, and how consistently the learner is accessing reinforcement.

\_\_\_\_\_ % of the tasks should be mastered skills (easy) and \_\_\_\_\_ % should be acquisition skills (new, more challenging).

6. **Teach to Fluency** Learners need to be able to answer responses in a reasonable amount of time. Think about when you answer the telephone, you say "hello", and then if someone doesn't respond within 2-3 seconds we begin to think that something is wrong. Learners can be taught fluency through two variables: latency and intertrial intervals. Latency is the **time between the end of the antecedent** (question or SD) **and the beginning of the learner's response** (behavior). If a learner doesn't respond within 2-3 seconds, begin the correction procedure. The intertrial interval (ITI) is the **time between the learner's response** and the **instructor's next request**. Keeping instruction fast paced keeps it exciting with many opportunities for reinforcement. Therefore intertrial intervals are desirable.

Latency is the **time between the end of the** \_\_\_\_\_ (question or SD) **and the beginning of the learner's** \_\_\_\_\_ (behavior).

The intertrial interval (ITI) is the **time between the learner's** \_\_\_\_\_ and the **instructor's next request**.

## Shaping

Shaping is the differential reinforcement of successive approximations towards a target behavior. There are times that a learner attempts the response but can only make an approximation. If the instructor waited for the target behavior at that time the learner would probably stop responding all together. We use the procedure of shaping to move the learners' response through successive approximations and then to the target behavior.

Shaping is the differential \_\_\_\_\_ of successive \_\_\_\_\_ towards a target \_\_\_\_\_.

It is helpful to identify possible approximations toward the target behavior. The learner may not follow this path but it is a good way to prepare instructors to recognize and reinforce the next successive approximation when they see it. This is where the differential reinforcement comes in. When the learner makes a response closer to the target behavior differentially reinforce it by giving lots of social praise and more of the reinforcer that you would a less skilled response.

Shaping can be used for skills that can't be prompted such as vocal echoics. For example an echoic shaping procedure could look something like this: The learner is manding for soda. The target behavior is for the learner to say "soda." Currently the learner says a variation of the following sounds to mand for soda: "o", "d", "da". In order to shape the behavior the instructor will require the learner to make the sound, "da" as the first approximation, the next accepted approximation will be "oda", then the learner will be expected to say "soda".

Please note that **shaping is the exact opposite of repetition and drill teaching**. When the learner has given you the correct response, reinforce heavily. There will be certain situations where you may challenge the learner to go to the next approximation, yet there are other times when you may decide to end the session with the strongest response. This would be clinical judgment. In teaching, we like to see the correct response happen again and again because we are so excited to see the new behavior but what can end up happening is that the learner gets bored, tired or annoyed and begins to give a less effortful response. We want to end with the strongest response and if they give it the first time, reinforce heavily and move on to something else!

Please note that \_\_\_\_\_ is the exact opposite of \_\_\_\_\_ and **drill teaching**.

Good instruction is a dynamic creative process that relies on the instructor to constantly evaluate the MO of the learner and then capture and contrive opportunities for him to mand for what he wants so that reinforcement is accessible at all times. Skilled instructors will employ effective teaching procedures to keep instruction fun, fresh, and rewarding. Each program will look different depending upon the personality and skills of each individual learner as well as the creativity of the team. The key to a successful program is to know that the learner can master each skill you attempt to teach. The question you must continually ask yourself is, "Are my procedures going to lead this learner to the correct response and if not what do I need to change?" The most important

key to a successful program is to have fun, stay open minded, and trust the process. The learners' behavior will tell what you need to do next.

## Program Management

### Data Sheets

A daily or weekly data sheet will be utilized to track a learner's performance in mastering individual targets to meet goal criterion. Regardless of the type of data sheet, VB programs incorporate the use of first probe data from cold probes, rather than trial by trial data.

### Cold Probes

Cold probes are taken once a day. A cold probe is the first unprompted presentation of the skill for that day. If the learner does not respond within three seconds the instructor will circle a **P** for Prompt on the data sheet, and of course go through the correction procedure so that the learner does not practice incorrect responding. The skill will be taught throughout the session to increase the likelihood of an independent response the following day. If the learner responds correctly, the instructor will reinforce the learner and circle an **I** for Independent. No additional teaching for this target is necessary during this session.

Once the learner acquires **three consecutive independent responses** across **two weeks** the target is considered mastered and can be added to the maintenance skills.

### Instructor Responsibilities

Before each Session:

- Set up materials needed for NET
- Stock reinforcers

Following each Session:

- Update data sheet- add new targets as appropriate
- Set up ITT runs for the following session
- Update goal sheets, ABLLS, and prepare cards for mastered mix

Weekly:

- Take 1 hour mand count- prompted vs. unprompted
- Prepare 2-3 new NET plans and modify existing plans
- Prepare materials for new goals

**\* See program binder set-up page.**

# Manding

## Begin with Manding

All teaching begins at the mand. Our goal is to have a learner manding hundreds of times throughout the day. The following suggestions should be used with all learners regardless of their communication method.

Teach in the Natural Environment (NET) in the context of reinforcing activities.

Assess if there is an MO (Motivative Operation) for the item/activity. This can be done in a variety of ways. Below are just a few examples:

- Give the learner a small piece of cookie and wait to see if he returns for another.
- Observe the learner gesturing for the cookie
- Observe the learner watching you eat a cookie
- Observe the learner looking at the cookie
- Use the rules of deprivation and satiation to manipulate the MO
- Never prompt learners to mand for an item/activity that they don't want
- Sanitize the environment by making access to the most reinforcing items and activities restricted to manding during sessions
- Be careful not to "kill" the MO by making it difficult. Remember manding should be fun and easy.

Remember that mand training is a shaping procedure which is different than repetition and drill teaching. As soon as the learner gives you the correct response, move on to the next step or incorporate additional targets.

The teaching moment is when there is an MO for the item.

- Aim to capture and contrive hundreds of mands per day
- Give small amounts of items so that they have to ask for more.
- Utilize many and varied reinforcers
- Consider mands mastered once they are generalized across two settings and three people
- Keep track of target mands
- Keep track of spontaneous vs. prompted mands

Increase the learners' reinforcers by using the principle of pairing. Once you have a salient reinforcer, pair it with a neutral object and the object will then take on the properties of the salient reinforcer and become a conditioned reinforcer. For example, take a favorite train and pair it with a plastic doll by having the doll ride on the train. Each time the learner wants to play with the train bring the doll into play. After some time the doll will become a conditioned reinforcer. Then you can shape the learner to mand for the doll separately from the train.

