

Module: Discrete Trial Training (DTT)

CASE STUDY EXAMPLES

Henry

Step 1. Deciding What to Teach with Discrete Trial Training

Henry, an 18-year-old student with autism, has verbal language that involves phrase speech and significant intellectual impairment. Henry will be transitioning out of high school and his educational team and family are discussing strategies to continue to build Henry's adaptive skills. Henry does not write and his current reading skills are limited to a few survival words. He knows all the letters in the alphabet, can trace shapes, enjoys connecting dot type activities, and other coloring and drawing activities. Henry occasionally receives checks for gifts, and as adulthood approaches, he will be receiving social security checks. He likes to mark an "H" on his checks, and he asks to sign his name on checks and drawing papers, by which he means making an H.

When the IEP team meets to discuss Henry's progress towards identified goals, the issue of handwriting is raised. The team asks Henry if he would like to learn to write his whole name in his checks and drawing, and he responds affirmatively. The group, including Henry and his parents, decides to identify a goal for Henry that includes being able to sign his name, for checks and other important documents. The team writes the following goal: When instructed, Henry will write his first and last name legibly in small block letters 80% of opportunities.

Step 2. Breaking the Skill Down into Teachable Steps

The educational team decides to utilize discrete trial training to teach Henry to write his name in handwriting. The team focuses on the letters necessary to write Henry's first and last name. The occupational therapist is consulted when preparing a task analysis of handwriting these letters. The handwriting skill is broken down into the following steps:

1. Trace the letters H-e-n-r-y 1" tall without veering more than 1/4" from the model.
2. Trace the letters H-e-n-r-y 1" tall by connecting dots spaced 1/4" apart.
3. Trace the letters H-e-n-r-y 1" tall by connecting dots spaced 1/2" apart.
4. Trace the letters H-e-n-r-y 1" tall by connecting dots that mark the beginning and end of each stroke.
5. Trace the letters H-e-n-r-y S-m-i-t-h 1" tall without veering more than 1/4" from the model.
6. Trace the letters H-e-n-r-y S-m-i-t-h 1" tall by connecting dots spaced 1/4" apart.

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7. Trace the letters H-e-n-r-y S-m-i-t-h 1" tall by connecting dots spaced 1/2" apart.
8. Write the letters H-e-n-r-y S-m-i-t-h 1" tall by connecting dots that mark the beginning and end of each stroke.
9. Write the letters H-e-n-r-y S-m-i-t-h within parallel lines 1" apart using only a dot that begins each letter.
10. Write the letters H-e-n-r-y S-m-i-t-h within parallel lines 3/4" apart using only a dot that begins each letter.
11. Write the letters H-e-n-r-y S-m-i-t-h within parallel lines 1/2" apart using only a dot that begins each letter.
12. Write the letters H-e-n-r-y S-m-i-t-h within parallel lines 1/4" apart using only a dot that begins each letter.
13. Write the letters H-e-n-r-y S-m-i-t-h within parallel lines 1/4" apart using only a dot that begins each letter.
14. Write the letters H-e-n-r-y S-m-i-t-h within parallel lines 1/4" apart using only a dot that begins each word.
15. Write the letters H-e-n-r-y S-m-i-t-h on a single line in letters that range from 1 1/2 to 1/4 inch high using only a dot that begins each word.
16. Write the letters H-e-n-r-y S-m-i-t-h on a single line in letters that range from 1 1/2 to 1/4 inch high.
17. Write the letters H-e-n-r-y S-m-i-t-h on a single line in letters that range from 1 1/2 to 1/4 inch high on a mocked up check.

Step 3. Setting-up the Data Collection System

Mr. Jones, along with Henry's educational team, reviews various data collection sheets to keep track of Henry's progress on this skill. The team decides to use a data collection system that scores a pass or fail for each letter, with a pass defined as lines for each letter drawn within 1/4" of target, during the tracing stage, and the visual recognition of each letter during the "freestyle" stage, when Henry is only working from the beginning dot. Thus, each trial involves Henry completing a line on a worksheet that is laid out according to the step. Five lines are prepared per page. Henry will complete two of these worksheets per day, one in the morning and one in the afternoon part of his seatwork. The number of passes per line will be totaled at the end of the day and converted to a percentage, which will represent his performance for the day. The data sheet is a table involving five columns, one for the start date for each step, one for a record of each day's work – date and percent correct, one for the date of mastery, defined as 80% of target three consecutive days, the fourth column as the list of the steps, and the final column providing a space for notes.

