

## Discrete Trial Training (DTT) ---EBP Brief Packet---

### Components of the EBP Brief Packet...

This evidence-based practice overview on Discrete Trial Training (DTT) includes the following components:

1. **Overview:** A quick summary of salient features of the practice, including what it is, who it can be used with, what skills it has been used with, and settings for instruction.
2. **Evidence-base:** The *DTT Evidence-base* details the NPDC criteria for inclusion as an evidence-based practice and the specific studies that meet the criteria for this practice.
3. **Step-by-Step Guide:** Use the *DTT Step-by-Step Practice Guide* as an outline for how to plan for, use, and monitor DTT. Each step includes a brief description as a helpful reminder while learning the process.
4. **Implementation Checklist:** Use the *DTT Implementation Checklist* to determine if the practice is being implemented as intended.
5. **Data Collection Sheets:** Use the data collection sheets as a method to collect and analyze data to determine if progress is being made for a learner with ASD.
6. **Tip Sheet for Professionals:** Use the *DTT Tip Sheet for Professionals* as a supplemental resource to help provide basic information about the practice to professionals working with the learner with ASD.
7. **Parent Guide:** Use the *DTT Parent Guide* to help parents or family members understand basic information about the practice being used with their child.
8. **Additional Resources:** Use the *Additional Resources* to learn more about the practice.
9. **CEC Standards:** A list of *CEC Standards* that apply specifically to DTT.
10. **Module References:** A list of numerical *References* utilized for the DTT module.

#### Suggested citation:

Sam, A., & AFIRM Team. (2016). *Discrete trial training*. Chapel Hill, NC: National Professional Development Center on Autism Spectrum Disorder, FPG Child Development Center, University of North Carolina. Retrieved from <http://afirm.fpg.unc.edu/discrete-trial-training>

For more  
information visit:  
[www.afirm.fpg.unc.edu](http://www.afirm.fpg.unc.edu)

### What Is Discrete Trial Training?

Based on the principles of applied behavior analysis (ABA), discrete trial training (DTT) is used to develop a new response to a stimulus. DTT is based upon the principle of breaking down behavior into discrete steps called a “single teaching unit” or learning trials. Trials are repeated several times with the learner receiving reinforcement for responding correctly.

Often people misuse the term DTT to refer to ABA or vice-versa. Remember, ABA refers to the science of learning principles to teach behavior that will improve one’s quality of life. DTT is only one method based upon ABA that uses massed trials, discrimination training, reinforcement, and didactic instruction.

### Evidence-base

Based upon the recent review, discrete trial training meets the evidence-based practice criteria set by NPDC with 13 single case design studies. The practice has been effective with learners in preschool (3-5 years) to elementary school learners (6-11 years). Evidence-based practices (EBP) and studies included in the 2014 EBP report detailed how discrete trial training can be used effectively to address: social, communication, joint attention, behavior, school-readiness, adaptive, and academic outcomes.

### How Is DTT Being Used?

While many programs are structured to deliver DTT in a 1:1 setting at a table with no distractions, additional options are acceptable. For example, DTT can also be used in a classroom, community, or home setting. When DTT is implemented in multiple environments, skills are more likely to be generalized or used in different settings.

**For more  
information visit:  
[www.afirm.fpg.unc.edu](http://www.afirm.fpg.unc.edu)**



Autism Focused Intervention  
Resources & Modules

## ---Evidence-base for Discrete Trial Training---

The National Professional Development Center on ASD has adopted the following criteria to determine if a practice is evidence-based. The EBP Report provides more information about the review process (Wong et al., 2014).

Efficacy must be established through high quality, peer-reviewed research in scientific journals using:

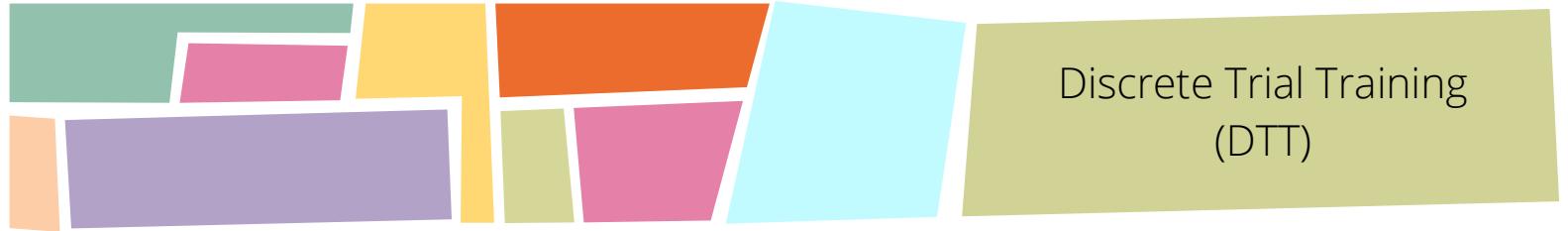
- randomized or quasi-experimental design studies (two high quality experimental or quasi-experimental group design studies),
- single-subject design studies (three different investigators or research groups must have conducted five high quality single subject design studies), or
- combination of evidence [one high quality randomized or quasi-experimental group design study and three high quality single subject design studies conducted by at least three different investigators or research groups (across the group and single subject design studies)].

