



Autism Focused Intervention
Resources & Modules

DTT

EBP BRIEF PACKET: **DISCRETE TRIAL TRAINING**

UNC Frank Porter Graham Child Development Institute
Autism Focused Intervention Resources & Modules
Sam, A., & AFIRM Team, Updated 2025



The National Professional
Development Center on Autism



**FRANK PORTER GRAHAM
CHILD DEVELOPMENT INSTITUTE**



OVERVIEW OF CONTENT

1. **Table of DTT Contents:** This list details the specific DTT resources that apply to Discrete Trial Training.
2. **What is DTT:** A quick summary of salient features of Discrete Trial Training, including what it is, who it can be used with, what skills it has been used with, and settings for instruction.
3. **Evidence-base:** The evidence-base details the National Clearinghouse on Autism Evidence and Practice (NCAEP) criteria for inclusion as an evidence-based practice and the specific studies that meet the criteria for Discrete Trial Training.
4. **Planning Checklist:** This checklist details the steps for planning for Discrete Trial Training, including what prerequisite learning of practices are needed, collecting baseline data of the target goal/behavior/skill if needed, and what materials/resources are needed.
5. **Other Resources:** Other resources may include decision trees, checklists, and/or template forms that will support the use of Discrete Trial Training.
6. **Step-by-Step Guide:** Use this guide as an outline for how to plan for, use, and monitor Discrete Trial Training. Each step includes a brief description as a helpful reminder while learning the process.
7. **Implementation Checklist:** Use this checklist to determine if Discrete Trial Training are being implemented as intended.
8. **Monitoring Progress Checklist:** Use this form as a method for collecting and analyzing data to determine if the learner on the spectrum is making progress towards the target goal/behavior/skill.
9. **Tip Sheet for Professionals:** Use this tip sheet, intended for professionals working with learners on the spectrum, as a supplemental resource to help provide basic information about Discrete Trial Training.
10. **Parent Guide:** Use this guide intended for parents or family members of learners on the spectrum to help them understand basic information about Discrete Trial Training and how it is being used with their child.
11. **CEC Standards:** This list details the specific CEC standards that apply to Discrete Trial Training.
12. **Glossary:** This glossary contains key terms that apply specifically to Discrete Trial Training.
13. **References:** This list details the specific references used for developing this DTT module in numerical order.



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DISCRETE TRIAL TRAINING

WHAT IS DTT?

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 2020 systematic review conducted by the National Clearinghouse on Autism Evidence and Practice (NCAEP), Discrete Trial Training is a focused intervention that meets the evidence-based practice criteria with 58 single case design. Discrete Trial Training has been effective for early intervention (0-2 years), preschoolers (3-5 years), elementary school learners (6-11 years), middle school learners (12-14 years), high schoolers (15-18 years), and young adults (19-22 years) on the spectrum. Studies included the 2020 EBP report (Steinbrenner et al., 2020) detail how Discrete Trial Training can be used to effectively address the following outcomes for a target skill/behavior/goal: academic/pre-academic, adaptive/self-help, behavior, cognitive, communication, joint attention, play, school readiness, social, and vocational.

HOW IS DTT BEING USED?

Discrete Trial Training can be used by a variety of professionals, including teachers, special educators, therapists, paraprofessionals, and early interventionists in educational and community-based environments. Parents and family members also can use Discrete Trial Training in the home.

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EVIDENCE-BASE

The National Clearinghouse on Autism Evidence and Practice has adopted the following criteria to determine if a practice is evidence-based. The 2020 EBP report (Steinbrenner et al., 2020) provides more information about the systematic review process.

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

- At least 2 randomized or quasi-experimental group design studies, or
- At least 5 single subject/case design studies, or a
- Combination of evidence of 1 randomized or quasi-experimental group design study and 3 single subject/case design studies

OVERVIEW:

Based upon the 2020 systematic review conducted by the National Clearinghouse on Autism Evidence and Practice (NCAEP), Discrete Trial Training is a focused intervention that meets the evidence-based practice criteria with 58 single case design. Discrete Trial Training has been effective for early intervention (0-2 years), preschoolers (3-5 years), elementary school learners (6-11 years), middle school learners (12-14 years), high schoolers (15-18 years), and young adults (19-22 years) on the spectrum. Studies included the 2020 EBP report (Steinbrenner et al., 2020) detail how Discrete Trial Training can be used to effectively address the following outcomes for a target skill/behavior/goal: academic/pre-academic, adaptive/self-help, behavior, cognitive, communication, joint attention, play, school readiness, social, and vocational.

