

MODULE: TIME DELAY

NEXT STEPS

Time delay procedures often are implemented by team members during one-to-one and small group teaching activities; however, both constant and progressive time delay can be incorporated into other types of learning activities as well. Two of the most common approaches outlined in the research relate to (1) implementing time delay procedures within the context of daily routines and activities and (2) training typically developing peers to use time delay. Both of these approaches are discussed further in the following section.

Embedding Time Delay within Ongoing Classroom Routines and Activities

The number of learners with developmental disabilities (including learners with ASD) who are educated in inclusive classrooms for at least a portion of the school day has risen dramatically in recent years (Lipsky & Gartner, 1996). Because of this fact as well as the difficulty with which learners with ASD have generalizing the use of newly acquired skills, embedded instruction has become an efficient way to systematically teach learners with ASD. Research has shown that time delay can be easily embedded within naturally occurring activities by providing instruction during short, systematic interactions (i.e., trials) (Jameson et al., 2007; McCormick, 2006a, McCormick 2006b; Riesen et al., 2003; Wolery, 2001). Embedded instruction is particularly helpful for teaching learners with ASD because it promotes generalization of skills and offers more opportunities for instruction across the school day (Jameson et al., 2007). For example, team members may arrange the environment and instructional activities so that time delay trials occur frequently during transitions from one activity/class to another, at circle time, at snack, or during small group activities (McDonnell et al., 2006).

Embedding time delay within ongoing routines and activities offers many benefits. First, team members can implement a greater number of trials across the day which provides a more intensive approach to instruction. Second, team members support learners' use of target skills across the day which offers many opportunities for generalization. Finally, time delay can be implemented within ongoing routines and activities without interrupting instruction with other learners/learner in the classroom (Riesen et al., 2003). The following steps developed by Wolery (2001) are helpful when attempting to embed time delay procedures within ongoing routines and activities.

Step 1. Identifying Routines and Activities

The first step is for team members to identify routines and activities where target skills can be taught. For example, a time delay procedure can be implemented during one activity in a classroom (e.g., small group activity during Science class, at snack time) or during multiple activities/classes across the day (e.g., during transitions, during free

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play, circle time, outside). Team members make decisions about when to implement time delay based upon the skills being taught, how many teaching opportunities are possible, and the responsibilities of the teacher in a particular classroom (Wolery, 2001).

Step 2. Determining How Trials Will Be Implemented

The next step is to decide how many trials will be provided and how often they will be implemented. It is recommended that approximately five trials be provided for each skill per day (Wolery, 2001). These trials could be implemented in one activity (e.g., at snack, at circle, during a small group activity) or across the day (e.g., at snack, circle, and outside; in Science, English, and PE). Team members also must decide how much time should pass between each trial. For example, a teacher might decide that a trial should be given approximately every five minutes during free play. Alternatively, another teacher might decide to implement constant time delay every two minutes during a small group activity in Science class.

The Step-by-Step Instructions presented previously in the module can be followed once team members determine (1) when and where time delay procedures will be implemented, (2) how many trials will be implemented across the day or class period, and (3) how much time will pass between trials.

Teaching Typically Developing Peers to Use Time Delay

Another effective instructional approach is to train typically developing elementary school-, middle school-, and high school-aged peers how to implement time delay procedures. This approach to providing instruction offers several benefits. First, peer-mediated instruction addresses the difficulties that many learners with ASD have with generalization. For example, having typically developing peers provide instruction requires that learners with ASD use target skills with individuals other than the classroom teacher. Second, typically developing peers increase the intensity of the intervention by providing more frequent instruction across the day. Finally, interactions with typically developing peers during learning activities increase the number of opportunities that learners with ASD have to interact with other learners in the class. Team members can train an entire class or a subset of typically developing peers to use time delay. Generally, team members select peers who are social and motivated to participate (Telescan, Slaton, & Stevens, 1999). Once typically developing peers have been identified, team members follow a series of steps to train peers how to use time delay effectively. Teaching parent to use time delay at home offers some of the same advantages as teaching peers.

Step 1. Introducing Time Delay

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First, team members talk with typically developing peers about helping other learners. For example, team members might explain to peers that learners with ASD may need help learning a new skill. Learners also talk with team members about appropriate ways to provide praise and reinforcement when teaching other learners. Team members often facilitate a discussion that concludes with a list of suggestions for praising correct responses. Next, team members introduce the concept of the cue.

Example Script for Introducing Time Delay to Peers

Teacher: When you are teaching something new (e.g., naming letters, reading sight words, reciting multiplication facts) to one of your friends, you always want to give them a signal so they know what they are supposed to be doing. So, if you want to teach Caleb how to name letters, you want to get his attention by saying, “Hey, Caleb,” then hold up the card, point to the letter, and say, “What letter?”