### --OVERVIEW--

Discrete trial training is used to develop a new response to a stimulus by breaking down behavior into discrete steps. Discrete trial training meets the evidence-based practice criteria with 13 single case design studies. The practice has been effective with learners in preschool (3-5 years) to elementary school learners (6-11 years). Studies included in the 2014 EBP report detailed how discrete trial training can be used effectively to address: behavior, social, communication, joint attention, school-readiness, adaptive, and academic outcomes.

In the table below, the outcomes identified by the evidence base are shown by age of participants.

Early Intervention (0-2)	Preschool (3-5)	Elementary (6-11)	Middle (12-14)	High (15-22)
	Social	Social		
	Communication	Communication		
	Joint Attention	Joint Attention		
		Behavior		
	School-Readiness			
	Adaptive	Adaptive		
	Academic	Academic		



## Discrete Trial Training (DTT)

### Early intervention (0-2 years)

No studies

### Preschool (3-5 years)

\*Goldsmith, T. R., LeBlanc, L. A., & Sautter, R. A. (2007). Teaching intraverbal behavior to children with autism. *Research in Autism Spectrum Disorders*, 1(1), 1-13. doi: 10.1016/j.rasd.2006.07.001

\*Gould, E., Tarbox, J., O'Hora, D., Noone, S., & Bergstrom, R. (2011). Teaching children with autism a basic component skill of perspective-taking. *Behavioral Interventions*, 26(1), 50-66. doi: 10.1002/bin.320

\*Jahr, E. (2001). Teaching children with autism to answer novel wh-questions by utilizing a multiple exemplar strategy. *Research in Developmental Disabilities*, 22(5), 407-423. doi: 10.1016/S0891-4222(01)00081-6

Jones, E. A., Feeley, K. M., & Takacs, J. (2007). Teaching spontaneous responses to young children with autism. *Journal of Applied Behavior Analysis*, 40(3), 565-570. doi: 10.1901/jaba.2007.40-565

Kodak, T., & Clements, A. (2009). Acquisition of mands and tacts with concurrent echoic training. *Journal of Applied Behavior Analysis*, 42(4), 839. doi: 10.1901/jaba.2009.42-839

Lang, R., Rispoli, M., Sigafoos, J., Lancioni, G., Andrews, A., & Ortega, L. (2011). Effects of language of instruction on response accuracy and challenging behavior in a child with autism. *Journal of Behavioral Education*, 20(4), 252-259. doi: 10.1007/s10864-011-9130-0

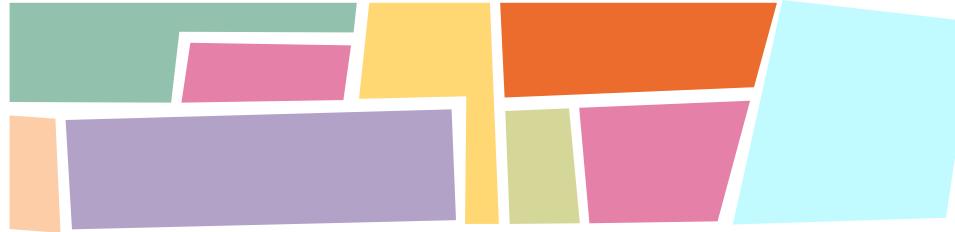
\*Leaf, J. B., Oppenheim-Leaf, M. L., Dotson, W. H., Johnson, V. A., Courtemanche, A. B., Sheldon, J. B., & Sherman, J. A. (2011). Effects of no-no prompting on teaching expressive labeling of facial expressions to children with and without a pervasive developmental disorder. *Education and Training in Autism and Developmental Disabilities*, 46(2), 186.

McHugh, L., Bobarnac, A., & Reed, P. (2011). Brief report: Teaching situation-based emotions to children with autistic spectrum disorder. *Journal of Autism and Developmental Disorders*, 41(10), 1423-1428. doi: 10.1007/s10803-010-1152-2

\*Summers, J., Tarbox, J., Findel-Pyles, R. S., Wilke, A. E., Bergstrom, R., & Williams, W. L. (2011). Teaching two household safety skills to children with autism. *Research in Autism Spectrum Disorders*, 5(1), 629-632. doi: 10.1016/j.rasd.2010.07.008

Taubman, M., Brierley, S., Wishner, J., Baker, D., McEachin, J., & Leaf, R. B. (2001). The effectiveness of a group discrete trial instructional approach for preschoolers with developmental disabilities. *Research in Developmental Disabilities*, 22(3), 205-219. doi: 10.1016/S0891-4222(01)00068-3

\*Wynn, J. W., & Smith, T. (2003). Generalization between receptive and expressive language in young children with autism. *Behavioral Interventions*, 18(4), 245-266. doi: 10.1002/bin.142



## Discrete Trial Training (DTT)

### Elementary (6-11 years)

\*Goldsmith, T. R., LeBlanc, L. A., & Sautter, R. A. (2007). Teaching intraverbal behavior to children with autism. *Research in Autism Spectrum Disorders*, 1(1), 1-13. doi: 10.1016/j.rasd.2006.07.001

\*Gould, E., Tarbox, J., O'Hora, D., Noone, S., & Bergstrom, R. (2011). Teaching children with autism a basic component skill of perspective-taking. *Behavioral Interventions*, 26(1), 50-66. doi: 10.1002/bin.320