- Be sure to use errorless and VB teaching procedures at all times.
- Use most to least prompting so that the manding is easy and successful for the learner

- Fade prompts as soon as possible
- Watch and listen carefully for approximations
- Say the name of the reinforcer many times (at least 3) during the delivery of the reinforcer. (First, when shown the item to label it, when the learner mands for it and lastly, when the learner comes in contact with the item.)
- Be a giver and not a taker while pairing
- For vocal learners, you can begin teaching mands for all MOs. Use one word (name of the object/action only). It is important that a learner can ask for a wide variety of items and actions before introducing multi word phrases. Other parts of speech (adjective, adverbs, and prepositions) will be added prior to carrier phrases. So we would wait to introduce the following: "please", "Can I have..", "I want a..." , etc.

**Choosing A Communication System:** How to determine which

communication system is appropriate for your learner

Gather information regarding what communication forms and systems have been used in the past. (See intake form)

An advanced Verbal Behavior consultant is needed for this process. The consultant needs to do the following to evaluate the range of communication possibilities for each learner:

1. Capture and contrive the MO of the learner
  - a. Identify strong reinforcers through reinforcer assessment and observation
2. Capture and contrive vocal manding opportunities using reinforcers
  - a. Assess the quality and quantity of the mands that are evoked when using reinforcers
3. Present Intraverbal fill-ins to evoke vocalizations
  - a. Capture and contrive vocal responses during the early Intraverbal fill-ins
4. Evaluate language sample reports from family and professionals
  - a. Approximations, ranges and combinations of sounds
  - b. Quantity of sounds
  - c. Discriminating sounds (e.g. when you say "mom", he says "mmm", when you say "dad" he says "ad")
  - d. Echoic abilities (e.g. if you say "bah", will the learner imitate?)

If questioning whether vocals will be the most effective communication system to begin you may assess ease in acquiring alternative communication systems.

5. Assess motor imitation skills (may indicate/rule out sign)
6. Assess visual performance (may indicate/rule out PECS)



**Vocal Manding Procedures:**

If the learner can echo a word or approximate words, start with the following procedure. Our goal is to shape a spontaneous mand, meaning asking for something when it is wanted, even if it is not present in the environment. (See Daily Mand Data Sheet for Verbal/Echoic Learners)

Example: Learner reaches for a cookie (appears to have an MO for cookie)

**Step 1 (item is present; give verbal SD; echoic)**

Instructor: "What do you want to eat?" "cookie"

Learner: "Cookie"

Instructor: Says, "cookie" as she gives the learner a piece of the cookie. Instructor uses social reinforcement along with the primary reinforcers by saying, "Yeah good job saying cookie" as the learner is consuming the cookie.

**Step 2 (item is present; give verbal SD; fade echoic prompt)**

Instructor: "What do you want to eat?"

Learner: "Cookie"

Instructor: Says, "cookie" as she gives the learner a piece of the cookie. "That's right, you're so smart."

If the learner does not say "cookie" go back to Step 1 and replace echoic prompt. Consider using a partial prompt once your return to Step 1.

**Step 3 (give verbal SD; fade item from view)**

Instructor: Puts the cookies in the closet, behind their back and says "What do you want?"

Learner: "Cookie"

Instructor: Gives the learner a piece of the cookie, says "Cookie, great talking!"

If the learner does not say "cookie" go back to Step 2 and replace item.

**Step 4 (give nonverbal SD; fade verbal SD)**

Instructor: Looks inquisitively at learner.

Learner: "Cookie"

Instructor: Gives the learner the cookie, says "Cookie, super duper job!"

If the learner does not say "cookie" go back to Step 3 and replace question.

**Step 5 (fade nonverbal SD)**

Learner: "Cookie" (spontaneously)

Be sure to use a variety of verbal SDs from the beginning, "What would you like?", "What are you looking at?", "Tell me what you want", "What do you want to eat?", "What do you want to drink?" etc.

Nonverbal SDs: Inquisitive look, shrug your shoulders, 'I don't know' gesture with the hands, expectant look, questioning look, etc...

Also remember to vary your social praise: "Great job!", "Super duper, terrific!", "Give me a high five!", "You are so smart!"

## Echoic Manding Correction Procedure

If the learner is asked "What do you want?" and does not respond within two- three seconds, do an echoic to mand transfer.

Instructor: "What do you want? Cookie"

Learner: "Cookie"

Instructor: "What do you want?"

Learner: "Cookie"

If a learner clearly wants one item (pretzel), but uses an incorrect word (pen), begin the count and mand procedure.

### The Count and Mand:

Learner: (Wants pretzel) Says "Pen"

Instructor: Says "Wait. 1, 2, 3, 4, 5. What do you want? Pretzel"

Learner: Says "Pretzel"

**Sign Manding Procedures:**

Once the MO is established do the following steps:

**Step 1 (item is present; full physical prompt)**

The learner reaches, looks at, or gestures for the cookie.

Instructor: Models the sign for cookie and simultaneously says "cookie".

Instructor: Prompts the learner to sign cookie using full physical prompt and says "cookie".

Instructor: Gives the learner the cookie and simultaneously says "cookie".

At Step 1, use a full physical prompt. When prompting the learner, touch his hands as lightly as possible (but enough pressure to form an accurate sign). A heavy hand can lead to a prompt dependant learner.

Observe if the MO is still present. If it is, proceed to Step 2.

**Step 2 (item is present; fade to a partial physical prompt)**

*(see Appendix H: Helpful Handout on Prompt Fading)*

The learner reaches, looks at or gestures for the cookie.

Instructor: Models the sign for cookie and simultaneously says "cookie".

Instructor: Prompts the learner to sign cookie using a partial physical prompt and says "cookie".

Instructor: Gives the learner the cookie and simultaneously says "cookie".

Here you begin attempting to fade the physical prompt to a partial physical prompt. Begin with lightening the touch of your hand. Then, move your hand further down their arm or away from their body. If the learner does not respond, go back to Step 1 and give a full physical prompt.

