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Implementing the Intervention

Step 1. Establishing Learner Attention, Delivering the Stimulus, and Providing the Cue

1. Team members establish the learner's attention by:

   a. delivering the target stimulus,
   b. using an attention-getting strategy (e.g., saying learner's name; saying, "Look;" having the learner touch the stimulus); or
   c. presenting the cue or task direction.

Eye contact is often used as an indication of attention, but other behaviors also have been used such as matching the stimulus, touching it, repeating the task direction. Once attention is secured, the team member presents the cue or task direction to let learners know what they are expected to do.

EXAMPLE: A team member says, "David." David looks at the team member. She presents a flashcard with the word "stop" on it (target stimulus) and says, "What is this, David?" while pointing at the flashcard.

The team member secured the learner's attention by saying his name. The target stimulus is the word "stop." The cue or task direction in this example is the team member saying, "What is this, David?"

Step 2. Waiting for the Learner to Respond

1. Team members wait for the learner to respond before providing increased support.

Prompting procedures are often used in conjunction with time delay, another evidence-based practice. Team members generally wait 3 to 5 seconds before providing any additional assistance to the learner with ASD. **Please refer to *Time Delay: Steps for Implementation* (National Professional Development Center on ASD, 2008) for more information about time delay.**

Step 3. Responding to Learners' Attempts

In Step 3, team members respond to learners when they use the target skill correctly, incorrectly, or when they do not attempt to use the skill at all.

1. If the learner's response is correct, team members immediately provide positive feedback by:

   a. offering reinforcement (e.g., praise, access to materials, break) and

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b. stating what the learner did (e.g., "You said, 'More.' Here's more snack," "You said, 'Two times two is four.' That's right. Two times two is four.")

2. If the learner's response is incorrect, team members:

a. interrupt the incorrect response and
b. deliver the next prompt in the hierarchy.

3. If the learner does not respond, team members use the prompt in the next level of the prompting hierarchy.

4. Team members continue through the prompting hierarchy until a correct response (prompted correct response) occurs, and then deliver the reinforcer.

Step 4. Monitoring Learner Outcomes

An important component of the least-to-most prompting procedure is collecting data to monitor learner outcomes. When using this prompting procedure, learners can make five types of responses:

- *unprompted correct responses.* Correct response at the independent level of the hierarchy. This is the goal of instruction; thus, these responses should be reinforced and counted.
- *prompted correct responses.* Any correct response that occurs after any of the prompt levels of the hierarchy. These responses should be reinforced and counted.
- *unprompted errors.* Incorrect responses made at the independent level of the hierarchy (before any prompts are delivered). These responses should also be counted.
- *prompted errors.* Incorrect responses made after any of the prompt levels of the hierarchy. Again, these responses should be counted.
- *no responses.* Learner does not make any response after the delivery of the last level in the hierarchy.

Team members should track all of these responses because their occurrence provides valuable information about the learner's performance and progress.

1. Team members record each type of response that occurs.

Usually, the only responses that are recorded are the last one in the trial.

2. Team members review data to determine if progress is being made.

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The first step in this process is to determine whether the unprompted and prompted correct responses total 100% of the learner's performance. The second step is to see if the percentage of unprompted correct responses is increasing over time.

The following tables illustrate two data sheets that can be used when teaching discrete tasks and tasks that require several different steps. The first data collection sheet is used with learning activities that focus on teaching discrete skills (e.g., answering questions, pointing to letters). The second data collection sheet is used with chaining tasks that include multiple steps (e.g., washing hands, putting on coat, transitioning from one class to the next).

Table 1. Example Data Collection Sheet for Discrete Skills

Trial	Target stimulus	Level 1	Level 2	Level 3	Level 4
1	Pitcher of juice	0	0	-	+
2	Box of crackers	0	-	0	+
3	Bottle of bubbles	0	0	-	+
Summary Data		0 correct	0 correct	0 correct	3 correct

Key: + = correct; - = incorrect; 0 = no response   Adapted from Wolery, Ault, & Doyle (1992)

Table 2. Example Data Collection Sheet for Chaining Tasks

Trial 1 Washing hands	Level 1 (Independent)	Level 2 (Verbal)	Level 3 (Model)	Level 4 (Physical)
1. Turn on water	0	-	0	+
2. Add soap to running water	0	0	0	+
3. Put dishes in sink	0	-	-	+
4. Wash dishes with sponge	0	0	-	+