\*Jahr, E. (2001). Teaching children with autism to answer novel wh-questions by utilizing a multiple exemplar strategy. *Research in Developmental Disabilities*, 22(5), 407-423. doi: 10.1016/S0891-4222(01)00081-6

Kelley, M. E., Shillingsburg, M. A., Castro, M. J., Addison, L. R., & LaRue, R. H. (2007). Further evaluation of emerging speech in children with developmental disabilities: Training verbal behavior. *Journal of Applied Behavior Analysis*, 40(3), 431-445. doi: 10.1901/jaba.2007.40-431

\*Leaf, J. B., Oppenheim-Leaf, M. L., Dotson, W. H., Johnson, V. A., Courtemanche, A. B., Sheldon, J. B., & Sherman, J. A. (2011). Effects of no-no prompting on teaching expressive labeling of facial expressions to children with and without a pervasive developmental disorder. *Education and Training in Autism and Developmental Disabilities*, 46(2), 186.

Simer, N., & Cuvo, A. J. (2009). Training vision screening behavior to children with developmental disabilities. *Research in Autism Spectrum Disorders*, 3(2), 409-420. doi: 10.1016/j.rasd.2008.08.007

\*Summers, J., Tarbox, J., Findel-Pyles, R. S., Wilke, A. E., Bergstrom, R., & Williams, W. L. (2011). Teaching two household safety skills to children with autism. *Research in Autism Spectrum Disorders*, 5(1), 629-632. doi: 10.1016/j.rasd.2010.07.008

\*Wynn, J. W., & Smith, T. (2003). Generalization between receptive and expressive language in young children with autism. *Behavioral Interventions*, 18(4), 245-266. doi: 10.1002/bin.142

### Middle (12-14 years)

No studies

### High (15-22 years)

No studies

\* Research which included participants in multiple age ranges.



Autism Focused Intervention  
Resources & Modules

## Discrete Trial Training (DTT) ---Step-by-Step Guide---

### BEFORE YOU START...

Each of the following points is important to address so that you can be sure the selected EBP is likely to address the learning needs of your student.

Have you found out more information about. . .?

- Identified the behavior...
- Collected baseline data through direct observation...
- Established a goal or outcome that clearly states when the behavior will occur, what the target skill is, and how the team will know when the skill is mastered...

If the answer to any of these is “no,” review the process of how to select an EBP.



Autism Focused Intervention  
Resources & Modules

For more information visit:  
[www.afirm.fpg.unc.edu](http://www.afirm.fpg.unc.edu)

# Now you are ready to start...

## Step 1: DTT Planning

The planning step explains initial considerations involved in preparing to use DTT. Be sure to complete a task analysis to break skills into teachable steps.

### 1.1 Refine target objective to state the desired antecedent, behavior, and criterion for mastery.

DTT relies on discrete behaviors which have a clear beginning, middle, and end. The learning objective should clearly state the desired antecedent, behavior, and criterion for mastery.

### 1.2 Complete a task analysis to break the skill into teachable steps.

To help you break down a skill into smaller, teachable steps, consider using one of the following:

- Watch someone competent in completing the target skill/behavior complete the target skill/behavior (task). As the person completes the task, write down each step.
- Ask an expert in the target skill or behavior to record each of the steps.
- Complete the task yourself and record each of the steps.

Once the task analysis is complete, list the steps clearly in a lesson progression so any team member can complete the trials.

### 1.3 Design data collection system.

When using DTT, trial by trial data collection is very important. Specifically design data sheets for the skill being taught.

- 📄 Use the *DTT Data Sheet* for a preparing lesson and collection data.
- 📄 Use the *DTT Task Analysis Lesson Progression Form* to collect data.
- 📄 Use the *DTT Self-Graphing Trial Data Sheet* to collect data.

### 1.4 Select Reinforcers

To increase the likelihood that the learner will use the target behavior again in the future, select reinforcers that are appropriate for the individual learner and the target skills.

- 📄 Use the *Positive Reinforcer Selection Form* to select possible reinforcers.

### 1.5 Prepare DTT Lesson

Determine an appropriate place for a DTT lesson to occur. Remember, multiple locations are preferable to help learners generalize skills or behaviors. Make sure you have all needed materials for the DTT lesson.

- 📄 Use the *Preparing for DTT Lesson Form* to determine location and materials needed.

## Step 2: Using DTT

This section describes the process of implementing DTT.

### 2.1 Deliver Trials

- Transition learner to teaching location.
  - To help the learner transition to the teaching location, provide the learner with a warning or cue. Keep in mind the importance of generalization and use the most natural and commonly occurring cue that is meaningful to the learner.
- Obtain the learner's attention and select reinforcer.
  - Once the learner is sitting down, make sure you have the learner's attention. If necessary or appropriate, allow the learner to select desired reinforcer.
- Provide instruction.
  - Provide the learner with the discriminative stimulus (Sd). The discriminative stimulus is the antecedent or the instruction that signals the learner to respond (behavior).
- Provide feedback.
  - Team members provide a tailored consequence to the learner's response (behavior). If the learner responds correctly to the instruction (antecedent), the team member should deliver a reinforcer. In addition, the team member will mark the trial as correct on the data collection form.
    - If the learner does not respond or responds incorrectly, the team member will do one of the following for feedback:
      - Provide corrective feedback and begin the trial again by presenting the antecedent (discriminative stimulus).
      - Prompt the learner to respond correctly, reinforce, and record the result of the prompted trial.
      - Provide another trial, with reduced or no prompting, reinforce appropriately and record.
- Repeat same instruction for targeted number of trials.
  - Team members will repeat the same instructions in the same manner for the targeted number of trials. Remember to record each trial.