**Step 3 (item is present; fade any physical contact to a full model)**

The learner reaches, looks at or gestures for the cookie.

Instructor: Models the sign for cookie and simultaneously says "cookie".

Learner: Signs "cookie" while instructor says "cookie".

Instructor: Gives the learner the cookie and simultaneously says "cookie".

When beginning this step pause for 2-3 seconds to encourage the learner to sign independently. Accept close approximations of the sign. Over time you can shape the accuracy of the sign. The most important thing at this point is for the learner to understand is that he is expected to make the sign/approximation independent of your touch. This is the most challenging step of shaping signs. The instructor must use clinical judgment to determine what approximations to accept. If the learner does not respond, go back to Step 2 and give a partial physical prompt. If the learner continues to not respond, examine your teaching procedures and discuss with your consultant.

**Step 4 (item is present; give verbal and nonverbal SD)**

The learner reaches, looks at, or gestures for the cookie.

Instructor: Says "What do you want?" and gives '*I don't know*' gesture with hands.

Learner: Signs "cookie" while instructor says "cookie".

Instructor: Gives the learner the cookie and simultaneously says "cookie".

After asking "What do you want?", pause for 2-3 seconds to encourage the learner to sign independently and reinforce the sign. If the learner doesn't produce the sign, go back to Step 3 and model it.

Be sure to use a variety of verbal SDs from the beginning, "What would you like?", "What are you looking for?", "Tell me what you want", "What do you want to eat?", "What do you want to drink?" etc.

Nonverbal SDs: Inquisitive look, shrug your shoulders, '*I don't know*' gesture with the hands, expectant look, questioning look, etc.

Also remember to vary your social praise: "Great job!", "Super duper, terrific!", "Give me a high five!", "You are so smart!"

**Step 5 (give verbal and non verbal SD; fade presence of the item)**

Cookies have been given at Step 4 and instructor begins to fade presence of cookies.

Instructor: says "What do you want?" and gives '*I don't know*' gesture with hands

Learner: Signs "cookie"

Instructor: Says "cookie".

Instructor: Gives the learner the cookie and simultaneously says "cookie".

Fade the presence of the item by putting it behind your back, under the table etc. If you do not get a response go back to Step 4 and then fade presence of item more gradually.

**Step 6 (fade verbal and nonverbal SD)**

Learner: Signs "cookie"

Instructor: Says "cookie".

Instructor: Gives the learner the cookie and simultaneously says "cookie".

## **Sign Manding Correction Procedure**

Scrolling is when the learner has a MO for one item but signs the wrong sign or a combination of signs. When this happens use the following correction procedure:

Learner: (Wants pretzel) Signs "Pen".

Instructor: Place the learner's hands in a neutral position. Say, "Wait. 1, 2, 3, 4, 5 (up to 10 seconds if appropriate). What do you want?" Prompts sign for pretzel (use appropriate prompt level).

Learner: Signs "Pretzel"

## Choosing First Signs

Do not teach “potty”, “yes”, “no”, “more”, “help”, “please”, “give me” or other non-specific signs to an early learner. The learner should have a good signing repertoire before teaching these.

- It is important that the learner does not become frustrated. Manding should be easy and produce a high level of reinforcement.
- Remember that prompt levels may change from moment to moment with some signs. If yesterday the learner only needed a model prompt and today that is not evoking the sign (and you are sure the learner is motivated for the item) then use a physical prompt.
- Do not choose signs that are topographically similar. Initial signs should look very different from each other (e.g. cracker (you had “eat” here, but that is a generic mand) and train).
- Use signs from different motivational categories (eg: food, activities, toys).
- For the learner that has trouble discriminating between signs, isolate each sign in its own specific location and then generalize later (e.g. bathroom, playroom, kitchen).
- If the learner has weak or no motor imitation, start teaching at least 3 signs and no more than 8 signs. Never teach only one sign.
- If the learner has a fairly strong mimetic (motor imitation) repertoire you may be able to begin teaching as many as 10-20 signs. If the learner has an extremely strong mimetic repertoire (near perfect motor imitation) you may be able to begin teaching signs for all the learner’s reinforcers.
- Use as light of a touch as possible when prompting a learner using hand over hand guidance. Then be sure to fade it as soon as possible within that session. If your touch is too heavy it can lead to prompt dependency.
- Keep in mind that even though sign is being used as communication, the ultimate goal is for the learner to speak. One of the ways to evoke language is to use the Automatic Reinforcement Procedure. For any items that the learner wants which are not target signs to be taught, repeat the name of the item three times while delivering the item. Do not require any response from the learner.

This will help:

- To produce vocalizations if they are going to come, through the effects of Automatic Reinforcement (Stimulus-Stimulus Pairing).
- Modify signs if needed so that they are easy for the learner to acquire. Remember that we are using sign language to get closer to vocal verbal language. Static gross motor movements are the easiest for learners to acquire. The most important thing to remember is that we want the learner to experience success while working with us so that working with us is reinforcing. For some ideas on sign and modified signs see the following websites:

**[www.commtechlab.msu.edu/sites/aslweb/browser.htm](http://www.commtechlab.msu.edu/sites/aslweb/browser.htm)**

**[www.simplifiedsigns.org](http://www.simplifiedsigns.org)**

A recommended sign language dictionary is The Comprehensive Signed English Dictionary published by Gallaudet University Press.

- When teaching signs, it is best to have the fewest number of people possible working on the signs. Limit the number of instructors teaching signs to three or fewer so that the learner does not get confused. When working with shaping procedures, it is common for each instructor to do it slightly differently despite their best efforts to teach the same way.

If the school is going to be incorporating signs that are initially being taught at home, wait until the sign is mastered at home before generalizing to a new environment with different instructors to avoid confusion for the learner.

**PECS Manding Procedures**

The first goal is to establish 5-10 PECS that will be used as mands. Don't teach one in isolation or else it could turn into a mand for more.

Once the MO is established do the following steps:

**Step 1 (item is present; full physical prompt)**

The learner reaches, looks at or gestures for the cookie.

Instructor: Acknowledges the MO and says "cookie".

Instructor: Prompts the learner to reach, pull off, and hand over the picture symbol using a full physical prompt and says "cookie".