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

Age	Academic	Adaptive	Behavior	Cognitive	Communication	Joint Attention	Play	School Readiness	Social	Vocational
0-2						Yes			Yes	
3-5	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	
6-11	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes
12-14					Yes				Yes	
15-18	Yes				Yes				Yes	
19-22					Yes				Yes	



EARLY INTERVENTION (0-2 YEARS):

- * Krstovska-Guerrero, I., & Jones, E. A. (2013). Joint attention in autism: Teaching smiling coordinated with gaze to respond to joint attention bids. *Research in Autism Spectrum Disorders*, 7(1), 93-108. <https://doi.org/10.1016/j.rasd.2012.07.007>

PRESCHOOL (3-5 YEARS):

- Benedek-Wood, E., McNaughton, D., & Light, J. (2016). Instruction in letter-sound correspondences for children with autism and limited speech. *Topics in Early Childhood Special Education*, 36(1), 43-54. <https://doi.org/10.1177/0271121415593497>
- * Carroll, R. A., Joachim, B. T., St Peter, C. C., & Robinson, N. (2015). A comparison of error-correction procedures on skill acquisition during discrete-trial instruction. *Journal of Applied Behavior Analysis*, 48(2), 257-273. <https://doi.org/10.1002/jaba.205>
- * Carroll, R. A., Kodak, T., & Fisher, W. W. (2013). An evaluation of programmed treatment-integrity errors during discrete-trial instruction. *Journal of Applied Behavior Analysis*, 46(2), 379-394. <https://doi.org/10.1002/jaba.49>
- Davis, B. J., Kahng, S., & Coryat, K. (2012). Manipulating motivating operations to facilitate the emergence of mands for a child with autism. *Analysis of Verbal Behavior*, 28, 145-150. <https://doi.org/10.1007/bf03393116>
- * Delfs, C. H., Conine, D. E., Frampton, S. E., Shillingsburg, M. A., & Robinson, H. C. (2014). Evaluation of the efficiency of listener and tact instruction for children with autism. *Journal of Applied Behavior Analysis*, 47(4), 793-809. <https://doi.org/10.1002/jaba.166>
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- * 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. <https://doi.org/10.1002/bin.320>
- * Henrickson, M. L., Rapp, J. T., & Ashbeck, H. A. (2015). Teaching with massed versus interspersed trials: Effects on acquisition, maintenance, and problem behavior. *Behavioral Interventions*, 30(1), 36-50. <https://doi.org/10.1002/bin.1396>
- * 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. [https://doi.org/10.1016/S0891-4222\(01\)00081-6](https://doi.org/10.1016/S0891-4222(01)00081-6)
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- 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. <https://doi.org/10.1901/jaba.2007.40-565>
- * Kodak, T., Campbell, V., Bergmann, S., LeBlanc, B., Kurtz-Nelson, E., Cariveau, T., Haq, S., Zemantic, P., & Mahon, J. (2016). Examination of efficacious, efficient, and socially valid error-correction procedures to teach sight words and prepositions to children with autism spectrum disorder. *Journal of Applied Behavior Analysis*, 49(3), 532-547. <https://doi.org/10.1002/jaba.310>
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- * Kodak, T., Clements, A., & Leblanc, B. (2013). A rapid assessment of instructional strategies to teach auditory-visual conditional discriminations to children with autism. *Research in Autism Spectrum Disorders*, 7(6), 801-807. <https://doi.org/10.1016/j.rasd.2013.02.007>
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- * Leaf, J. B., Leaf, R., Taubman, M., McEachin, J., & Delmolino, L. (2014). Comparison of flexible prompt fading to error correction for children with autism spectrum disorder. *Journal of Developmental and Physical Disabilities*, 26(2), 203-224. <https://doi.org/10.1007/s10882-013-9354-0>
- * 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), 186-203.
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- Whalen, C., Moss, D., Ilan, A. B., Vaupel, M., Fielding, P., Macdonald, K., Cernich, S., & Symon, J. (2010). Efficacy of TeachTown: Basics computer-assisted intervention for the intensive comprehensive autism program in Los Angeles Unified School District. *Autism*, 14(3), 179-197. <https://doi.org/10.1177/1362361310363282>
- * Wynn, J. W., & Smith, T. (2003). Generalization between receptive and expressive language in young children with autism. *Behavioral Interventions*, 18(4), 245-266. <https://doi.org/10.1002/bin.142>

ELEMENTARY SCHOOL (6-11 YEARS):

