**Discrete Trial Training (DTT)**

**Brief Introduction**
Discrete trial training (DTT) is a one-to-one instructional approach used to teach skills in a planned, controlled, and systematic manner. DTT is used when a learner needs to learn a skill best taught in small, repeated steps. In addition, DTT is often characterized by repeated, or massed, trials that have a definite beginning and end.

**Description**
In DTT each trial or teaching opportunity has a definite beginning and end, thus the “discrete trial” descriptor. Within DTT, the use of antecedents and consequences is carefully planned and implemented. The instructional trial begins when the adult presents a clear direction or stimulus, which elicits a target behavior. Positive praise and/or tangible rewards are used to reinforce desired skills or target behaviors. Data collection is an important part of DTT and supports decision making by providing teachers/practitioners with information about beginning skill level, progress and challenges, skill acquisition and maintenance, and generalization of learned skills or behaviors. Other practices that are used in DTT include task analysis, prompting, time delay, and reinforcement.

DTT meets evidence-based criteria with 13 single-case design studies. According to the evidence-based studies, this intervention has been effective for preschoolers (3–5 years) to elementary school-age learners (6–11 years) with ASD. DTT can be used effectively to address social, communication, behavior, joint attention, school-readiness, academic, adaptive, and vocational skills.

**Brief Adapted from**


**Matrix of DTT by Outcome and Age (years)**

<table>
<thead>
<tr>
<th>Social</th>
<th>Communication</th>
<th>Behavior</th>
<th>Joint Attention</th>
<th>Play</th>
<th>Cognitive</th>
<th>School Readiness</th>
<th>Academic</th>
<th>Motor</th>
<th>Adaptive</th>
<th>Vocational</th>
<th>Mental Health</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-5</td>
<td>6-14</td>
<td>15-22</td>
<td>0-5</td>
<td>6-14</td>
<td>15-22</td>
<td>0-5</td>
<td>6-14</td>
<td>15-22</td>
<td>0-5</td>
<td>6-14</td>
<td>0-5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

August 2015
Discrete Trial Training (DTT)

Discrete Trial Training (DTT) Research Summary

<table>
<thead>
<tr>
<th>Ages</th>
<th>Skills/Intervention Goals</th>
<th>Settings</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 years 9 months–11 years*</td>
<td>Behavior</td>
<td>School and community</td>
<td>EBP</td>
</tr>
</tbody>
</table>

*The information found in the Research Summary table is updated yearly following a literature review of new research and this age range reflects information from this review.

Research


Discrete Trial Training (DTT)


Discrete Trial Training (DTT)


**References**


Discrete Trial Training (DTT)

Steps for Implementation

Adapted from the NPDC

**Step 1: Decide What to Teach**

A. Decide which of the learner’s IFSP or IEP objectives will be taught using a DTT approach.

B. Discuss the planned use of DTT for the particular learning objective with other team members, especially parents/family members.

C. Examine the target IEP/IFSP objective and refine if needed.

**Step 2. Break the Skill Down into Teachable Steps**

A. Complete a task analysis of the skill, identify each step of the skill, and list the steps in sequential order from entry to mastery level.

B. List the steps clearly so any team member can complete the trials if necessary.

**Step 3. Set Up the Data Collection System**

A. Select data sheets specifically designed for the skill being taught.

**Step 4. Designate Location(s)**

A. Generate a list of possible locations in which the teaching can take place.

B. Select location(s) for DTT.

**Step 5. Gather Materials**

A. Assemble materials to be used during the teaching.

**Step 6. Deliver the Trials**

A. Assist the learner in transitioning to the teaching location.

B. Obtain the learner’s attention and, together, select reinforcers.

C. Provide the instruction or other Sd (antecedent) and wait for a response.

D. If the learner responds appropriately, deliver a reinforcing consequence or reinforcer and mark the trial as correct.
Discrete Trial Training (DTT)

E. If the learner does not respond or responds incorrectly, do one of the following:
   - Provide corrective feedback and begin the trial again, presenting the antecedent or cue;
   - Prompt the learner to respond correctly, reinforce, and record the result of the prompted trial; or
   - Provide another trial, with reduced or no prompting, reinforce appropriately, and record.

F. Immediately repeat the same instruction in the same way as above for the targeted number of trials: rewarding, correcting, prompting, and recording for each trial.

G. When DTT instruction for a new skill begins, reinforce every positive response from the learner with both social and tangible reinforcement.

Step 7. Massed Trial Teaching

A. Begin the teaching episode with a maintenance trial (demonstration of a skill already mastered) and record the result.

B. Present the teaching step, if the learner passes the maintenance trial.

C. If the learner responds correctly on the first trial, repeat the teaching step several more times and record the results.

D. Present a more difficult level if the learner has reached the mastery criterion for the step (e.g., 90% success for three consecutive teaching sessions).

E. If the learner does not pass the trial step correctly, administer the trial again.

F. If the learner is successful, repeat items 3 and 4 above until mastery is accomplished.

G. If the learner is unsuccessful, repeat the trial, adding an increased level of assistance to ensure that the learner performs the skill and is reinforced.

H. Repeat the step, continuing to add the prompts, 3–5 more times.

I. If the learner is consistently successful, repeat the trial without the prompt several more times.

J. If the learner continues to fail the unprompted trials, add the prompt again for several more successful trials before ending the teaching for the day.

K. Review mastered steps (maintenance trials) once or twice during each session and teach new steps following the massed trials format until all steps of the skill have been mastered.

August 2015
Step 8. Conduct Discrimination Training

A. Present the new stimulus to the learner, provide the instruction, prompt the target skill/behavior, and reinforce.

B. Systematically fade prompts until the learner independently and consistently performs the skill with the one stimulus object.

C. Present the target stimulus as usual, but also present another stimulus, the distracter, in the periphery; give the instruction; elicit the behavior; and reinforce.

D. Add a different distracter. Once the learner performs correctly, use all three stimuli for the trials.

E. Teach generalized use of the skill or concept by:
   - teaching discrimination of multiple stimuli.
   - applying the teaching skill to multiple situations.

Step 9. Monitor Intervention Effectiveness

A. Develop a system to monitor the effectiveness of the intervention that outlines when, where, by whom, and how data are collected.

B. Modify the program to reflect the learner’s progress by changing steps (either to higher or lower levels) as needed.

C. Review mastered programs and continue to teach them as “maintenance” trials.

D. Specifically target maintenance trials for generalization by practicing trials:
   - in other settings,
   - with different adults,
   - with different reinforcers, and/or
   - with different instructions/stimuli.

E. Have the educational team meet regularly to report on the learner’s progress and identify potential changes to the learner’s program.