Instructor: Gives the learner the cookie and simultaneously says "cookie".

At Step 1 use a full physical prompt. When prompting the learner, touch his hands as lightly as possible. A heavy hand can lead to a prompt dependant learner. Be sure to give the learner a small piece of the cookie so that he will want more.

Observe if the MO is still present. If it is, proceed to Step 2.

**Step 2 (item is present; fade to a partial physical prompt)**

The learner reaches, looks at or gestures for the cookie.

Instructor: Models the sign for cookie and simultaneously says "cookie".

Instructor: Prompts the learner to reach, pull off, and hand over the picture symbol using a partial physical prompt and says "cookie".

Instructor: Gives the learner the cookie and simultaneously says "cookie".

Here you begin attempting to fade the physical prompt to a partial physical prompt. Begin with lightening the touch of your hand. Then, move your hand further down their arm or away from their body. If the learner does not respond, go back to Step 1 and give a full physical prompt.

**Step 3 (item present; give verbal and nonverbal SD; fade all physical prompts)**

The learner reaches, looks at or gestures for the cookie.

Instructor: Says "What do you want?" and gives 'I don't know' gesture with hands

Learner: Gives picture symbol

Instructor: Says "cookie".

Instructor: Gives the learner the cookie and simultaneously says "cookie".

After asking "What do you want?", pause for 2-3 seconds to encourage the learner to give picture independently. If the learner doesn't, go back to Step 2.



Be sure to use a variety of verbal SDs from the beginning, “What would you like?”, “What are you looking for?”, “Tell me what you want”, “What do you want to eat?”, “What do you want to drink?”, etc.

Nonverbal SDs: Inquisitive look, shrug your shoulders, ‘*I don’t know*’ gesture with the hands, expectant look, questioning look, etc.

Also remember to vary your social praise: “Great job!”, “Super duper, terrific!”, “Give me a high five!”, “You are so smart!”

**Step 4 (give verbal and non verbal SD; fade presence of the item)**

Cookies have been given at Step 3 and instructor begins to fade presence of cookies.

Instructor: says “What do you want?” and gives ‘*I don’t know*’ gesture with hands

Learner: Gives picture symbol

Instructor: Says “cookie”.

Instructor: Gives the learner the cookie and simultaneously says “cookie”.

Fade the presence of the item by putting it behind your back, under the table etc. If you do not get a response go back to Step 3 and then fade presence of item more gradually.

**Step 5 (fade verbal and nonverbal SD)**

Learner: Gives picture symbol

Instructor: Says “cookie”.

Instructor: Gives the learner the cookie and simultaneously says “cookie”.

**PECs Manding Correction Procedure**

Learner: (Wants pretzel) Gives "Pen" picture.

Instructor: Place the learner's hands in a neutral position. Replace picture in field. Say, "Wait. 1, 2, 3, 4, 5 (up to 10 seconds if appropriate). What do you want?" Prompts picture exchange for pretzel (use appropriate prompt level).

Learner: Gives "Pretzel" picture

Instructor: Gives pretzel to learner

## Suggestions when Using PECs

- If possible, have two instructors. One in front of the learner and one prompting from behind the learner.
- Teach the symbol on it's own for the first presentation. When teaching for the first time, remember to begin with a full physical prompt. As soon as the learner can independently hand you the symbol move on to the next step.
- Put a distracter in (a symbol that you know the learner will not want). Again this is a new skill so begin with a full physical prompt. After the initial learning session, if learner requests the distracter give it to them.
- Now give the learner a choice of two items that they may actually want. Be sure to only present the items that you have taught.
- Fade the prompt of the out stretched hand.
- When appropriate gradually move away from the learner so that the learner has to come to you to get the desired item.
- Gradually teach the learner to request other desired items or activities, there by increasing the size of the field the learner must request from.
- Keep the symbols in a place where the learner has access to them such as a wall in a room or a notebook that can travel with the learner.
- Teach across many people and settings.
- Wait until you have a significant number of mands at an independent level before you extinguish a PECS symbol to shape it into sign
- Utilize the Automatic Reinforcement Procedure (APR)/ Stimulus- Stimulus Pairing to evoke vocalizations while utilizing the picture exchange for mands. (see the next section for more information about ARP).

## Four Ways to Vocalizations

The following methods can be used to assist teaching non-vocal learners. For some learners, all four may be used simultaneously while other learners may only benefit from some.

**Mand Training** –teaching the learner to ask for what he wants using signs or pictures symbols. (See the manding section for more information)

**Automatic Reinforcement Procedure (ARP)/ Stimulus-Stimulus Pairing**-saying the item or activity that the learner wants three times as it is delivered.

**Differential Reinforcement of words or word approximations**-reinforcing some words or sounds while ignoring others.

**Vocal Imitation (Echoic) teaching**-using the Kauffman teaching procedures to present syllables that the learner can produce.

Determining what, when, and how to apply a procedure is a clinical decision based on the unique skills of the learner.

### **Mand Training :**

Teach the learner to mand using any communication method while pairing the word with the delivery of a reinforcer. Manding is a process that pairs communication and reinforcement. One of the most important aspects about mand training is for the instructor to emphasize vocalizations especially when using sign and PECS. (See manding section for more detailed information).

**ARP/ Stimulus-Stimulus Pairing:** Stimulus-Stimulus Pairing is a procedure used to add new sounds and words into the learners' repertoire. It is effective due to the principles of Automatic Reinforcement. The learner will want to make the sounds that were presented during the training session because it is automatically reinforcing to reproduce and hear a sound that is a reinforcer. (The sound itself is a conditioned reinforcer because it has been paired with all the items and activities that the learner enjoys.)

Learners who don't make a lot of speech sounds will benefit from this. Each time the learner babbles, the sounds are paired with abundant reinforcement. Specific sounds are targeted and paired with lots of different reinforcing stimuli so that the sound is not paired with one stimulus but simply brought into the learners' repertoire.

This procedure can be also used in conjunction with mand training so that one sound is paired with one stimulus. For example: each time you blow bubbles you say "buh", and each time you jump you say "um" etc... Eventually you would shape these sounds into the words but this is a good procedure to use for learners who do not yet have the motor coordination to pronounce words.