Trial 2 Washing hands	Level 1 (Independent)	Level 2 (Verbal)	Level 3 (Model)	Level 4 (Physical)
1. Turn on water	0	0	-	+
2. Add soap to running water	0	0	-	+
3. Put dishes in sink	0	0	-	+
4. Wash dishes with sponge	-	+	+	+

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Summary Data	Correct	0 correct	1 correct	1 correct	8 correct
		0%	12.5%	12.5%	100%
	Incorrect	1 incorrect	2 incorrect	5 incorrect	0 incorrect
		12.5%	25%	62.5%	0%
	No response	7 no response	5 no response	5 no response	0 no response
		87.5%	62.5%	62.5%	0%

Key: + = correct; - = incorrect; 0 = no response   Adapted from Wolery, Ault, & Doyle (1992)

These data help team members make decisions about when to make changes in the prompting procedure and whether the learner is beginning to respond at lower levels in the hierarchy. The following table displays common problems and solutions that team members may encounter when using the least-to-most prompting procedure.

Table 3. Common Problems and Solutions When Implementing the Least-to-Most Prompting Procedure

Problem	Solution
Learner consistently makes errors at the final level in the prompting hierarchy.	The team member selects a new, more controlling prompt that will ensure that the learner uses the skill correctly.
Learner consistently makes errors at an intermediate level in the prompting hierarchy.	The team member (a) increases the number of levels in the hierarchy (use an additional prompt), (b) selects a new type of prompt, or (c) examines the difficulty of the task.
Learner consistently waits for a prompt instead of attempting to respond to the independent level after several sessions of instruction.	The team member differentially reinforces prompted and unprompted correct responses **OR** eliminates reinforcement for prompted correct responses.
Learner consistently fails to respond at any level, including the final level.	The team member finds a more powerful reinforcer.

Adapted from Wolery, Ault, & Doyle (1992)

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Graduated Guidance

The graduated guidance procedure is used only with chained skills (skills comprised of several behaviors sequenced together to form a more complex skill), and it almost always involves using physical prompts. With the graduated guidance procedure, team members apply the amount and types of prompts needed to help the learner with ASD complete the target skill/behavior, and they immediately fade (reduce) the amount and types of prompts needed as the learner begins to acquire the skill. This process requires many moment-to-moment decisions about when to apply and fade the prompts. Thus, it takes considerable skill to use graduated guidance, and failure to appropriately fade prompts can cause learners to become prompt dependent.

Preparing for the Intervention

Step 1. Selecting and Describing the Target Skill/Behavior

In Step 1, team members define the target behavior or skill that they want learners with ASD to acquire. The graduated guidance procedure should only be used with chained tasks (putting on a coat, setting a table, cleaning a bathroom, sorting and folding laundry).

1. Team members define the target skill/behavior in terms that are observable and measurable.

For example, "John will become independent in domestic living skills" is not an observable or measurable definition of a target skill/behavior. On the other hand, the definition, "John will set the table for four people, with each setting having a plate, glass, napkin, spoon, fork, and knife in its proper location" specifies the behaviors John will be taught. Such degree of specificity allows team members to observe the target skill/behavior directly and measure his progress.

2. Team members identify the target skill/behaviors of the chain by:

   a. using a sequence of steps from research or a curriculum,
   b. completing the chain and writing down the steps,
   c. watching someone else do the chain while writing down the steps, and/or
   d. logically analyzing what needs to be done to complete the skill and writing down the refined steps.

With chained tasks, team members identify (a) the number and sequence of steps in the chain, (b) whether to teach one step at a time, or (c) whether to teach all steps at the same time. In most cases, it makes sense to teach the chain in the sequence typically used by competent performers.

Step 2. Identifying the Target Stimulus

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In Step 2, team members identify the target stimulus. The target stimulus is the event or thing that should cue the learner with ASD to begin the chain.

1. Team members identify one of the following as the target stimulus:

   a. *a naturally occurring event*. Examples: Having dirty hands after finger painting is the target stimulus for hand washing; needing to use the bathroom is the target stimulus for asking to use the restroom or moving to the bathroom and using it.

   b. *completion of one event or activity*. Examples: Completing an instruction activity is the target stimulus for putting materials away, cleaning up the area, and moving to the next area for the next activity; finishing one job is the target stimulus for doing the next job (e.g., finishing stocking a shelf in the store is the target stimulus for taking the boxes to the trash).

   c. *an external signal*. Examples: A ringing bell may signal (a) it is time to go to the next class; (b) a work shift is completed in an employment situation; or (c) the clothing is dry and should be taken from the dryer, sorted, folded, and put away.