- * Carroll, R. A., Joachim, B. T., St Peter, C. C., & Robinson, N. (2015). A comparison of error-correction procedures on skill acquisition during discrete-trial instruction. *Journal of Applied Behavior Analysis*, 48(2), 257-273. <https://doi.org/10.1002/jaba.205>
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- * Kodak, T., Campbell, V., Bergmann, S., LeBlanc, B., Kurtz-Nelson, E., Cariveau, T., Haq, S., Zemantic, P., & Mahon, J. (2016). Examination of efficacious, efficient, and socially valid error-correction procedures to teach sight words and prepositions to children with autism spectrum disorder. *Journal of Applied Behavior Analysis*, 49(3), 532-547. <https://doi.org/10.1002/jaba.310>
- * Kodak, T., Clements, A., & Leblanc, B. (2013). A rapid assessment of instructional strategies to teach auditory-visual conditional discriminations to children with autism. *Research in Autism Spectrum Disorders*, 7(6), 801-807. <https://doi.org/10.1016/j.rasd.2013.02.007>
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- * 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), 186-203.
- * Lee, G. T., Feng, H., Xu, S., & Jin, S. J. (2017). Increasing "object-substitution" symbolic play in young children with autism spectrum disorders. *Behavior Modification*, 43(1), 82-114. <https://doi.org/10.1177/0145445517739276>
- * McKeel, A. N., Dixon, M. R., Daar, J. H., R., Kyle E., & Szekely, S. (2015). Evaluating the efficacy of the PEAK Relational Training System using a randomized controlled trial of children with autism. *Journal of Behavioral Education*, 24(2), 230-241. <https://doi.org/10.1007/s10864-015-9219-y>
- * Plaisance, L., Lerman, D. C., Laudont, C., & Wu, W. L. (2016). Inserting mastered targets during error correction when teaching skills to children with autism. *Journal of Applied Behavior Analysis*, 49(2), 251-64. <https://doi.org/10.1002/jaba.292>
- Radley, K. C., Dart, E. H., Furlow, C. M., & Ness, E. J. (2015). Peer-mediated discrete trial training within a school setting. *Research in Autism Spectrum Disorders*, 9, 53-67. <https://doi.org/10.1016/j.rasd.2014.10.001>
- Simer, N., & Cuvo, A. J. (2009). Training vision screening behavior to children with developmental disabilities. *Research in Autism Spectrum Disorders*, 3(2), 409-420. <https://doi.org/10.1016/j.rasd.2008.08.007>
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- * Wynn, J. W., & Smith, T. (2003). Generalization between receptive and expressive language in young children with autism. *Behavioral Interventions*, 18(4), 245-266. <https://doi.org/10.1002/bin.142>

MIDDLE SCHOOL (12-14 YEARS):

- * Gena, A., Krantz, P. J., McClannahan, L. E., & Poulson, C. L. (1996). Training and generalization of affective behavior displayed by youth with autism. *Journal of Applied Behavior Analysis*, 29(3), 291-304. <https://doi.org/10.1901/jaba.1996.29-291>
- * **McKeel, A. N., Dixon, M. R., Daar, J. H., R., Kyle E., & Szekely, S. (2015). Evaluating the efficacy of the PEAK Relational Training System using a randomized controlled trial of children with autism. *Journal of Behavioral Education*, 24(2), 230-241. <https://doi.org/10.1007/s10864-015-9219-y>**

HIGH SCHOOL (15-18 YEARS):

- * Gena, A., Krantz, P. J., McClannahan, L. E., & Poulson, C. L. (1996). Training and generalization of affective behavior displayed by youth with autism. *Journal of Applied Behavior Analysis*, 29(3), 291-304. <https://doi.org/10.1901/jaba.1996.29-291>
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YOUNG ADULTS (19-22 YEARS):

- * Gena, A., Krantz, P. J., McClannahan, L. E., & Poulson, C. L. (1996). Training and generalization of affective behavior displayed by youth with autism. *Journal of Applied Behavior Analysis*, 29(3), 291-304. <https://doi.org/10.1901/jaba.1996.29-291>
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Notes: * denotes the study has participants in at least two age ranges
Bold denotes new studies since 2011 (2012 till 2017)



DISCRETE TRIAL TRAINING CORE COMPONENTS

ANTECEDENT (DISCRIMINATIVE STIMULUS, SD):

Instruction, cue, or stimuli signaling the learner to demonstrate a specific behavior to receive a reinforcer. The antecedent can be a verbal or nonverbal cue or visual stimuli but must be a clear and concise instruction or cue.

1. "Touch your nose."
2. "Give me the pencil."
3. Pointing to the desk to signal learner to sit.

BEHAVIOR (RESPONSE):

The three possible responses or behaviors a learner can have include: 1) a correct response, 2) an incorrect response, or 3) no response at all. Establish the criteria for a correct response in advance to ensure consistency. Clear and well-defined responses will increase the likelihood of correct responding.