While many behavior analysts have found this to be a highly effective procedure (Carbone, Sundberg, etc.) this is still in an experimental stage. For this reason a significant amount of time should not be set aside to do this. It will vary from case to

case but plan to spend approximately 5-10% of the session doing this. No more than 2-5 times in 2-3 minute durations in the entire program.

- a. While planning activities remember that **gross motor play helps** to elicit sounds.
- b. Be sure to say the sound when it is most valuable. Ex: if you are tossing stones in to the water and the learner loves the part when it splashes be sure to say the sound as it is splashing
- c. It is ok to present sounds after a student has manded for an item or activity.
- d. Be sure not to stop when you hear the sound---that would punish the learner for making the sound—be sure to give more at that time.
- e. Before you begin this procedure, be sure to take a language sample so that you know that you are targeting sounds that are not yet in the learner's repertoire.

### **Differential Reinforcement of words or word approximations:**

This is for learners who make some speech sounds or have some form of communication. Differential Reinforcement is a procedure that can be used with many behaviors. In this instance we are using differential reinforcement to shape verbal communication. This consists of extinguishing one behavior while shaping a more advanced behavior.

Once the learner has mastered a few signs and their signing repertoire is strong and consistent, delay reinforcement to give the learner the opportunity to make a vocalization. It is important that the sound has been paired many, many times before beginning this procedure. It may look like this:

*Learner: Signs "cookie"*

*Instructor: Says "cookie"* (instructor pauses before giving reinforcement to allow the learner to make a vocalization for cookie. If the learner does not make a sound give the reinforcer anyway, but not as much if they would have made the sound.

For a learner who is approximating the sound, differential reinforcement can be used to get a more accurate pronunciation of the word.

*Learner: Says "coowie"*

*Instructor: Says "Cookie"* (instructor pauses before giving reinforcement to allow the learner to make a better vocalization for cookie. If the learner does not improve after up to 3 presentations of the correct pronunciation, give the reinforcer anyway but not as much if they would have made the sound.)

1. As soon as the learner echoes the sound, reinforce abundantly. When beginning this procedure with a learner, reinforce the learner for any sound to increase the sounds so that they can then be shaped into the target sounds.
2. If the learner doesn't echo the sound after the 3<sup>rd</sup> presentation, reinforce anyway but not as much as you might if he echoed back the target sound. For example, giving him half of a cookie serving versus a whole cookie serving. (Remember to prepare the edibles in small servings so as not to satiate the learner).
3. Once you are shaping to the target sound, if the learner emits any other sound during your first presentation of the target sound, continue up to the 3<sup>rd</sup> presentation to

attempt to achieve the target. Reinforce anyway if the target is not achieved, but not as much as you would if it had been achieved.

4. Consider presenting the sound more than 3 times if the value of the reinforcer does not seem to diminish.

This procedure could be used in conjunction with the Kaufman echoic procedure. Delaying the reinforcement for the sign could extinguish that sign. So be sure that the learner has a strong signing repertoire before doing this.

Helpful Hint: Be sure that your hand moves toward the learner as you say the name of the item. A common mistake is to stop your hand or even move it backwards as you are anticipating the vocalization.

### **The Kaufman Method**

Teach vocal imitation using a word and sound simplification system based upon the work of Nancy Kaufman, SLP.

The Kaufman method was originally developed for children diagnosed with childhood apraxia. Learners who are apraxic do not yet have the ability to execute oral-motor movements in order to combine the consonants and vowels necessary to form words. The Kaufman method simplifies the process so that the learner can begin speaking by using word approximations using the consonants and vowels already in their repertoire. As in all shaping procedures, successful approximations are reinforced. When using this procedure with mand training, the learner is additionally rewarded by the listener's comprehension and receiving what it is they are asking for. Through shaping, cueing, and fading techniques, learners will achieve the target behaviors of whole words, phrases, and sentences.

1. Conduct the Kaufman assessment and choose targets.
2. At the beginning of the session, show the learner what he can work for.
3. Have at least two different reinforcers to differentially reinforce.
4. Begin at the level where parity was last achieved.
5. Run up and down the shells.
6. Utilize simple motor movements prior to the target.
7. Present easy words within the same syllable form prior to target.

## Natural Environment Teaching (NET)

Natural Environment Teaching is where the learner acquires new skills through play. At least 50% of a learner's session time should be spent in Natural Environment Teaching, with many learners spending 100% of their session time in NET until foundational early learner skills are developed. NET is built around the learner's current MOs and the skills that a learner is currently working on are incorporated into the NET plan. For most learners, this means at least a combination of mands, receptive, and motor imitation tasks. For others echoics, tacts, and intraverbals will be included. Additional goals may be included based on a learner's individual profile.

At all times during NET, the instructor is either teaching new skills or is pairing new items that will lead to another activity in the near future. When an instructor has become an adept NET planner and the learner is able to accept new items easily into play, both teaching and pairing may occur simultaneously during the same NET lesson. If a learner wants to engage in water play during NET, the instructor may work on shaping mands for water wheel, pour, and splash while maintaining mands for water, receptive demands of drop and scoop, and motor imitation with objects. The instructor may also introduce new tools that could be used with sand as well as water such as a funnel and a bucket.

NET webs or trees can be helpful to get a visual picture of the types of activities a learner engages in and what activities are on the horizon. Without introducing new activities that are becoming reinforcing, it will be impossible to teach new skills while keeping the learner's MO in focus. An example of a NET web/tree may look like this:

Play-doh		Bounce house		Blanket rides	
Birthday cake	zoo animals	Ball play	hopscotch	swing	viewmaster

In the above example, play-doh is leading to birthday cake and zoo animals. The learner may currently enjoy rolling and patting play-doh, may request play-doh and different colors of play-doh, and may like to push items into the play-doh to make impressions. The instructor may teach additional targets in the play-doh activity such as different motor imitations, requests for long or short rolls of play-doh to make snakes, requests for opening the containers, and receptive transfers from any of the motor imitations. The instructor will also introduce the birthday cake into the play-doh, perhaps making play-doh treats to decorate the cake and singing the birthday song. The instructor will also introduce animal cookie cutters and begin animal sounds, perhaps including edible reinforcers that would be fed to the animals and given to the learner to reinforce his engagement with the new materials. After the birthday aspects of play-doh are reinforcing, the instructor will need to separate the activities so that the learner can either choose play-doh or play with the birthday cake set. In this way, the learner now has two reinforcing activities where he previously had only one. Then additional activities would be paired with birthday cake, such as tea party and musical chairs, so that the number of activities in which a learner engages is constantly expanding.