### 2.2 Conduct massed trial teaching

- Deliver a maintenance trial.
  - Each teaching episode begins with a maintenance trial. A maintenance trial consists of the learner demonstrating a skill that is already mastered. If the learner passes the maintenance trial, then the team member will present the teaching step. If the learner does not pass the maintenance trial, the skill needs to be taught again.
- Deliver trials and respond to the learner's behavior
  - If learner responds correctly on first trial, repeat teaching step several more times. If learner reaches mastery criterion for step, present a task at the next level of difficulty.
  - If learner does not respond or responds incorrectly, administer the trial again. If learner is unsuccessful on second trial, team member repeats trial with increased level of assistance. After repeating the trial with additional assistance 3-5 times, team member delivers trial without assistance.

## Step 2: Using DTT (continued)

### 2.2 Conduct massed trial teaching (continued)

- Review mastered steps
  - Remember to use maintenance trials at least once or twice per session to review mastered steps. New steps are taught following the massed trial format until all steps of the skill have been mastered.

### 2.3 Conduct discrimination training

- Present new stimulus and fade prompts.
  - When teaching a new stimulus, present the new stimulus to the learner without any other items to choose from. Probe the learner with instruction (SD), prompt the target behavior, and then reinforce the learner's response if correct. Overtime, prompts should be systematically faded until the learner can independently and consistently perform the skill with the one stimulus object.
- Present distracter stimulus.
  - Once the learner is able to perform the skill independently and consistently with the one stimulus, another stimulus (distractor) is presented in the periphery. The distractor stimulus should only vary from the target stimulus on the one specific dimension being taught. The team member will provide the instruction (Sd) and then reinforce the learner's behavior if correct.
- Teach generalization.
  - Teach generalization of the skill or concept by teaching discrimination of multiple stimuli and applying use of skill in multiple situations.

## Step 3: Monitoring DTT

The following process describes how the use of DTT can be monitored and modifications made if needed.

### 3.1 Review collected data and modify program

Data should be collected from each teaching trial. Team members should continuously review collected data to determine progress the learner is making. Based upon data collected, the program can be modified to address the learner's needs.

If the learner with ASD is not showing progress with the selected strategies and evidence-based practices, ask yourself the following questions:

- Is the target skill or behavior well defined?
- Is the target skill or behavior measurable and observable?
- Does the learner have the prerequisite skills needed to learn the skill/behavior?
- Is the task completely analyzed?
- Does the learner receive reinforcement that is appropriate for the learner?
- Is DTT being used with fidelity based upon the implementation checklist?

If these issues have been addressed and the learner continues to exhibit high rates of the interfering behavior, consider selecting a different EBP or strategy to use with the learner.

### 3.2 Review mastered programs

To ensure the learner maintains previous acquired skills, review mastered programs and continue to teach them as maintenance trials. Additionally, target maintenance trials for generalization. Consider generalizing by practicing the trials:

- in other settings,
- with different adults,
- with different reinforcers, and/or
- with different instructions or stimuli.

Remember, the ultimate goal of DTT is to utilize the acquired skills in natural environments.