1. Learner touches nose. (Correct response)
2. Learner gives adult paper. (Incorrect response)
3. Learner remains standing. (No response)

CONSEQUENCE (REINFORCING STIMULUS, SR+):

The consequence is delivered immediately after the learner's response and includes 1) reinforcement and 2) corrective feedback. Reinforcement is delivered following a correct response and can include verbal praise, edible food, access to preferred object/activity, tokens, etc. (based on learner's preferences). Corrective feedback is used when the learner provides an incorrect response or no response at all. Usually, corrective feedback includes a verbal statement.

1. Adult delivers reinforcer of blowing bubbles for correct response of touching nose.
2. Adult says, "No."
3. Adults say, "No, try again."



REFINE TARGET GOAL

Learner's Name: _____ Date/Time: _____

Observer(s): _____

Target Skill/Goal/Behavior: _____

Directions: Use this form to ensure the target behavior is measurable and observable by addressing the when, what, and how, then refine by addressing the antecedent, behavior, and consequence.

CREATE A MEASURABLE AND OBSERVABLE GOAL:

1. **WHAT** is the target goal/behavior/skill?
2. **WHEN** and **WHERE** should the target goal/behavior/skill occur?
3. **HOW** will team members/observers know the target goal/behavior/skill has been mastered?

REFINE GOAL:

1. Antecedent:

2. Behavior:

3. Consequence:

GOAL:



TASK ANALYSIS

Learner's Name: _____ Date/Time: _____

Observer(s): _____

Target Skill/Behavior/Goal: _____

Directions: Use this worksheet to conduct a task analysis of steps for a lesson progression.

CONDUCT A TASK ANALYSIS ASSESSMENT:

1. Complete an inventory of a typically developing peer completing the skill, task, or activity. As you observe a peer completing the task or activity, write down each step. For more detailed information on this process, check out the Task Analysis module.
2. Observe the learner completing the skill, task, or activity. Record behaviors/steps that are performed independently and those that are not performed independently.

Steps
1.
2.
3.
4.
5.
6.
7.
8.
9.
10.



DATA COLLECTION: LESSON PROGRESSION

Learner's Name: _____

Date/Time: _____

Observer(s): _____

Setting: _____

Target Goal/Bbehavior/Skill: _____

Directions: Collect data on the frequency of the learner demonstrating the target goal/behavior/skill to determine if the learner is making progress.

Steps	Dates				
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					

Prompt Key: VB = Verbal; VSP = Prompt to use Visual Support; G = Gestural; M = Model; P = Physical; I = No prompts needed/Independent; IS = Independent with support (VS = Visual Support; VM = Video Modeling; SN = Social Narratives)



DATA COLLECTION: SELF-GRAPHING TRIALS

Learner's Name: _____

Date/Time: _____

Observer(s): _____

Setting: _____

Target Goal/Behavior/Skill: _____

Directions: Determine cues and desired responses for each step. Use the self-graphing section to determine mastery. Remember criteria for mastery is usually between 80%-100% over 3 sessions.

TASK ANALYSIS:

Steps	Stimulus	Desired Response	Start Date	Mastered Date
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				



TRIALS DATA:

10										
9										
8										
7										
6										
5										
4										
3										
2										
1										
Step, Date, & Prompt Level										

Response Key: + = Correct; - = Incorrect; 0 = No response

Prompt Key: VB = Verbal; VSP = Prompt to use Visual Support; G = Gestural; M = Model; FP = Full Physical; PP = Partial Physical; I = No prompts needed/Independent; IS = Independent with support (VS = Visual Support; VM = Video Modeling; SN = Social Narratives)

ANECDOTAL NOTES:



DATA COLLECTION: LESSON

Learner's Name: _____

Date/Time: _____

Observer(s): _____

Setting: _____

Target Goal/Behavior/Skill: _____

Directions: Collect data on the frequency of the learner demonstrating the target goal/behavior/skill to determine if the learner is making progress.

ANTECEDENTS:

Instruction/Cue:

Prompts:

Materials:

Setting:

TARGET BEHAVIOR:

Correct response:

Incorrect response:

No response:

CONSEQUENCE:

Reinforcement:

Error correction:

Other:



TRIALS DATA:

Goal: _____ correct responses out of _____ presented opportunities to respond

Date										
Trial 1										
Trial 2										
Trial 3										
Trial 4										
Trial 5										
Trial 6										
Trial 7										
Trial 8										
Trial 9										
Trial 10										
%										

ANECDOTAL NOTES:



REINFORCER SAMPLING & CHECKLIST

Learner's Name: _____ **Date/Time:** _____

Observer(s): _____

Target Goal/Behavior/Skill: _____

Directions: Use this worksheet and checklist to identify and select reinforcers/rewards based on the learner's preferred items, interests, and activities for **Positive Reinforcement** and **Token Economy**.

