

Module: Time Delay

CASE STUDY EXAMPLES

Constant Time Delay: Michael

Michael is a six-year-old boy with Asperger's who receives services within an inclusive first grade classroom. His teacher, Ms. Miller, would like to start using constant time delay with him to teach addition facts. Ms. Miller knows that she must do some planning before she can use the time delay procedure with Michael. First, Ms. Miller observes Michael during small group activities throughout the day to determine what skills he currently uses. Ms. Miller already knows that Michael responds positively to reinforcement so she does not observe this skill. Over the course of two days, Ms. Miller keeps brief notes on each of the prerequisite skills that she observes during small group language and math activities (shown below). She knows that these are good times to observe because she often lets the groups work together while floating around the room to monitor their progress.

<i>Skill</i>	<i>Date(s) observed</i>	<i>Comments</i>
<i>Waiting</i>	<i>12/3/08</i>	<i>M. waited while Tabitha handed out the pencils to the rest of the group.</i>
	<i>12/4/08</i>	<i>M. waited for his turn when playing a board game during Language small groups.</i>
<i>Imitating Others</i>	<i>12/3/08</i>	<i>M. imitated John when he laughed and clapped his hands during math activity.</i>
	<i>12/4/08</i>	<i>M. said, "That's awesome!" after Max said it.</i>
<i>Staying Seated</i>	<i>12/3/08</i>	<i>M. stayed seated for 10 minutes before getting up and pacing back and forth behind the small group table.</i>
	<i>12/04/08</i>	<i>M. stayed seated for 12 minutes during the small group activity.</i>
<i>Following one-step instructions</i>	<i>12/03/08</i>	<i>M. began writing his name on the top of his paper after I instructed him to do so.</i>
	<i>12/04/08</i>	<i>M. sat down at the table and chose a game piece after I told him to do so.</i>

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Through her observations, Ms. Miller decides that she can implement time delay with Michael because he has all of the prerequisite skills needed. Next, Ms. Miller decides that she will start using time delay during individual seatwork with Michael because this is a time when most of the other children are able to work independently.

Ms. Miller then selects the cue that she will use during the instructional activities. She decides that she will arrange the environment by putting flashcards at Michael’s desk. Ms. Miller also decides that she will put a chair in front of Michael’s desk so that she can provide the additional cue of holding up a flashcard while saying, “What is (2+2, 1+1, etc.)?” Ms. Miller feels that these verbal instructions are appropriate because Michael is able to follow verbal one-step instructions very successfully.

Once Ms. Miller has decided on the cue, she selects the controlling prompt that will be used to teach addition facts. She decides that she will use a gestural prompt (i.e., pointing) and a model prompt (i.e., answer to the question) as the controlling prompt for this activity. Ms. Miller feels that these two prompts together will help Michael use the skill successfully. He has had very little success with this skill in the past and she feels that a fairly restrictive prompt will be needed for him to respond correctly.

Next, Ms. Miller decides to collect baseline data during individual math seat work for four days before starting time delay. When collecting baseline data, Ms. Miller presents the cue to Michael by holding up a flashcard and saying, “Michael, what is 1+1?” and waits three seconds before recording his response. In each of the trials, Michael either did not respond or responded incorrectly. Therefore, Ms. Miller recorded his responses as “-“ in the *After prompt* column on the data sheet (see a portion of Ms. Miller’s data collection sheet below). She conducts three trials per day for four days to document Michael’s current use of the target skill.

Target skill: Completing addition facts without help.					
BASELINE					
Date: 12/05/08		Delay: 0-second		Date: 12/08/08	
				Delay: 0-second	
Trial #	Before prompt	After prompt	Trial #	Before prompt	After prompt
1		-	1		-
2		-	2		-
3		-	3		-

Her baseline data indicate that Michael did not respond correctly to any of the addition facts when they were presented to him with the cue.

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The following day Ms. Miller begins implementing constant time delay with Michael. While the class is finishing up a small group math activity, Ms. Miller sets up Michael's desk so that she can immediately begin the teaching activity when he comes to his desk for individual math seat work. She places her chair in front of his desk and lays the addition flashcards on his desk. When Michael sits down at his desk, Ms. Miller says, "Look Michael. What is 1+1?" while holding up the card for Michael to see. She immediately says, "Two. That's right. One plus one equals two. Good job," while pointing to the number two on the back of the card, and giving Michael a thumb's up. Ms. Miller then holds up another card and says, "Look, Michael. What is 1+2?" Again, Ms. Miller immediately provides the controlling prompt (verbally providing the answer while pointing to the number on the card). After four trials, Ms. Miller then inserts a delay of four seconds. She does this by saying, "Look, Michael. What is 1+1?" Instead of immediately providing the controlling prompt, Ms. Miller begins counting in her head, "One-one thousand, two-one thousand...." After four seconds, Michael does not respond. At this point, Ms. Miller provides feedback by presenting the cue again (i.e., "What is 1+1") and immediately providing the controlling prompt. Michael then says, "Two." Ms. Miller does not respond and simply holds up another card while giving the cue (i.e., "What is 1+2?") to begin the second trial. Ms. Miller begins counting in her head again. Michael says, "Two." Ms. Miller repeats the cue (i.e., "What is 1+2?") because his response was incorrect and waits an additional four seconds for Michael to respond. After three seconds, Michael says, "Three." Ms. Miller says, "Three. That's right. Two plus one equals three," while pointing to the number on the back of the card, and giving Michael a thumb's up. Ms. Miller conducts three more trials in this manner. During the activity, Ms. Miller keeps a clipboard with a data collection sheet on her lap so that she can record Michael's responses.

The following day, Ms. Miller implements the math teaching activity again. This time, the teaching activity is highly successful with Michael responding correctly before the prompt four out of five times. Ms. Miller continues to keep data during the activity to monitor Michael's progress (see example data collection sheet below).

Target skill: Completing addition facts without help.					
Date: 12/09/08	Delay: 4-second		Date: 12/10/08	Delay: 4-second	
Trial #	Before prompt	After prompt	Trial #	Before prompt	After prompt
1		-	1		-
2		-	2	+	
3	+		3	+	

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After two teaching activities, Ms. Miller reviews the progress monitoring data for this target skill. She determines that Michael is responding correctly before the prompt 50% of the time. Therefore, she decides that she should continue with a delay of four seconds during at least two more teaching activities before increasing the delay.

After two more teaching activities, Michael is demonstrating 100% correct responding with a four-second delay interval. At this time, Ms. Miller decides to increase the delay to five seconds. She will use this delay during two more teaching activities. As Michael continues making progress with his addition facts, Ms. Miller will gradually increase the delay until she reaches six seconds, at which point she will remove the delay entirely. This will allow Michael to use the target skill independently without any prompting. Ms. Miller will continue to take data on Michael's proficiency with addition facts even after the time delay is no longer being used. By collecting these data, Ms. Miller will be able to monitor Michael's acquisition and maintenance of this skill without the use of time delay.