Sometimes the external event is something someone else does. For example, when the team member passes out a test, this may be the target stimulus for learners to write their names on the answer sheet; a peer greeting the learner with ASD is the stimulus for returning the greeting; or when someone asks a question, this is the target stimulus for answering.

Clearly specifying the target stimulus allows the team member to ensure learners are attending to the target stimulus before they start the chain. This will reduce dependence on team member instructions and team member prompts.

Step 3. Selecting the Cue or Task Direction

In Step 3, team members identify the event or object that will cue the learner to perform the target skill/behavior. A cue basically tells the learner that it is time to use the target skill/behavior. Cues and task directions are bridges used in instruction to help learners identify the target stimulus and then engage in the target response. For example, if a team member is teaching a boy to take off and hang up his coat when he enters the classroom, the target stimulus is going indoors (i.e., entering a room from outside cues most of us to take off and hang up our coat). However, during instruction, the team member would likely greet the child warmly, and then say, "Take off your coat and hang it up." This statement tells the boy that some behavior is expected before he starts his school day. The statement does not tell him how to do the skills, it just tells him that it is time to do them.

1. Team members select at least one of the following cues to begin the teaching exchange (trial):

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    a. *material or environmental manipulation*. Getting the materials set up and ready before the learner comes to the activity (e.g., setting up tasks for individual work time, setting the table before snack, placing playdough and toys on the table, arranging desks for small group work).

    b. *task direction*. Telling the learner to get his coat on to go home, giving a picture card to go wash hands, presenting a flashcard with a sight word on it and asking, "What is this?"

    c. *naturally occurring event*. Ringing phone, fire alarm, school bus arriving after school.

Step 4. Selecting Reinforcers

Step 4 is focused on selecting reinforcers that are appropriate for individual learners with ASD, task demands, and target skill/behaviors. The goal of reinforcement is to increase the likelihood that learners with ASD will use the target skill/behavior again in the future. Therefore, selected reinforcers should be highly motivating.

1. When choosing reinforcers for learners with ASD, team members identify:

   a. what has motivated learners in the past and
   b. learners' deprivation state (i.e., What do they want that they can't easily get?)

2. Team members identify a reinforcer that is appropriate for the target skill/behavior and instructional task.

The reinforcer should be as natural as possible. That is, it should be related to the activity that is being implemented. For example, it would be natural for a learner with ASD to get free time or have access to a preferred activity/object after taking part in a challenging, non-preferred learning activity. Another example would be to use food as a reinforcer during food-related activities such as snack time or lunch when the target skill/behavior is requesting.

With chained skills and the graduated guidance procedure, the completion of the chain is ideally a reinforcer; however, for many learners this is not the case. Thus, additional reinforcers should be used at the end of the chain.

Examples of positive reinforcement include:

- preferred activity/favorite toy (e.g., special job, squishy ball, sand table)
- free time
- verbal praise
- food-related activity
- opportunities to be away from others

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- objects used in stereotypic behavior
- preferred toys and games
- time with a preferred adult or peer

Please refer to *Positive Reinforcement: Steps for Implementation* (National Professional Development Center on ASD, 2008) for more information about reinforcement.

Step 5. Identifying the Controlling Prompt

In Step 5, team members select a prompt that ensures that the learner with ASD performs the target skill/behavior correctly. This is called the controlling prompt. For some learners, the controlling prompt is as simple as pointing to the faucet to prompt hand washing, while others need full hand-over-hand assistance.

1. Team members try out different prompts to see which ones are successful in getting the learner with ASD to complete the task correctly.

With the graduated guidance procedure, the prompts are almost always physical, but with learners who have a lot of language skills, verbal prompts could be used. When selecting and using physical prompts, team members should be careful about how they use them prompts. Providing physical prompts from behind the individual often allows for more natural movements to be taught. Further, team members should be careful not to force or hurt the learner when physically prompting. When resistance occurs, just hold the hands in place rather than forcing movement. When resistance subsides, continue to prompt the movement. Be sure others (supervisors, assistants, coworkers) understand the purpose and nature of physical prompts so that you are not accused of physical abuse.