# Discrete Trial Training (DTT)

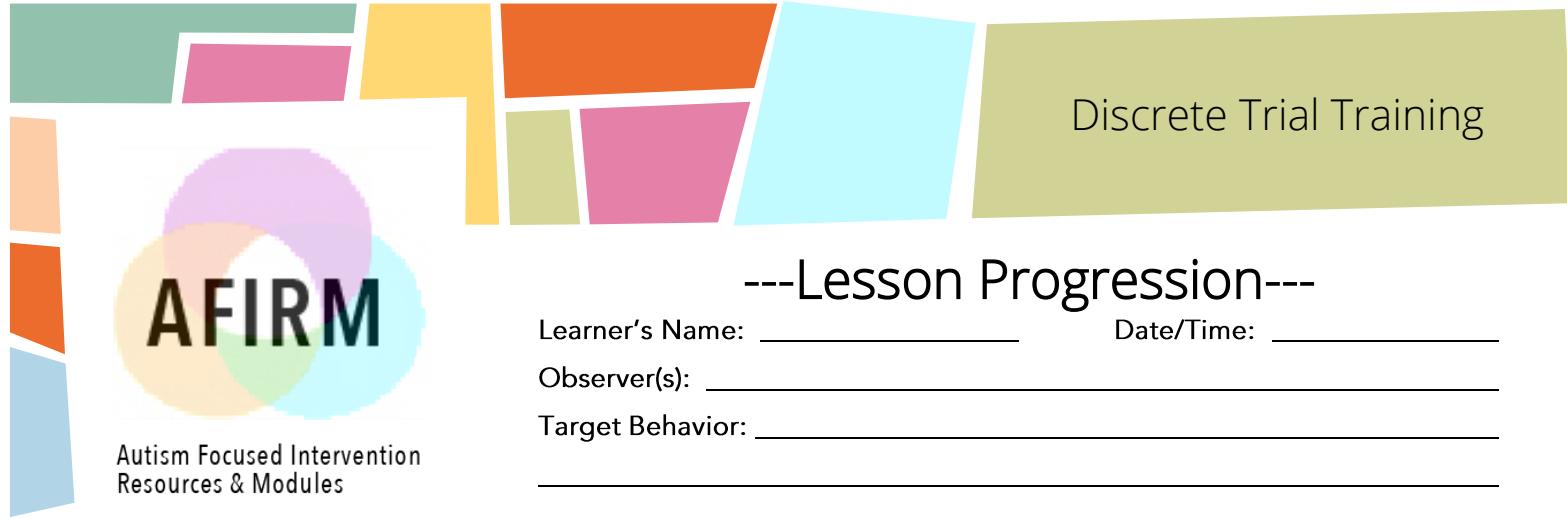
## ---Implementation Checklist---

*To find out  
more  
information  
about...*

- Establishing a goal or outcome that clearly states when the behavior will occur, what the target skill is, and how the team will know when the skill is mastered.
- Identifying evidence-based practices

*Refer to the  
"Selecting EBPs"  
section on the  
website:  
[afirm.fpg.unc.edu](http://afirm.fpg.unc.edu)*

	Observation Date	1	2	3	4
	Observer's Initials				
<b>Step 1: Planning</b>					
1.1	Refine target objective to state the desired antecedent, behavior, and criterion for mastery				
1.2	Complete a task analysis to break the skill into teachable steps				
1.3	Design data collection system				
1.4	Select reinforcers				
1.5	Prepare for DTT lesson				
<b>Step 2: Using</b>					
2.1	Deliver trials				
	<input type="checkbox"/> Transition learner to teaching location				
	<input type="checkbox"/> Obtain the learner's attention, and together select reinforcer				
	<input type="checkbox"/> Provide instruction or other Sd (antecedent) and wait for a response				
	<input type="checkbox"/> Provide feedback based on learner's response (e.g. reinforcement, corrective feedback, prompt, or provide another trial)				
	<input type="checkbox"/> Repeat same instruction for targeted number of trials				
2.2	Conduct massed trial teaching				
	<input type="checkbox"/> Deliver a maintenance trial. If learner does not pass, teach skill again.				
	<input type="checkbox"/> Deliver trials and respond to the learner's behavior				
	<input type="checkbox"/> If learner responds correctly on first trial, repeat teaching step several more times. If learner reaches mastery criterion for step, present a task at the next level of difficulty.				
	<input type="checkbox"/> If learner does not respond or responds incorrectly, administer the trial again. If learner is unsuccessful on second trial, team member repeats trial with increased level of assistance. After repeating the trial with additional assistance 3-5 times, team member delivers trial without assistance.				
	<input type="checkbox"/> Review mastered steps (maintenance trials) once or twice during each session.				
2.3	Conduct discrimination training				
	<input type="checkbox"/> Present new stimulus and fade prompts.				
	<input type="checkbox"/> Present distractor stimulus in the periphery, give the instruction, elicit the behavior, and reinforce.				
	<input type="checkbox"/> Teach generalized use of skill or concept.				
<b>Step 3: Monitoring</b>					
3.1	Review collected data and modify program as needed				
3.2	Review mastered programs and continue to teach as maintenance trials				



## ---Lesson Progression---

Learner's Name: \_\_\_\_\_

Date/Time: \_\_\_\_\_

Observer(s): \_\_\_\_\_

Target Behavior: \_\_\_\_\_

## Task Analysis (TA) of Skill/Behavior:

Prompting Strategies: I = Independent; FP = Full Physical; PP = Partial Physical; V = Verbal; G = Gestural; TD = Time Delay; M = Model

For more  
information visit:  
[www.afirm.fpq.unc.edu](http://www.afirm.fpq.unc.edu)



Autism Focused Intervention  
Resources & Modules

## ---Self-Graphing Trial Data Sheet---

Learner's Name: \_\_\_\_\_

Date/Time: \_\_\_\_\_

Observer(s) & Initials: \_\_\_\_\_

Target Behavior(s): \_\_\_\_\_

### Task Analysis (TA) of Skill/Behavior:

Step	Stimulus	Desired Response	Dates	
			Started	Mastered
1.				
2.				
3.				
4.				
5.				

Criteria for mastery: 80%-100% correct responses (independent) over 3 sessions

Step of TA																			
Trial 10																			
Trial 9																			
Trial 8																			
Trial 7																			
Trial 6																			
Trial 5																			
Trial 4																			
Trial 3																			
Trial 2																			
Trial 1																			
Date																			
Prompt Level																			

Key: + = correct; - = incorrect; o = no response

Prompting level Key: FP = Full Physical; PP = Partial Physical; V = Verbal; G = Gestural; M = Model

For more  
information visit:  
[www.afirm.fpg.unc](http://www.afirm.fpg.unc)



Autism Focused Intervention  
Resources & Modules

## ---Positive Reinforcer Selection---

Learner's Name: \_\_\_\_\_

Date/Time: \_\_\_\_\_

Observer(s): \_\_\_\_\_

Target Skill/Behavior: \_\_\_\_\_

### Positive Reinforcer Selection Checklist

Questions to Consider	List Potential Reinforcers	Age Appropriate?
What natural reinforcers could be used?		
What activities, objects and foods does the learner select independently?		
What phrases or gestures seem to produce a pleasant response from learner with ASD?		
What does the learner say s/he would like to work for? (if appropriate)		
What reinforcers were identified by parents or to her team members as being successful in the past?		
What items did the learner select as part of the reinforcer sampling?		