CONDUCT A REINFORCER SAMPLING:

1. Sit in front of the learner and hold up two items. Ask the learner to "Pick one."
2. Wait 10 seconds for the learner to indicate selection in manner that is appropriate for the learner (e.g., verbalization, pointing, using an augmentative communication device).
3. Place the selected object in a container for learner's selection and non-selected item in the not selected container.
4. Repeat steps 1 through 3 until half of the objects presented are selected.

Item 1	Selected?	Item 2	Selected?
	Yes No		Yes No
	Yes No		Yes No
	Yes No		Yes No
	Yes No		Yes No
	Yes No		Yes No
	Yes No		Yes No
	Yes No		Yes No

LIST SELECTED REINFORCERS:



LIST POTENTIAL REINFORCERS:

	AGE APPROPRIATE?	
1. What natural reinforcers could be used?	Yes	No
2. What activities, objects, and/or foods does the learner select independently?	Yes	No
3. What phrases or gestures seem to produce a pleasant response from the learner?	Yes	No
4. What does the learner say they would like to work for (if appropriate)?	Yes	No
5. What reinforcers were identified by parents/family members and/or team members as being successful in the past?	Yes	No
6. Does the learner require additional adaptations/modifications/supports? Such as visual supports or a communication device?	Yes	No
7. Have reinforcers/rewards for the learner been identified based on the learner's interests/preferred items and/or activities?	Yes	No
8. Are additional materials and/or resources for using Functional Behavior Assessment ready and available?	Yes	No



FOODS FOR SNACKS/MEALTIME ROUTINES:

- | | | |
|--|------------------------------------|-----------------------------------|
| <input type="checkbox"/> Cheese | <input type="checkbox"/> Fruit | <input type="checkbox"/> Pretzels |
| <input type="checkbox"/> Chicken Nuggets | <input type="checkbox"/> Goldfish | <input type="checkbox"/> Other: |
| <input type="checkbox"/> Chips | <input type="checkbox"/> Ice Cream | <input type="checkbox"/> Other: |
| <input type="checkbox"/> French Fries | <input type="checkbox"/> Pizza | <input type="checkbox"/> Other: |

GAMES FOR PLAY/RECESS ROUTINES:

- | | | |
|---|-------------------------------------|---------------------------------|
| <input type="checkbox"/> Burrito games with a blanket | <input type="checkbox"/> Peek-a-Boo | <input type="checkbox"/> Other: |
| <input type="checkbox"/> Chase | <input type="checkbox"/> Tickle | <input type="checkbox"/> Other: |
| <input type="checkbox"/> Pat-a-Cake | <input type="checkbox"/> Other: | <input type="checkbox"/> Other: |

TOYS FOR PLAY/RECESS ROUTINES:

- | | | |
|---|-------------------------------------|---|
| <input type="checkbox"/> Books | <input type="checkbox"/> Legos | <input type="checkbox"/> Remote controlled toys |
| <input type="checkbox"/> Cars/Trains/Trucks | <input type="checkbox"/> Noisy toys | <input type="checkbox"/> Other: |
| <input type="checkbox"/> Computer | <input type="checkbox"/> Phones | <input type="checkbox"/> Other: |
| <input type="checkbox"/> Doll house | <input type="checkbox"/> Puzzles | <input type="checkbox"/> Other: |

SPECIAL INTERESTS FOR ACTIVITIES/ROUTINES:

- | | | |
|---|---|--------------------------------------|
| <input type="checkbox"/> Book Character: | <input type="checkbox"/> Movie Character: | <input type="checkbox"/> TV Show: |
| <input type="checkbox"/> Book: | <input type="checkbox"/> Movie: | <input type="checkbox"/> Video Game: |
| <input type="checkbox"/> Cars, Trains, Trucks | <input type="checkbox"/> Music | <input type="checkbox"/> Other: |
| <input type="checkbox"/> Computers/Technology | <input type="checkbox"/> Numbers | <input type="checkbox"/> Other: |
| <input type="checkbox"/> Dinosaurs | <input type="checkbox"/> Real-Life Person: | <input type="checkbox"/> Other: |
| <input type="checkbox"/> Letters | <input type="checkbox"/> TV Show Character: | <input type="checkbox"/> Other: |



PLANNING CHECKLIST

Learner's Name: _____ Date/Time: _____

Observer(s): _____

Target Goal/Behavior/Skill: _____

Directions: Complete this checklist to determine DTT is ready to be implemented.