Step 6. Determining the Length of the Response Interval

With graduated guidance, a short response interval (a couple of seconds) often occurs after delivery of the target stimulus, attending cue, and task direction. Because chains are being taught, this short response interval is an opportunity for the learner to start the chain on his/her own.

1. When determining the length of the response interval, team members consider:

   a. *learner characteristics*. Team members should consider factors such as how long it usually takes the learner to respond when the learner knows how to do the behavior. Adding a couple of seconds to this typical length of time is generally adequate for determining the length of the response interval.

   b. *task characteristics*. Team members might consider how long it takes another learner with ASD to use a similar skill. For example, if it takes another learner 4 seconds to respond to a verbal prompt, the team member might try using 4 seconds as the

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response interval for this particular learner with ASD. Team members also should consider the amount of time a learner will be allowed to *begin* a task as well as how long the learner will have to *complete* the task. For example, a learner with ASD may begin writing his name within 4 seconds of the cue; however, it may take him 2 minutes to complete the task. In this case, setting the response interval at 6 seconds for the learner to start the task, and 2.5 minutes to complete it is reasonable.

2. When selecting a response interval, team members time how long it takes the learner to complete similar skills/tasks.

This information gives team members a good starting point for the response interval.

Step 7. Specifying Prompt Fading Procedures

In this step, team members determine how to fade prompts as the learner with ASD becomes more proficient at doing the chained skill.

1. Team members select one of the following prompting strategies to fade prompts:

   a. *decreasing the intensity of the prompt.* Intensity refers to the amount of force used when delivering the physical prompts. An example would be moving from complete hand-over-hand instruction to just having your hands on the learner while s/he does the chain.

   b. *providing less assistance by changing the prompt type.* An example would be moving from a full physical prompt to a verbal prompt.

   c. *immediately removing the prompt.*

Although team members make decisions about fading prompts within the context of ongoing routines and activities, they must specify clear strategies for prompt fading prior to implementation to decrease learner dependence on prompts to use the target skill/behavior correctly.

Step 8. Identifying Activities and Times for Teaching

Graduated guidance is used to teach chained skills. Examples include dressing and undressing, cleaning up work and play areas, feeding with a spoon, drinking from a cup, using a napkin, bathing, washing hands, combing hair, setting a table, washing dishes, making a snack, cooking, janitorial skills, and many others. Because the target stimulus (i.e., the need for the chain) should signal the time for using the skill, teaching should occur when the chain is needed.

1. Team members analyze the day and determine when and where the chain is needed.

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Those times should be selected as the instructional times.

2. If few natural times to teach the chain are identified, team members build in times when the skill may be taught.

For example, if the skill being taught is taking off a coat, there may be limited times to practice this skill. In a classroom setting this may only occur when the child enters the classroom and comes in from the playground. Adding other times (e.g., wearing the coat to the gym or to the lunch room) is appropriate, because this would increase the teaching opportunities. In a home-based early intervention setting, additional opportunities could be created by having the learner go outside times to play for several short periods of time, check the mail, or go for a walk.

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Implementing the Intervention

Step 1. Implementing Graduated Guidance

1. When implementing graduated guidance, team members:

    a. approach the learner with ASD,
    b. secure the learner's attention,
    c. present the target stimulus OR call the learner's attention to the target stimulus,
    d. deliver the task direction, and
    e. provide a short response interval.

For example, if a learner has been using finger paints and it is time to wash hands, the team member approaches the learner; speaks to him (attending cue); says, "Your hands are dirty" (calling attention to the target stimulus); says, "time to wash your hands" (task direction); and waits a couple seconds for the learner to start moving toward the sink.

If the learner with ASD does not respond after a short response interval, team members provide additional assistance.

2. Team members provide the amount and type of prompt needed to get the learner with ASD to start performing the chain.

3. As soon as the learner with ASD begins to do the chain, team members reduce the intensity or amount of the prompt and start to shadow the learner's movements.

"Shadowing" is a term used to describe the action of holding your hands near the learner's hands so you can immediately guide the learner to complete the behavior.

4. If the learner with ASD stops doing the chain, team members immediately provide the amount and type of prompts needed to get the movement started.

5. If the learner with ASD begins to use the target skill/behavior incorrectly, team members immediately block that movement and provide the amount and type of prompt needed to get the learner to do the chain correctly.

6. If the learner with ASD resists the physical prompt, team members:

    a. stop moving and
    b. hold the learner's hands in place.