For more  
information visit:  
[www.afirm.fpg.unc.edu](http://www.afirm.fpg.unc.edu)



## ---Preparing for DTT Lesson Planning Worksheet---

Learner's Name: \_\_\_\_\_

Date/Time: \_\_\_\_\_

Observer(s): \_\_\_\_\_

Determine an appropriate place for a DTT lesson to occur. Remember, multiple locations are preferable to help learners generalize skills or behaviors.

Questions:	Possible Locations				
Is the place quiet without too many distractions?					
Is there sufficient space for instruction AND for breaks?					
Does the location have easy access to peers to promote generalization?					
Is there adequate lighting and seating? For seating, ensure that the seat and table fit the learner's body.					

Locations for DTT Lessons:

---



---



---

Reinforcers needed for lessons:

---



---



---

Instructional materials needed for lessons:

---



---



---

**For more  
information visit:**  
[www.afirm.fpg.unc.edu](http://www.afirm.fpg.unc.edu)



Autism Focused Intervention  
Resources & Modules

## ---Lesson Data Sheet---

Learner's Name: \_\_\_\_\_

Date/Time: \_\_\_\_\_

Observer(s) & Initials: \_\_\_\_\_

Target Behavior(s): \_\_\_\_\_

\_\_\_\_\_

<p>Antecedents</p> <ul style="list-style-type: none"><li>• Instruction/Cue:</li><li>• Materials:</li><li>• Prompts:</li><li>• Setting:</li></ul>	<p>Target behavior</p> <ul style="list-style-type: none"><li>• Correct response:</li><li>• Incorrect response:</li><li>• No response:</li></ul>	<p>Consequence</p> <ul style="list-style-type: none"><li>• Reinforce:</li><li>• Error Correction:</li><li>• Other:</li></ul>
--	---	--

# Discrete Trial Training

Goal: \_\_\_\_\_ correct responses out of \_\_\_\_\_ presented opportunities to respond

Date(s)										
Trial 1										
Trial 2										
Trial 3										
Trial 4										
Trial 5										
Trial 6										
Trial 7										
Trial 8										
Trial 9										
Trial 10										
Percent +										

## Anecdotal Notes:

Date	Observer Initials	Target Skill/Behavior, Comments, and Plans for Next Steps

For more  
information visit:  
[www.afirm.fpg.unc.edu](http://www.afirm.fpg.unc.edu)

## Discrete Trial Training (DTT) ---Tip Sheet for Professionals---

### Discrete Trial Training DTT

#### Discrete Trial Training...

- Is an evidence-based practice for children with autism spectrum disorder (ASD) from 3 to 11 years old that can be implemented in a therapy, classroom, community, or home setting.
- Consists of an adult breaking behavior down into separate (discrete) steps that have a clear beginning, middle, and end.

#### Why Use?

- DTT breaks skills into clear steps that can be carefully taught through repeated trials.
- The consistent and predictable delivery of DTT creates a structured learning environment.

#### Outcomes

- The evidence-base for DTT supports the use of this practice to address the outcomes below:

Early Intervention (0-2)	Preschool (3-5)	Elementary (6-11)	Middle (12-14)	High (15-22)
	Social	Social		
	Communication	Communication		
	Joint Attention	Joint Attention		
		Behavior		
	School- Readiness			
	Adaptive	Adaptive		
	Academic	Academic		



### TIPS:

- To break a skills into teachable steps, complete a task analysis. Complete the task yourself or have someone else complete the task. Write down each step.
- Select reinforcers that are appropriate for the individual learner and the target skills. Reinforcers will increase the likelihood that the learner will use the target behavior or skill again in the future.
- Design a system for collected data before using DTT.



## Discrete Trial Training DTT

This tip sheet was designed as a supplemental resource to help provide basic information about the practice.

**For more information visit:**  
[www.afirm.fpg.unc.edu](http://www.afirm.fpg.unc.edu)



Autism Focused Intervention Resources & Modules

# Discrete Trial Training (DTT) ---Tip Sheet for Professionals---

## STEPS FOR IMPLEMENTING

### 1. Plan

- Refine target objective to state the desired antecedent, behavior, and criterion for mastery.
- Complete a task analysis to break the skill into teachable steps
- Design data collection system
- Select reinforcers
- Prepare DTT lesson

### 2. Use

- Deliver trials
  1. Transition learner to teaching location
  2. Obtain the learner's attention, and together select reinforcer
  3. Provide instruction or other Sd (antecedent) and wait for a response
  4. Provide feedback based on learner's response (e.g. reinforcement, corrective feedback, prompt, or provide another trial)
  5. Repeat same instruction for targeted number of trials
- Conduct massed trial teaching
  1. Deliver a maintenance trial. If learner does not pass, teach skill again.
  2. Deliver trials and respond to the learner's behavior
  3. Review mastered steps (maintenance trials) once or twice during each session.
- Conduct discrimination training
  1. Present new stimulus and fade prompts.
  2. Present distractor stimulus in the periphery, give the instruction, elicit the behavior, and reinforce.
  3. Teach generalized use of skill or concept.