NET plans are developed for each reinforcing activity to guide this process. Please see a blank NET plan. To develop a NET plan, follow these steps:

- Determine a name for the activity (how will the learner mand to engage in the activity).
- Write a brief explanation of what is entailed in the activity so that another person could follow the plan if needed.
- List the words, phrases, actions, etc that the child will engage in as part of the activity. In order to have enough of an activity so that teaching can occur fluidly, use the following as minimum guidelines: 10 mands, 10 tacts, 5 receptive, 5 motor imitation, and 5 FFC (when appropriate).
- List what skills (operants) will be taught with those words, phrases, or actions. For example if *red* is listed as a word, it would be taught as mand/receptive/tact in most cases because you would want the learner to mand for *red*, give you *red* when you asked for it, and tact *red* when you asked "What color is this \_\_\_\_\_?"
- List the reinforcing items that will be brought into the activity. If the child likes water, it may be a reinforcing item to be brought into a hair salon role-play activity. Other reinforcers might include edibles such as lollipops and a preferred video like they have at Cartoon Cuts.
- List the neutral items that you are going to pair with the existing reinforcers which should become reinforcing as the activity becomes or continues to be reinforcing. For example, in the hair salon activity- a cape may be a neutral item to be paired. Likewise, a swivel chair and magazine could be other neutral items.
- Determine at least 2 upcoming activities that you want to develop as a result of the pairing involved in the current activity. From the hair salon example, superhero play (using the cape) and reading magazines could be two additional activities that could jump off from the current one.



## **Challenging Behaviors**

Most maladaptive behaviors can and should be eliminated through effective teaching procedures. If maladaptive behaviors persist, a thorough assessment of a child's learning history is needed to effectively plan an intervention. Below are some techniques to consider. The procedures should not be run without consultant's and family's approval.

The following procedures were taken from documents created by Vincent Carbone, PhD., BCBA

### **The Count and Mand**

The Count and Mand procedure is used when the learner is trying to access a reinforcer (that is available to them) through disruptive behavior. For example, you are willing to turn on the video but the learner is banging his head and gesturing for you to turn on the video. You would not want to reinforce that way manding for the video so you would do the following:

1. Tell the learner to "stop" the behavior (ex: stop hitting your head, no hitting, quiet hands etc).
2. Start counting to ten out loud and using your fingers.
3. If the disruptive behavior continues, restart your count.
4. If the learner leaves the room, stop counting. Do what ever you were doing before but be sure not to follow the learner.
5. When you get to the count of ten without the disruptive behavior, prompt the learner to appropriately mand for the item or activity.
6. Reinforce the learner with the item or activity.
7. Capture the MO to run mand trials.

### **Walk and Peel (in the home)**

The Walk and Peel procedure is used when the learner wants something that they can't have at that time. For example the learner wants to eat his fourth slice of pizza.

1. Tell the learner "no". If he accepts it, reinforce him.
2. If a disruptive behavior occurs, walk away.
3. If the learner is in danger of hurting himself or destroying property, return to provide protection without speaking or making eye contact, and then walk away again.
4. If the learner tries to pull you, *peel* away from the learner and attend to something else.
5. When disruptive behavior stops, return and redirect.

### **Walk and Peel (in school or in the community)**

1. Tell the learner "no". If he accepts it, reinforce him.
2. If problem behavior occurs, place a compliance demand on the child specific to the setting. If in school, direct learner to the next activity or run some contrived compliance trials. Provide no reinforcement for compliance within the trials.
3. **DO NOT REDIRECT TO FUN ACTIVITY!**
4. Use a "promise" reinforcer to reward the learner for transitioning to where you want him to go.

## Wait Program

**Objective:** To reduce problem behavior used to obtain items and activities.

**Candidates For This Program:** Following a functional assessment, learner's whose behavior has been determined to be a function of obtaining items and activities and attention through problem behavior **when the reinforcer manded for or desired is not delivered immediately, and you ask the child to wait.**

### Procedures

#### WHEN THE BEHAVIOR OCCURS DURING DAILY ROUTINES:

1. Tell child "You'll have to wait" or some similar phrase based upon the child's skill level - begin counting aloud and show the passage of time by using your fingers. You will say "wait" one, two, three..." as you hold up your fingers. (count will vary depending on child)
2. If child stops crying for the entire interval while you are counting, deliver the reinforcer.
3. HOWEVER, if at all during the count interval, the child continues to cry, you will have to start your count all over again. For example, "wait" one, two, "wait", one, two, three, "wait", one, two etc" Continue this process until the child has stopped crying for the entire interval and you can therefore reinforce. However, if you repeat the count for many trials without reaching the count, then discontinue by merely walking away without comment AND THE OPPORTUNITY TO RECEIVE THE REINFORCER BY WAITING IS NO LONGER AVAILBLE TO THE CHILD. IF THE LEARNER MOVES AWAY FROM YOU, ENSURE HIS/HER SAFETY BUT DO NOT FOLLOW. IF AND WHEN HE RETURNS TO YOU WITH PROBLEM BEHAVIOR, CONTINUE THE PROCEDURE. IF HE DOES NOT RETURN AND TIME DICTATES IT IS NECESSARY TO MOVE TO A NEW ACTIVITY, THEN MERELY CARRY ON AND THE OPPORTUNITY TO COUNT AND MAND IS NO LONGER AVAILABLE.
4. Fade the counting to mark the wait interval. Fade to just saying "wait for (state period of time)"

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- Set up many opportunities per day for the child to learn this important skill while you are continuing to teach appropriate manding for reinforcers.
  - Build the motivation for a reinforcer and when it is clear that the learner wants the item or actually mands for it, tell him or her to "wait" and run the procedures above.
  - Slowly build the length of the wait period.
  - Record data on the attached data sheet.

## Transition/Interruption Procedure

**Objective:** To replace problem behavior that has been acquired when problem behavior has resulted in the removal of demands to transition to another activity and thereby the learner has maintained possession of a toy, activity or item.