Step 4. Designating Location

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Mr. Jones determines that the best approach to teach Henry the target skill is in the natural classroom environment, at Henry's desk, during a time when all students are engaged in independent seatwork.

Step 5. Gathering Materials

Henry's family members have been helpful in identifying reinforcers for Henry. They tell Henry's educational team about Henry's intense interest in art activities, computers and computer games. The team determines that Henry can choose time for art activities or a classroom computer as appropriate reinforcer choices for Henry, since both activities fit well into the independent seatwork activity. Mr. Jones prepares some small cards with a picture of a young man playing on a computer or drawing to give Henry. Henry's worksheet contains a box at the end of each line. Henry is to make a mark in the box at the end of each line. When the 5 boxes are completed, Henry takes his work to his teacher, hands over one of the two reinforcer choice cards, and has 10 minutes for his chosen activity.

Step 6. Delivering the Trials

Before beginning the discrete trial training, Mr. Jones assesses Henry's current baseline level. He has Henry practice one line that illustrates each of the first few steps. Henry consistently responds correctly on 80% of the letters in steps one and two, but only 60% of his responses are correct on step three. Based on this data, instruction will begin at step two in order to start with success and move directly into the next step targeting skills in need of improvement.

The trials are repeated across multiple days. Data collection is conducted during each session. The focus of the following sessions is determined by the data from the previous trials. The trials take place for approximately two weeks before re-evaluation and complete data analysis.

Step 7. Massed Trial Teaching

During an independent work period, Mr. Jones joins Henry at his desk and gives him a worksheet. Mr. Jones explains that Henry's new writing assignment will be learning to sign checks and papers. Mr. Jones takes this opportunity to discuss the importance of signing his name. Mr. Jones gives Henry a worksheet for the letter writing trials and demonstrates how to do the first line, completing the line and marking the box. He explains that when all five boxes are marked, Henry can choose computer time or drawing time, and shows him the choice cards. Henry chooses computer time. Mr. Jones gives Henry a fresh worksheet, has him complete the first and second lines with instruction and correction. Henry then completes the third line correctly. Mr. Jones steps

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away while Henry completes the last two lines and has Henry bring him the sheet and his choice card. While Henry works on the computer, Mr. Jones scores the worksheet and observes that Henry has the most difficulty with the letter Y. In the afternoon of the same day, Mr. Jones gives Henry a worksheet at his desk, asks him to complete it, and before the letter Y, he stops Henry, and provides partial physical prompts to correct the Y. He observes the second line, stopping Henry again before the Y and shadowing his hand to correct the overshoot. On the third line, he stops Henry and reminds him to stay on the line (verbal prompt), which Henry accomplishes. On the fourth line, Mr. Jones says “watch out for Y” as Henry begins the Y. On the fifth line, he says nothing and Henry traces it correctly. Henry turns in his sheet and chooses his activity. This process continues through the steps, with Mr. Jones scoring the sheets, stepping in to correct errors and then stepping back to support independent work, moving to the next phase of the trial as defined above in item 2.

Step 8. Conducting Discrimination Training

During the discrete trial training sessions Mr. Jones also conducts discrimination training. For example, when Henry is writing the letter ‘y’ at the end of his name Mr. Jones notices that he is sometimes writing an upper case ‘Y.’ Mr. Jones decides that Henry needs some additional discrimination training in order to identify and produce correct upper and lower case letters. Mr. Jones presents Henry with an array of upper and lower case letters and asks Henry to identify them correctly. Mr. Jones reinforces Henry for each correct response and allows Henry to select a rewarding activity at the end of the discrimination training.

Step 9. Review and Modify

After a month of conducting the discrete trial training, Mr. Jones and the educational team review Henry’s progress in writing his name. Mr. Jones looks at the data he has collected and sees that Henry has mastered all the steps. Henry now completes one daily sheet a day for a month. For maintenance and generalization steps, the skill practice now becomes homework, and Henry completes one sheet each evening at home. In addition, a line is added at the top of all of Henry’s school assignments

[Name: _____]

and Henry is now required to sign his name on all papers turned in and all his artwork.

Henry’s parents also find opportunities for Henry to write his name on checks and various other documents. After one month on maintenance, classroom worksheets and homework end and Henry continues to practice through typical schoolwork, art work, and home experiences involving signing his name.