### 3. Monitor

- Review collected data and modify program as needed
- Review mastered programs and continue to teach as maintenance trials



Autism Focused Intervention  
Resources & Modules

## Discrete Trial Training (DTT) ---Parent's Guide---

This introduction provides basic information about discrete trial training.

### What is DTT?

- DTT is an evidence-based practice for children with autism spectrum disorder (ASD) from 3 to 11 years old.
- DTT breaks down a skill or behavior into separate steps that have a clear beginning, middle, and end.
- DTT consists of repeated trials with the learner receiving reinforcement for responding correctly.

### Why use DTT with my child?

- DTT is used to teach target skills and behaviors.
- Research studies have shown that discrete trial training has been used effectively with preschool and elementary age learners to achieve outcomes in the following areas: social, communication, joint attention, behavior, school-readiness, adaptive, and academic.

### What activities can I do at home?

- Break apart difficult activities into smaller steps. When your child successfully completes a smaller step, praise your child or allow your child time with a favorite toy. For example, if your child is learning how to say 'hello', begin by helping your child wave 'hello'.
- When your child successfully completes a smaller step of an activity, immediately provide reinforcement. You can provide reinforcement by saying, "Way to go!" or "Good job." You can also provide reinforcement by allowing your child time with an iPad or favorite toy.

This parent introduction to DTT was designed as a supplemental resource to help answer basic questions about this practice.

To find out more about how DTT is used with your child, speak with:

---

**For more information visit:**  
[www.afirm.fpg.unc.edu](http://www.afirm.fpg.unc.edu)

# AFIRM

Autism Focused Intervention  
Resources & Modules

Check out  
these  
resources to  
support your  
use of Discrete  
Trial Training.

For more  
information visit:  
[www.afirm.fpg.unc.edu](http://www.afirm.fpg.unc.edu)

## ---Additional Resources---

### Articles:

Downs, A., & Downs, R. C. (2013). Training new instructors to implement discrete trial teaching strategies with children with autism in a community-based intervention program. *Focus on Autism and Other Developmental Disabilities*, 28(4), 212-221. doi:10.1177/1088357612465120

Jenkins, S. R., Hirst, J. M., & DiGennaro Reed, F. D. (2015;2014;). The effects of discrete-trial training commission errors on learner outcomes: An extension. *Journal of Behavioral Education*, 24(2), 196-209. doi:10.1007/s10864-014-9215-7

Lerman, D. C., Hawkins, L., Hoffman, R., & Caccavale, M. (2013). Training adults with an autism spectrum disorder to conduct discrete-trial training for young children with autism: A pilot study. *Journal of Applied Behavior Analysis*, 46(2), 465-478. doi:10.1002/jaba.50

Rispoli, M., Ganz, J., Neely, L., & Goodwyn, F. (2013). The effect of noncontingent positive versus negative reinforcement on multiply controlled behavior during discrete trial training. *Journal of Developmental and Physical Disabilities*, 25(1), 135-148. doi:10.1007/s10882-012-9315-z

Roxburgh, C. A., & Carbone, V. J. (2013). The effect of varying teacher presentation rates on responding during discrete trial training for two children with autism. *Behavior Modification*, 37(3), 298-323. doi:10.1177/0145445512463046

Schmidt, J. D., Drasgow, E., Halle, J. W., Martin, C. A., & Bliss, S. A. (2014). Discrete-trial functional analysis and functional communication training with three individuals with autism and severe problem behavior. *Journal of Positive Behavior Interventions*, 16(1), 44-55. doi:10.1177/1098300712470519

Shillingsburg, M., Bowen, C., & Shapiro, S. (2014). Increasing social approach and decreasing social avoidance in children with autism spectrum disorder during discrete trial training. *Research in Autism Spectrum Disorders*, 8(11), 1443-1453. doi:10.1016/j.rasd.2014.07.013

**Books:**

Thompson, T (2011). *Individualized autism interventions for young children: Blending discrete trial and naturalistic strategies*. Brookes Publishing.

**Websites:**

Buckmann, S. (2016). *A Brief Explanation of Discrete Trial Training*. Retrieved on May 13, 2016 from:  
<https://www.iidc.indiana.edu/pages/A-Brief-Explanation-of-Discrete-Trial-Training>

# AFIRM

Autism Focused Intervention  
Resources & Modules

## Discrete Trial Training CEC Standards

The CEC Standards that apply to all 27 evidence-based practices can be found on our website at: <http://afirm.fpg.unc.edu/learn-afirm>

Below are CEC Standards that apply specifically to Discrete Trial Training (DTT) module.

Standard	Description
<b>Initial Preparation Standard 4: Assessment</b>	
DDA4 K4	Individual strengths, skills and learning styles
ISCI 4 S5	Interpret information from formal and informal assessments
ISCI 4 S8	Evaluate instruction and monitor progress of individuals with exceptionalities
<b>Initial Preparation Standard 5: Instructional Planning &amp; Strategies</b>	
DDA5 K1	Specialized curriculum designed to meet the needs of individuals with developmental disabilities/autism spectrum disorders
ISCI 5 S4	Use task analysis
ISCI 5 S8	Prepare lesson plans
ISCI 5 S9	Prepare and organize materials to implement daily lesson plans

Standard	Description
<b>Advanced Preparation Standard 6: Professional and Ethical Practice</b>	
SEDA6.S2	Teach others to use individual strengths to reinforce and maintain skills

For more information visit:  
[www.afirm.fpg.unc.edu](http://www.afirm.fpg.unc.edu)