**Candidates for this Program:** Following a functional assessment, learner's whose behavior has been determined to be a function of a history of having demands removed and reinforcing items maintained following problem behavior.

### WHEN THE BEHAVIOR OCCURS DURING DAILY ROUTINES

1. Approach the child (within 3-5 feet) and ask the child to leave that activity and comply with a demand to do something else (e.g. time to put away the toys and come to the dinner table). The demand can vary from simply sitting in a chair to completing a simple task. (This will vary depending on the child.)
2. You may have to use a promise reinforcer if you are working with a child who has a strong history of being reinforced for engaging in problem behavior. This means that you will place the demand to transition while showing and informing the child of the reinforcer available for transitioning without problem behavior.
3. If the child complies and does not engage in any problem behavior, reinforce by delivering the reinforcer promised and deliver other reinforcers as needed to maintain the learner in the present activity.
4. If the learner engages in problem behavior as soon as you request the transition, you must not remove the demand or allow access to the preferred item or activity the child is being asked to give up. In addition, remove the promised reinforcer. Instead, keep the demand on the learner and use physical guidance to obtain compliance with the demand. In some cases, an additional consequence (e.g. contingent effort procedure) may be necessary as well.
5. Begin delivering appropriate reinforcers in the activity transitioned to with physical guidance when problem behavior has stopped for a brief period of time.

### PRACTICE SESSIONS TO LEARN TO BE INTERRUPTED/TRANSITION

1. Set up many opportunities each day to teach the learner to be interrupted and transition to a less preferred activity.
2. Start the practice session by placing the learner in a preferred activity and allow some time for the reinforcing value of the activity to build.
3. Determine the demand to transition to a less reinforcing activity that you will soon place on the learner.
4. At first, make the demands during practice easy and relatively effortless, within sight of the reinforcing activity just removed and for only a brief period, e.g. count of 10 once in the less preferred activity.

5. An example might be to ask the learner to put down a toy and sit in a chair just 3 feet from the activity for the count of 10 with the offer of a promise reinforcer.
6. The reinforcer for complying will be the delivery of the promise and the opportunity to immediately return to the preferred activity following the count of ten (10).
7. If the learner engages in problem behavior as soon as you request the transition, you must not remove the demand or allow access to the preferred item or activity the child is being asked to give up. In addition, remove the promised reinforcer. Instead, keep the demand on the learner and use physical guidance to obtain compliance with the demand. In some cases, an additional consequence, (e.g. contingent effort procedure) may be necessary as well. If this is necessary, a complete explanation will be provided with your individualized program.
8. When the child has mastered transitioning/complying with a few demands, begin to increase the number of demands, the distance from the reinforcing activity and the length of time in the non-preferred activity. How you do this will vary depending on the child and the data obtained once the program is implemented. The data is what will ultimately guide your decision making process on increasing parameters of the demand.
9. It will be necessary to fade the counting procedure and any other stimuli you have used to make the transitions easy at first.
10. Run many trials of this program each day and record the learner's responses on the Interruption/transition data sheet.

## Toilet Training

Teach toileting as a routine task that occurs throughout the day. Include all components that will be part of the entire routine (clothing arrangement, hand washing, flushing, etc).

Determine a schedule. For children who will be wearing underwear, a 30 minute schedule is probably most appropriate to start. Children who will be wearing pull ups or diapers may be able to start on a 1 hour schedule. At the scheduled times, have the child sit on the potty or adult toilet for 3 to 5 minutes. If the child does not void, continue through the routine and transition to another activity. If the child voids, reinforce the child and then continue through the routine and transition to another activity. When establishing toileting behaviors, the reinforcement given should be something that the child does not get at other times, should be contingent on actually voiding, and should be given immediately (within a few seconds). The child's reaction will determine whether the reinforcer provided is meaningful to them. Gradually, the reinforcement for voiding can be faded to social praise, then to praise after completing more of the routine.

Pair the bathroom with reinforcement. The bathroom should be a relatively pleasant place to be. This can be done in many ways: put a portable video player in the bathroom, have a few books or toys available for the child to interact with while sitting, etc. After the child is comfortable in the bathroom, these items can be removed gradually, if appropriate.

(Think about adults- many adults have books, newspapers, etc. in the bathroom). Depending on the child's history with toileting, it may be easier for them to transition to the bathroom while maintaining access to the same reinforcing activities they have been engaging in prior to going to the bathroom rather than having to stop an activity completely prior to going. For example, if a child is popping bubbles, the bubbles can continue to be used throughout the transition as they follow small directions and are seated on the toilet.

Allow the child to be as independent as possible in the bathroom. Children will initially need a great number of prompts to complete the routine. Give one verbal prompt for each step that the child can currently be expected to perform without physical assistance and then allow them time to complete the step. Provide physical assistance for other steps or when needed. Reinforce the child for completing newly independent parts of the routine. When the child is sitting, fade your physical presence gradually over time. This is important so that the child will eventually be completing the routine by himself, as is most socially appropriate.

If the child is showing signs of readiness for the bathroom at times other than at the scheduled times, trust your instincts and take them. If they are requesting the bathroom, but then not voiding, consider whether the bathroom may have become too reinforcing of a place. Keep bathroom times brief and routine.

Take data on this toileting behavior so that you know if the child is successful and in what pattern. Toileting data sheets can be obtained from the consultant or from the Trellis website.

## Glossary

**Acquisition-** The addition of new behavior to a person's repertoire. The behavior may be a discriminated operant, a topographically complex operant, a conditional reflex relation, or the performance controlled by a schedule; thus, the term may refer to the change in performance caused by any change in contingencies.

**Antecedent-** An event that occurs before a behavior.

**Apraxia-** Inability to carry out motor activities (including speech) despite intact comprehension and motor function.

**Applied Behavior Analysis-** The study of the antecedent conditions and reinforcement contingencies that control behavior.

**Autoclitic-** A unit of verbal behavior that depends on other verbal behavior for its occurrence and that modifies the effects of that other verbal behavior on the listener. Descriptive autoclitics involve discriminations of one's own behavior, as when the word not depends on a mismatch between what one is inclined to say and the appropriateness of saying it; including not in the statement cancels some of its effects on the listener. Relational autoclitics involve verbal units that are coordinated with other units in such a way that they cannot stand alone, as when plurals depend on quantitative features of events or grammatical tenses depend on temporal features; novel verbal behavior is sometimes the product of novel combinations of such units occasioned by novel circumstances.