REFINE THE LEARNING OBJECTIVE:

What cues the learner to perform the target learning objective (antecedent)?

What is the target learning objective the learner must demonstrate (behavior)?

How will team members/observers know the learner has mastered the target learning objective (criterion)?

What is the refined learning objective?

CONDUCT A TASK ANALYSIS ASSESSMENT:

Steps	
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	
9.	
10.	



DATA COLLECTION METHOD:

SELECT 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:

PLANNING:

- ☐ Has the target goal/behavior/skill been identified?
- ☐ Has baseline data and/or a functional behavior assessment been collected through direct observation of the learner?
- ☐ Is the target skill/behavior/goal measurable and observable? Does it clearly state **what** the target skill/behavior/goal is, **when** it will occur, and **how** team members/observers will know it has been mastered?
- ☐ Is Discrete Trial Training appropriate for the learner's target goal/behavior/skill?
- ☐ Does the learner require additional adaptations/modifications/supports? Such as a communication device?
- ☐ Have reinforcers/rewards for the learner been identified based on the learner's interests/preferred items and/or activities?
- ☐ Are additional materials and/or resources for using Discrete Trial Training ready and available?



MONITORING PROGRESS CHECKLIST

Learner's Name: _____ **Date/Time:** _____

Observer(s): _____

Target Goal/Behavior/Skill: _____

Directions: Complete this checklist to determine if the learner is making progress with using Discrete Trial Training.

MONITORING PROGRESS:

- ☐ Is the target skill or behavior well defined?
- ☐ Is the skill or behavior measurable and observable?
- ☐ Has data been collected and analyzed?
- ☐ Is the skill or behavior too difficult for the learner?
- ☐ Was Discrete Trial Training used with fidelity?
- ☐ Are there too many reinforcers?
- ☐ Are there too few reinforcers?
- ☐ Are all team members using Discrete Trial Training in a consistent manner?
- ☐ Is Discrete Trial Training occurring at a sufficient level to maintain the behavior or target skill?



COLLECT DATA:

Steps	Dates				
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					

Prompt Key: VB = Verbal; VSP = Prompt to use Visual Support; G = Gestural; M = Model; P = Physical; I = No prompts needed/Independent; IS = Independent with support (VS = Visual Support; VM = Video Modeling; SN = Social Narratives)

ANECDOTAL NOTES:

STEP-BY-STEP GUIDE

This step-by-step practice guide outlines how to plan for, use, and monitor Discrete Trial Training.

BEFORE YOU BEGIN...

Each of the following points is important to address so that you can be sure Discrete Trial Training is likely to address the target goal/behavior/skill of your learner on the spectrum.



HAVE YOU FOUND OUT MORE INFORMATION ABOUT...?

- ☐ Identifying the target goal/behavior/skill...?
- ☐ Collecting baseline data through direct observation...?
- ☐ Establishing a target goal or outcome that clearly states when the behavior will occur, what the target goal or outcome is, and how team members and/or observers will know when the skill is mastered...?

If the answer to any of the above questions is 'No,' review the process of how to select an appropriate EBP (<https://afirm.fpg.unc.edu/selecting-EBP>).

For more information about Discrete Trial Training, please visit <https://afirm.fpg.unc.edu/>.

STEP 1: PLANNING FOR DTT

The planning step details the initial steps and considerations involved to prepare for using Discrete Trial Training with a learner on the spectrum.

- 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.

This step-by-step practice guide outlines how to plan for, use, and monitor **Discrete Trial Training**.

Keep in mind that **Discrete Trial Training** is used to break down behavior into discrete steps.

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.


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 Lesson** for preparing a lesson form and collecting data.
-  Use the **DTT Lesson Progression** to collect data.
-  Use the **DTT Self-Graphing Trials** to collect data.

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 **Reinforcer Sampling & Checklist** to select possible reinforcers.

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 **Planning Checklist** to determine location and materials needed.

STEP 2: USING DTT

This step details the process of implementing Discrete Trial Training with a learner on the spectrum.

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. 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.
- 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.

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. Provide the learner with instruction (SD), prompt the target behavior, and then reinforce the learner's response if correct. Over time, prompts should be systematically faded until the learner can independently and consistently perform the skill with the one stimulus object.
- Present distractor 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




- Present distractor 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 step details how to monitor the use of Discrete Trial Training with a learner on the spectrum and how to determine next steps based on the data.

1. Collect and analyze data

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.

