

## Quick Guide to Constant Time Delay

Constant Time Delay (CTD) is a strategy that has been shown to improve a student's memorization of specific content such as math facts. This strategy uses a stimulus-response cycle while presenting facts to the student.

### STEP 1: Preparation

**Materials:** To prepare for CTD in your classroom, you will need to gather flash cards with the multiplication facts that you will be using. The cards should have the problem on the front and the answer on the back. Also, you may want to use a data sheet to record how the student performs. Read through the sample script to get into the rhythm of reading the cards.

### STEP 2: Implementation

**Instructions for the student:** You will need to let the student know what it is that will be happening during CTD. You may say something like:

*"I will be showing you flash cards with multiplication problems on them. I will read the problem and then you will give the answer."*

#### Quick example with a correct student response:

- 1) Teacher holds up flash card with  $9 \times 8 = \underline{\quad}$  and teacher says, "What is nine times eight?"
- 2) Teacher counts for four seconds waiting for student response.
- 3) Student reads card and provides answer: "Nine times eight equals seventy-two."
- 4) Teacher: "That is correct. Nine times eight equals seventy-two. Nice job!"

#### Quick example with an incomplete student response:

- 1) Teacher holds up flash card with  $9 \times 7 = \underline{\quad}$  and teacher says, "What is nine times seven?"
- 2) Teacher counts for four seconds waiting for student response.
- 3) Student reads card but does not answer: "Nine times seven equals"
- 4) Teacher: "Nine times seven equals sixty-three. What is nine times seven?"
- 5) Student: "Nine times seven equals sixty-three."
- 6) Teacher moves on to next card and records an incorrect response on the data sheet.

### STEP 3: Evaluation

Evaluating student progress is important. If time permits, provide positive reinforcement to the student by showing them the progress they made. You can do this by graphing results and comparing them to previous sessions, counting the correct responses they had during that session and discussing their progress, or by simply praising them for their hard work.

You should record student progress on your data sheet for your future use. You will be able to use the data to use as a starting point for the next session and you will be able to see the student's progress over time.

#### FAQs:

- Question:** What if the student gives the correct response but does not respond within the 4 second delay?  
**Answer:** As long as the student starts their response within the 4 second delay then it can be counted as correct.
- Question:** Can I change the amount of time I use in the delay process?  
**Answer:** Yes! You may vary the length of the delay.
- Question:** Can I use CTD in other areas?  
**Answer:** Yes. CTD can be used with multiplication, addition, subtraction, spelling, sight words, letter recognition, and other skills.
- Question:** How long should I expect an implementation session to take?  
**Answer:** There are many factors that need to be considered. First, how many facts will you be measuring? How many times do you plan on going through the cards? CTD can be implemented in short periods of time. You should plan at least 10 minutes for each session. That will allow you time to gather materials, review data, conduct your session, and review results with the student. Use your judgement based on your needs and the student's needs and abilities.
- Question:** Can I use CTD in groups?  
**Answer:** CTD is designed to be used with individual students.