**Backward Chaining-** A procedure in which the last response in a behavior is taught first and the first response is taught last.

**Baseline-** The period of time during which a behavior is observed and measured prior to an intervention or training.

**Behavior Modification-** Changing of behavior. While all teaching could be seen as behavior modification, the term usually refers to (1) the explicit use of reinforcers to change behavior (as in a token economy), or (2) clinical uses of respondent conditioning, such as "desensitization" or "aversion therapy."

**Behavioral Assessment-** The attempt to (1) define the target behavior; (2) identify functional relations between the target behavior and its antecedents and consequences; and (3) identify an effective intervention for changing the target behavior.

**Chaining** -Shaping complex behaviors with many components.

**Conditioned Response-** In classical conditioning, response that originally followed a natural stimulus but that now follows a conditioned stimulus.

**Conditioned Stimulus-** In classical conditioning, previously neutral stimulus that when

paired with a natural stimulus becomes itself sufficient to elicit a response.

**Consequence-** An event that occurs after a behavior.

**Delayed Imitation-** Imitation may occur when a model is present, or it may be delayed for some time after the model is absent. Delayed imitation is often taken as a more complex form of imitation since it involves remembering the modeled stimulus, rather than direct stimulus control.

**Delayed Matching-to-Sample-** On a matching-to-sample task, the comparison stimuli are presented some time after the sample stimuli are turned off. See also matching to sample.

**Deprivation-** Deprivation will increase the value of a reinforcer because the person hasn't had the item for a while.

**Differential Reinforcement-** A procedure that can be used as long as the following three elements are present: (1) two or more physically different behaviors occurring in one situation are involved; (2) one behavior is reinforced, (3) the other behaviors are extinguished.

**Discriminative Stimulus (SD) -** A stimulus that sets the occasion for a response to occur because it has been associated with reinforcement.

**Duration-** The time between the beginning of a response and the end of that response.

**Echoic-** When there is point-to-point correspondence between the stimulus and response, verbal behavior may be classified as echoic. A further requirement is that the verbal stimulus and the echoic response must be in the same mode (auditory, visual, etc.) and have exact physical resemblance (e.g., same sound pattern).

**Errorless Learning-** Learning which proceeds through a carefully designed sequence of small steps, so that probability of an incorrect response is minimalized. The need for aversive consequences is thereby reduced, as well as the possibility of accidental reinforcement of incorrect responses.

**Extinction Burst-** A temporary increase in the rate and intensity of various responses (the target behavior, aggression, crying, and or other more positive behavior previously followed by the reinforcer) immediately after the cessation of reinforcement or the introduction of extinction.

**Extinction-**The withholding of a reinforcer that has been sustaining or increasing a behavior.

**Fading-** The temporary use of a prompt to establish a specific discrimination. You gradually withdraw the prompt.

**Fixed Ratio Schedule of Reinforcement-** When a reinforcer is delivered after a fixed

number of responses. This schedule produces a steady, high rate of response with pauses after reinforcement

**Forward Chaining-** A procedure in which the first response in a behavior is taught first and the last response is taught last.

**Generalization-** The occurrence of a particular behavior (or behaviors similar to it) in a situation in which training has not taken place.

**Graduated Guidance-** The combined use of physical guidance and fading, resulting in a systematic gradual reduction of the intensity of physical guidance.

**Imitation-** The response of matching a behavior to a model.

**Instructional Control-** Becoming associated with the delivery of reinforcers (pairing) and developing a history of reinforcing compliance to your instruction.

**Intermittent Reinforcement-** A schedule of reinforcement in which some, but not all, of the occurrences of a response are reinforced.

**Interresponse Time (IRT)-** The time between the end of a response and the beginning of another response.

**Interval Schedule of Reinforcement-** A schedule in which some minimum time must elapse before a response is reinforced; early responses have no effect.

**Intraverbal-** One of the nine verbal operants defined by B.F. Skinner. Answering questions or having a conversation. A response to and relates to what another person said and the item or action in discussion is NOT present.

**Latency-** The duration of time between a stimulus and the beginning of a response.

**Learning History-** All the environmental events (antecedents and consequences) that have affected a person's behavior up to the present.

**Mand-** One of the nine verbal operants defined by B.F. Skinner. Verbal behavior which primarily reinforces the "speaker". Commands, requests, and gestures for someone else to do something are all mands because the compliance of the "listener" primarily reinforces the "speaker".

**Match to Sample-** A task in which a learner selects from two or more alternatives the stimulus that matches or corresponds to a standard or sample.

**Modeling-** Process of learning behaviors by observing and imitating others, especially authority figures or those like oneself.

**Negative Reinforcer-** A stimulus that when withdrawn/removed after a behavior,



increases the rate of the behavior.

**Operant-** A class of responses defined by a functional relation with a class of common environmental effects.

**Operant Behavior-** A response that is voluntary and operates on the environment, modifying it so that a reward or goal is attained.

**Operant Conditioning-** A way of learning in which behaviors lead to consequences that either reinforce or punish the learner. The result leads to an increased or decreased probability of a future response.

**Primary Reinforcer-** A stimulus that when presented after a behavior, increases the rate of the behavior.

**Prompt-** An added stimulus that increases the probability that a person will make the correct response in the presence of a novel stimulus.

**Reinforcement-** An event, a circumstance, or a condition that increases the likelihood that a given response will recur in a situation like that in which the reinforcing condition originally occurred.

**Satiation-** The state that occurs when a reinforcer has been presented to the point that it is no longer effective in increasing or maintaining behavior.

**Shaping-** The reinforcement of successive approximations of a target behavior to produce a behavior that is currently not in the student's behavioral repertoire.

**Successive Approximations-** A series of responses that more closely resemble the specified target behavior.

**Tact-** One of the nine verbal operants defined by B.F. Skinner. Labeling or identifying something that is in sight such as objects, actions, events, relations, properties, etc.

**Task Analysis-** The process of defining all the steps necessary for a learner to complete a task.

**Unconditioned Stimulus-** In classical conditioning, stimulus that naturally elicits a reaction, as food elicits salivation in dogs.

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