-  Use the **DTT Lesson** for preparing a lesson form and collecting data.
-  Use the **DTT Lesson Progression** to collect data.
-  Use the **DTT Self-Graphing Trials** to collect data.

2. Determine next steps based on learner progress

Collecting data will help team members decide about the effectiveness of using Discrete Trial Training and whether the learner on the spectrum is making progress. If a learner is making progress based upon data collected, team members should continue to use the selected strategies.

If team members determine that the learner is not making progress, consider the following:

- Is the target skill or behavior well defined?
- Is the 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 on the spectrum continues not to show progress, consider selecting a different evidence-based practice to use with the learner on the spectrum.

3. 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.



IMPLEMENTATION CHECKLIST

		Observation:	1	2	3	4	5
		Date:					
		Observer's Initials:					
STEP 1: PLANNING							
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	Identify reinforcers						
1.5	Prepare for DTT session						
STEP 2: USING							
2.1	Deliver trials						
2.1a	Transition learner to teaching location						
2.1b	Obtain the learner's attention, and together select reinforcer						
2.1c	Provide instruction or other Sd (antecedent) and wait for a response						
2.1d	Provide feedback based on learner's response (e.g., reinforcement, corrective feedback, prompt, or provide another trial)						
2.1e	Repeat same instruction for targeted number of trials						
2.2	Conduct massed trial training						
2.2a	Deliver a maintenance trial. If learner does not pass, teach skill again.						
2.2b	Deliver trials and respond to the learner's behavior.						
2.2c	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.						
2.2d	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.						
2.2e	Review mastered steps (maintenance trials) once or twice during each session.						
2.3	Conduct discrimination training						
2.3a	Present new stimulus and fade prompts.						
2.3b	Present distractor stimulus in the periphery, give the instruction, elicit the behavior, and reinforce.						
2.3c	Teach generalized use of skill or concept.						
STEP 3: MONITORING							
3.1	Collect data on target behaviors						
3.2	Determine next steps based on learner progress						
3.3	Review mastered programs						

TIP SHEET FOR PROFESSIONALS

DISCRETE TRIAL TRAINING ...

- Is a focused evidence-based practice for children and youth on the spectrum from 0-22 years old that can be implemented in multiple settings.
- Consists of an adult breaking behavior down into separate (discrete) steps that have a clear beginning, middle, and end.



TIPS:

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

WHY USE WITH LEARNERS ON THE SPECTRUM?

- 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.

INSTRUCTIONAL OUTCOMES:

The evidence-base for Discrete Trial Training supports its use to address the following outcomes, according to age range, in the table below:

Age	Academic	Adaptive	Behavior	Cognitive	Communication	Joint Attention	Play	School Readiness	Social	Vocational
0-2						Yes			Yes	
3-5	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	
6-11	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes
12-14					Yes				Yes	
15-18	Yes				Yes				Yes	
19-22					Yes				Yes	

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
- Conduct massed trial teaching
- Conduct discrimination training

3. MONITOR

- Collect and analyze data on target behaviors
- Determine next steps
- Review mastered programs.



Discrete Trial Training DTT

This sheet was designed as a supplemental resource to provide basic information about Discrete Trial Training for professionals working with learners on the spectrum.

For more information about this selected evidence-based practice, please visit <https://afirm.fpg.unc.edu/>.

PARENT'S GUIDE

WHAT IS DTT?

- Discrete Trial Training is a focuses evidence-based practice for children and youth on the spectrum from 0-22 years old.
- DTT breaks down a skill or behavior into separate steps that have a clear beginning, middle, and end.
- DTT consists of repeated trails with the learner receiving reinforcement for responding correctly.



Discrete Trial Training DTT

This parent introduction to DTT was designed as a supplemental resource to help answer questions about Discrete Trial Training.

To find out more about how this DTT is being used with your child, please talk with:

For more information about this selected evidence-based practice, please visit <https://afirm.fpg.unc.edu/>.

WHY USE THIS 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 many age groups to achieve outcomes in the following areas: academic/pre-academic, adaptive/self-help, behavior, cognitive, communication, joint attention, play, school readiness, social, and vocational.

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.



CEC STANDARDS

INITIAL PRACTICE-BASED STANDARDS FOR EARLY INTERVENTIONISTS/EARLY CHILDHOOD (0-5 YEARS; CEC, 2020)

Standard 4: Assessment Processes

4.1 Understand the purposes of formal and informal assessment, including ethical and legal considerations, and use this information to choose developmentally, culturally and linguistically appropriate, valid, reliable tools and methods that are responsive to the characteristics of the young child, family, and program

Standard 6: Using Responsive and Reciprocal Interactions, Interventions, and Instruction

6.3 Engage in ongoing planning and use flexible and embedded instructional and environmental arrangements and appropriate materials to support the use of interactions, interventions, and instruction addressing developmental and academic content domains, which are adapted to meet the needs of each and every child and their family.