Step 2. Introducing the 0-Second Delay, Controlling Prompt, and Feedback

Team members then introduce the concept of the 0-second delay, controlling prompt, and feedback with learners/learner. After these concepts have been explained, peer tutors role play with a team member who assumes the role of the learner with ASD. Through this process, typically developing peers learn how to deliver the cue, use the 0-second delay, and provide feedback through the use of positive reinforcement or the controlling prompt.

Example Script for Modeling the 0-Second Delay

Teacher: At first, Caleb is going to need help saying the letter on the card. So, you are going to hold up the card, say, “Hey, Caleb. What letter?” while pointing to the letter on the card. Then you immediately say, “The letter ‘N.’” *Teacher demonstrates.* This is called the 0-second delay because you are not waiting at all before giving Caleb the answer. After you hold up the card and say the letter on it, immediately say, “Good job,” give Caleb a sticker, and say, “That’s right. That’s the letter ‘N.’” Even if you aren’t giving him a chance to say the letter, you still want to tell him, “That’s right. That’s the letter ‘N.’ Good job,” and give him the sticker because it lets him know what he needs to do. Now, I am going to be the learner, Tracey is going to be the teacher. Everyone else watch and tell us if there is anything we need to do differently.

Peer: *Peer holds up card, says, “Hey Caleb. What letter? The letter ‘N.’ That’s right. The letter ‘N.’ Good job,” and gives the teacher a sticker.*

Teacher: *Teacher addresses other peers.* Okay, so what did you see?

Step 3. Practicing the 0-Second Delay

The next step involves helping typically developing learners practice the 0-second delay with other learners. Team members provide immediate feedback to peer tutors during this practice stage to ensure that learners use the time delay procedures correctly with each other.

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Step 4. Modeling the Delay

After peers are taught to use the 0-second delay, team members demonstrate how to use the delay procedure. Team members talk with peers about the importance of waiting a certain period of time before helping a learner with ASD (e.g., “Caleb needs time to answer correctly,” “It helps him become more independent,” “It helps him learn how to do things by himself”). During this step, peers are taught to wait three to five seconds after they provide the cue before delivering the controlling prompt. Team members assume the role of the learner with ASD and model both correct and incorrect responses so that peers can practice providing feedback through the use of reinforcement or the controlling prompt.

Example Script for Modeling the Delay

Teacher: Okay. So, after two or three times of using the 0-second delay....What is the 0-second delay again? (*Peers answer.*) Good. So, after about three times of using the 0-second delay, you want to start waiting before you help Caleb say the letter on the card. This is going to help him say the letters by himself. You want to give Caleb the cue (*teacher holds up card*) and wait three seconds. You can count silently in your head: one-one thousand, two-one thousand, three-one thousand. If Caleb doesn't say the letter on the card after three seconds, say, “What letter, Caleb?” and wait three more seconds. If he says the letter, what do you need to do?

Peers: Say, “Good job,” give him a sticker, and say, “That's right. You said, ‘N.’”

Teacher: That's right. But if he says a different letter or doesn't respond at all, you want to give him the cue again. What is the cue we are using?

Peers: Hold up the card and say, “Look, Caleb. What letter?”

Teacher: Great! So, if he says a different letter or doesn't respond at all, you want to give him the cue again and immediately tell him the letter that is on the card. But don't give him the sticker or say, “Good job.” Just move on to the next card. What do you need to do if Caleb says a different letter or doesn't respond at all?

Peers: Give the cue again and immediately tell him the letter on the card.

Teacher: That's right. Also, remember that you don't want to tell him “Good job” or give him a sticker if he says a different letter or doesn't respond. Now, I am going to be the learner and Marcy is going to be the teacher. I want you guys to watch and tell us if there is anything we need to do differently. *The teacher then assumes the role of the learner with ASD by modeling incorrect, correct, and no responses so that the peer tutor can practice giving appropriate feedback.*

Step 5. Practicing the Delay

In this step, peers practice using the identified delay (i.e., 3 to 5 seconds) with each other. During these practice session, peers take turns assuming the role of the tutor. Learners are encouraged to provide a variety of responses (e.g., correct, incorrect) so

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that peer tutors can practice providing the cue, waiting for the learner to respond, and delivering the appropriate feedback (i.e., reinforcement, controlling prompt).

Peer training typically takes place over a series of sessions (i.e., 3 to 5) before peers begin using time delay procedures within classroom activities. Instructional activities are generally implemented once per day as soon as peers are able to use time delay with 90% accuracy. The first instructional session often focuses on peers using the 0-second delay. In subsequent sessions, team members provide support to peers when implementing the time delay.

A challenge of this instructional approach is keeping typically developing peers motivated to participate in the instructional activities. Therefore, team members should develop a reinforcement program to maintain peer motivation. Peers may receive points or tokens each time they implement the procedures correctly. As peers acquire points/tokens, they can be traded in for some type of reinforcer (e.g., extra computer time, free time, “cool” school supplies) (Godsey et al., 2008; Hughes & Fredrick, 2006; Telescan, Slaton, & Stevens, 1999). When used accurately, peer implementation of time delay can be an effective teaching approach.