## ---Module References---

1. Lovaas O. I., Berberlich J. P., Perloff, B. F., & Schaefer, B. (1996). Acquisition of imitative speech by schizophrenic children. *Science*, 151, 705-7.
2. Lovaas, O. I., Koegel, R., Simmons, J., & Long, J.S. (1973). Some generalization and follow-up measures on autistic children in behavior therapy. *Journal of Applied Behavior Analysis*. 6(1), 131-166.
3. Lovaas, O I., Schreibman, L., & Koegel, R. (1974). A behavior modification approach to the treatment of autistic children. *Journal of Autism and Childhood Schizophrenia*, 4(2), 111-129.
4. Goldsmith, T. R., LeBlanc, L. A., & Sautter, R. A. (2007). Teaching intraverbal behavior to children with autism. *Research in Autism Spectrum Disorders*, 1(1), 1-13. doi: 10.1016/j.rasd.2006.07.001
5. Kelley, M. E., Shillingsburg, M. A., Castro, M. J., Addison, L. R., & LaRue, R. H. (2007). Further evaluation of emerging speech in children with developmental disabilities: Training verbal behavior. *Journal of Applied Behavior Analysis*, 40(3), 431-445. doi: 10.1901/jaba.2007.40-431
6. Kodak, T., & Clements, A. (2009). Acquisition of mands and tacts with concurrent echoic training. *Journal of Applied Behavior Analysis*, 42(4), 839. doi: 10.1901/jaba.2009.42-839
7. Taubman, M., Brierley, S., Wishner, J., Baker, D., McEachin, J., & Leaf, R. B. (2001). The effectiveness of a group discrete trial instructional approach for preschoolers with developmental disabilities. *Research in Developmental Disabilities*, 22(3), 205-219. doi: 10.1016/S0891-4222(01)00068-3
8. Wynn, J. W., & Smith, T. (2003). Generalization between receptive and expressive language in young children with autism. *Behavioral Interventions*, 18(4), 245-266. doi: 10.1002/bin.142
9. Leaf, J. B., Oppenheim-Leaf, M. L., Dotson, W. H., Johnson, V. A., Courtemanche, A. B., Sheldon, J. B., & Sherman, J. A. (2011). Effects of no-no prompting on teaching expressive labeling of facial expressions to children with and without a pervasive developmental disorder. *Education and Training in Autism and Developmental Disabilities*, 46(2), 186.
10. Jahr, E. (2001). Teaching children with autism to answer novel wh-questions by utilizing a multiple exemplar strategy. *Research in Developmental Disabilities*, 22, 407-423.

11. Jones, E. A., Feeley, K. M., & Takacs, J. (2007). Teaching spontaneous responses to young children with autism. *Journal of Applied Behavior Analysis*, 40(3), 565-570.
12. Lang, R., Rispoli, M., Sigafoos, J., Lancioni, G., Andrews, A., & Ortega, L. (2011). Effects of language of instruction on response accuracy and challenging behavior in a child with autism. *Journal of Behavioral Education*, 20(4), 252-259. doi: 10.1007/s10864-011-9130-0
13. Gould, E., Tarbox, J., O'Hora, D., Noone, S., and Bergstrom, R. (2011). Teaching children with autism a basic component skill of perspective-taking. *Behavioral Interventions*, 26, 50-66.
14. Summers, J., Tarbox, J., Findel-Pyles, R. S., Wilke, A. E., Bergstrom, R., & Williams, W. L. (2011). Teaching two household safety skills to children with autism. *Research in Autism Spectrum Disorders*, 5(1), 629-632. doi: 10.1016/j.rasd.2010.07.008
15. National Research Council. (2001). *Educating children with autism*. Washington, DC: National Academy Press.
16. Lovaas, O. I. (1981). *Teaching developmentally disabled children: The ME book*. University Park Press.
17. Lovaas, O. I. (1987). Behavioral treatment and normal educational and intellectual functioning in young autistic children. *Journal of Consulting and Clinical Psychology*, 55, 3-9.
18. Wong, C., Odom, S. L., Hume, K. Cox, A. W., Fettig, A., Kucharczyk, S., Schultz, T. R. (2014). Evidence-based practices for children, youth, and young adults with autism spectrum disorder. Chapel Hill: The University of North Carolina, Frank Porter Graham Child Development Institute, Autism Evidence-Based Practice Review Group. <http://autismpdc.fpg.unc.edu/sites/autismpdc.fpg.unc.edu/files/imce/documents/2014-EBP-Report.pdf>
19. Cohen, H., Amerine-Dickens, M., & Smith, T. (2006). Early intensive behavioral treatment: Replication of the UCLA model in a community setting. *Journal of Developmental and Behavioral Pediatrics*, 27(2), 145-155.
20. Eikeseth, S., Smith, T., Jar, E., & Eldevik, S. (2002). Intensive behavioral treatment at school for 4-7 year-old children with autism. *Behavior Modification*, 26(1), 49-68.
21. Carter, M., & Kemp, C. R. (1996). Strategies for task analysis in special education, *Educational Psychology*, 16(2), 155-170, doi: 10.1080/0144341960160205
22. Alberto, P. A., & Troutman, A. C. (2008). *Applied behavior analysis for teachers* (8th ed). Upper Saddle River, NJ: Prentice-Hall.