6.6 Use responsive interactions, interventions, and instruction with sufficient intensity and types of support across activities, routines, and environments to promote child learning and development and facilitate access, participation, and engagement in natural environments and inclusive settings.

6.7 Plan for, adapt, and improve approaches to interactions, interventions, and instruction based on multiple sources of data across a range of natural environments and inclusive settings.

INITIAL PRACTICE-BASED STANDARDS FOR (GRADES K-12; CEC, 2020):

Standard 4: Using Assessment to Understand the Learner and the Learning Environment for Data-Based Decision Making

4.2 Develop, select, administer, and interpret multiple, formal and informal, culturally and linguistically appropriate measures and procedures that are valid and reliable to contribute to eligibility determination for special education services.

4.3 Assess, collaboratively analyze, interpret, and communicate students' progress toward measurable outcomes using technology as appropriate, to inform both short- and long-term planning, and make ongoing adjustments to instruction.

Standard 5: Supporting Learning Using Effective Instruction

5.1 Use findings from multiple assessments, including student self-assessment, which are responsive to cultural and linguistic diversity and specialized as needed, to identify what students know and are able to do. They then interpret the assessment data to appropriately plan and guide instruction to meet rigorous academic and non-academic content and goals for each individual.

5.2 Use effective strategies to promote active student engagement, increase student motivation, increase opportunities to respond, and enhance self-regulation of student learning.

5.3 Use explicit, systematic instruction to teach content, strategies, and skills to make clear what a learner needs to do or think about while learning.

5.6 Plan and deliver specialized, individualized instruction that is used to meet the learning needs of each individual.





GLOSSARY

Antecedent - a cue that tells the learner to use the target skill/behavior

Applied Behavior Analysis- the use of behavioral techniques to teach a learner a new skill

Discrete task - a task that requires a single response and is of a relatively short duration.

Discrete trial training - discrete trial training consists of an adult using adult-directed, massed trial instruction, reinforcers, and clear contingencies and repetition to teach a new skill or behavior

Discrimination training - method of teaching a learner a new response to a stimulus when using DTT

Discriminative stimulus - instruction, cue, or stimuli signaling the learner to demonstrate a specific behavior to receive a reinforcer

Generalization - when the target skill or behavior continues to occur when the intervention ends, in multiple settings, and with multiple individuals (e.g., peers, teachers, parents).

Gestural prompt - a gesture/movement provides the learner on the spectrum with information about how to use a target skill or complete a task.

Individualized Intervention - an intervention that is planned and implemented in a way specific to the learner receiving the intervention.

Maintenance trial - consists of the learner demonstrating a skill that is already mastered

Massed trial teaching - a primary characteristic of DTT. Massed trial teaching involves team members repeating the same learning trial several times in a row to shape the behavior of the learner

Model prompts - involve demonstrating the target skill and are used when verbal or visual prompts are not sufficient in helping learner on the spectrum use the target skill correctly.

Physical prompts - useful when teaching motor behaviors and when the learner on the spectrum does not respond to less restrictive prompts.

Positive reinforcement - refers to the presentation of a reinforcer after a learner uses a target skill/behavior, therefore encouraging him/her to perform that behavior again.

Prompt - any help provided that will assist the learner in using specific skills. Prompts can be verbal, gestural, or physical.

Reinforcement - feedback that increases the use of a strategy or target behavior/skill.



Reinforcer menu - a menu of objects, pictures, or text from which a learner can select a reinforcer.

Reinforcer sampling - helps to identify activities and materials that are motivating to learner. Also known as a preference assessment.

Reinforcers - increase the likelihood that the target skill/behavior will be used again in the future.

Social reinforcer - found in any setting but might need to be taught to learners on the spectrum if these reinforcers are not inherently reinforcing. Examples include facial expressions, words and phrases ("Good job!").

Tangible reinforcers - objects that a learner on the spectrum can acquire.

Target behavior - the behavior or skill that is the focus of the intervention. Behavior may need to be increased or decreased.

Task analysis - breaks down complex target skills or behaviors into smaller steps.

Team members - includes the parents, other primary caregivers, IEP/IFSP team members, teachers, therapists, early intervention providers, and other professionals involved in providing services for the learner on the spectrum.

Verbal prompts - includes any verbal assistance provided to learners to help them use a target skill correctly. Verbal cues range in intensity level from least to most restrictive.



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