PROJECT ACCESS FACT SHEET #59

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Discrete Trial Training

This intervention falls under the Behavioral Package in the MAGI. Behavioral Package interventions are designed to reduce problem behavior and teach functional alternative behaviors through the basic principles of behavior change. Treatments falling into this category reflect research representing the fields of applied behavior analysis, behavioral psychology, and positive behavior supports. MAGI Definition: 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. Each trial or teaching opportunity has a definite beginning and end, thus the descriptor discrete trial. It has been found effective for improving skills in Communication and Behavior. Research does **not** indicate effective use of DTT for Social and Academic skill areas. In addition, the age range supported by evidence for effective use of DTT is from 2 to 9 years.

The Five Steps of a Discrete Trial Training session
1. Antecedent
2. Prompt
3. Response
4. Consequence (for correct and incorrect responses)
5. Inter-trial interval

Before you start: You must first consider your student goals and decide what to teach using this intervention method. Then complete a thorough **task analysis** to determine what teachable steps you will use in your discrete trials. Next, set up or create your **data collection** system for each individual discrete trial component so that you are ready to implement and track data with your student. Data collection forms should include ways to track the level of **prompting** for each trial. Finally, decide on a location and materials needed to conduct your discrete trials. Remember, based on the principles of Behavior change theory, **reinforcement** is key. So be sure you have a good idea of multiple reinforcers that work for your individual student. A DTT session is made up of multiple repetitions of preselected discrete trials in a concentrated period of time also called massed trial teaching.

1. **Antecedent** simply means what comes BEFORE the behavior. Often referred to as the Discriminative Stimulus (**Sd**) during DTT.

The Sd is a specific, clear, and (initially) very concise stimulus within the environment that signals a response is required and reinforcement is available. For example, an instruction for identifying colors might be "touch blue". Initially, avoid a wordy instruction like "will you please point to the blue block on the table?" and be sure that everyone implementing the DTT is using the exact same Sd. As the student learns the skill, more complex instructions and some variance among trainers can be introduced, but simplifying the instruction initially helps avoid confusion about the expected response and increases the speed of skill acquisition. The student should be allowed a maximum of given only 3-5 seconds to respond.

2. **Prompting** is another behaviorally based teaching method that is part of the MAGI Antecedent Package.

During DTT, prompts are required to the extent that ensures successful responses. Typically, a child will not know how to respond correctly to the Sd at first, so prompting will be required to the level that facilitates a correct response. This may be a hand-over-hand assist, a model or demonstration, a verbal or gestural cue, etc. Prompting will specific to each student and will fade as quickly as possible within the series of discrete trials during mass trial implementation. Prompting is only used to generate successful responses, so it should be faded from most to least rapidly to avoid creating student dependency on prompts.

3. **Response** (**R**) is the BEHAVIOR or skill you are teaching with DTT.

The skill or behavior being taught MUST be clearly defined including any acceptable parameters. It is important that all those implementing DTT with each individual child reinforce student responses consistently to avoid confusion and increase the speed of skill acquisition. For example, if the response for "touch blue" is not clearly defined, one teacher might accept when the student lightly touches the table in front of the card (as in a touch- point) and another might be accepted only when the student slaps the card with his/her whole hand. If the target behavior is not clearly defined and consistent, learning will be slowed and the student might be learning the incorrect behavior.

4. **Consequence** simply means what occurs AFTER the behavior or student's response. Often referred to as the Reinforcing Stimulus (**Sr+**) during DTT.

If Response is Correct: ALL correct responses are immediately reinforced using reinforcers that can be implemented briefly and with a clear end. This means the students should be given something reinforcing immediately following correct responses made independently AND with prompts! This will signal that the student's behavior was a correct response, thus we are increasing the likelihood that behaviors being taught will happen again.

If Response is Incorrect: no reinforcement is delivered. This clearly shows the student the behavior was not correct because it did not result in reinforcement. Without reinforcement of incorrect behaviors in the context of multiple reinforcers to correct responses we can effectively decrease the likelihood of the student giving the incorrect response again. An informational "nope" may be stated to clearly indicate the end of this incorrect discrete attempt/trial.

5. **Inter-trial Interval** refers to a brief pause between Discrete Trials during massed trial teaching consistent with each trial having a clear beginning and a clear ending.

For effective Mass Trial Teaching, multiple repetitions need to be conducted without interruption for a concentrated period of time or until the child's attention can no longer be focused on the session and reinforcers. Typically, 10 discrete trials are repeated for each individual stimulus or antecedent directive. This also allows for easy data collection and percentages.

The National Professional Development Center on ASD, 10/2010, laid out the following 9 Steps for Implementation of DTT instruction, listed below. These steps include the planning process before starting DTT instruction as well as two additional steps to take after your initial trials with DTT in order to check for effectiveness of the instruction to teach the new skills selected.

Discrete Trial Training: Steps for Implementation
Step 1. Deciding What to Teach: Assessment and Summarizing Results
Step 2. Breaking the Skill Down into Teachable Steps
Step 3. Setting-up the Data Collection System
Step 4. Designating Location(s)
Step 5. Gathering Materials
Step 6. Delivering the Trials
Step 7. Massed Trial Teaching
Step 8. Conducting Discrimination Training
Step 9. Review and Modify

Reference and Learn more at:

National Professional Development Center on Autism Spectrum Disorders
http://autismpdc.fpg.unc.edu/sites/autismpdc.fpg.unc.edu/files/imce/documents/Discrete-Trial-complete10-2010.pdf

The Missouri Autism Guidelines Initiative ASD: Guide to Evidence-based Interventions
http://autismguidelines.dmh.mo.gov/documents/Interventions.pdf

Educate Autism: tools to help you teach. A website by Gavin Cosgrave and Dr. Lasairíona McGuinness, BSc. MSc. PhD in Ireland http://www.educateautism.com/applied-behaviour-analysis/discrete-trial-training.html

Autism Community http://www.autism-community.com/what-is-discrete-trial-teaching/