7. When the resistance subsides, team members start the movement toward completing the chain again by applying the amount and type of prompt needed.

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8. As the learner with ASD completes each step of the chain correctly (prompted or unprompted), team members provide verbal praise and encouragement.

9. At the end of the chain, team members provide reinforcement to the learner with ASD for completing the task correctly.

If resistance occurs on the last step of the chain, reinforcement is not provided. If this happens, team members stop teaching the target skill/behavior until the learner with ASD is no longer resistant. Team members then begin teaching the target skill/behavior from the beginning of the chain.

Step 2. Monitoring Learner Progress

An important component of graduated guidance is collecting data to monitor learner outcomes. When using this prompting procedure, team members should measure (a) chains that were completed without prompts, (b) chains completed correctly with prompts, and (c) chains completed with resistance. Some team members also collect data on chains completed correctly without prompts and with or without shadowing. Although it is often difficult to collect data on each step of the chain, it is desirable to do so.

1. Team members record the number of chains done:

    a. correctly without prompts,
    b. correctly with prompts, and
    c. correctly, but with resistance.

2. Team members review progress monitoring data to determine whether the learner is starting to do the skill without prompts.

The following is an example data collection sheet that can be used to monitor learner progress when the graduated guidance procedure is implemented.

Table 4. Example Graduated Guidance Data Collection Sheet for Washing Hands

Steps of the chain	Time	9:00	10:05	10:30
	Session	1	2	3
	Date	10/09	10/10	10/11
Walked to sink		I	I	I
Turned on the water		I	I	I
Adjusted temperature of the water		R	R	P
Put hands under water		P	I	I
Applied soap		P	P	P

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Rubbed hands together	P	P	I
Rinsed hands under water	I	I	I
Got a towel	R	P	P
Dried hands	R	P	I
Threw towel away	I	I	I

I = independent, P = prompted, and R = resistance

These data help team members make decisions about when to make changes in the prompting procedure. For instance, if the learner was very resistant to completing the chain, increasing the reinforcer for completing the chain without resistance is recommended.

Sometimes it is not possible to score each step of the chain. In such cases, the entire chain is scored as independent, prompted, or resistance. If prompts are given on any chain, it is scored as prompted. If resistance and prompts are given, it is scored as resistance.

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Simultaneous Prompting

The simultaneous prompting procedure can be used with both discrete (single responses of relatively short duration) and chained skills (several behaviors sequenced together to perform a more complex skill). The simultaneous prompting procedure requires two types of daily sessions: instructional sessions and probe sessions. It requires only one prompt—a controlling prompt. The controlling prompt is the least intensive prompt needed by the learner with ASD to use the target skill correctly. For some learners, the controlling prompt may be as simple as pointing to the faucet to prompt hand washing, while others may need full hand-over-hand assistance. The controlling prompt is used on all trials of the instructional sessions; however, it is not used in the probe sessions.

Preparing for the Intervention

Step 1. Identifying the Target Skill/Behavior

In Step 1, team members define the target behavior or skill that they want a learner with ASD to acquire.

1. Team members define the target skill/behavior in terms that are observable and measurable.

For example, "John will increase his language skills" is not an observable or measurable definition of a target skill/behavior. On the other hand, the definition "John will request more snack by saying, 'More, please' in two out of three opportunities during snack time" allows team members to directly observe the target skill/behavior and measure the learner's progress.

2. Team members identify the target skill/behavior as being either:

   a. *a discrete task*. A discrete task is one that requires a single response. Examples include pointing to objects, identifying letters, naming pictures or objects, reading words, writing the answers to simple math problems, greeting a peer who enters the room, and answering questions.

   b. *a chained task*. Chained tasks require that team members determine (a) the number and sequence of steps in the chain, (b) whether to teach one step at a time, or (c) whether to teach all steps at the same time. Examples of chained tasks include washing hands, making a sandwich, eating a meal, getting dressed, putting on coat, cooking, and transitioning from one class to the next. In general, teaching the entire chain at the same time is recommended.

Step 2. Selecting the Target Stimulus and Cue

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In Step 2, team members identify (a) the target stimulus and (b) the cue or task direction. The target stimulus is the object, gesture, activity, or situation to which we want the learner with ASD to respond when instruction is finished. The cue or task direction is what informs the learner that some response is expected during instruction. A cue basically tells the learner that it is time to use the target skill. Identification of the target stimulus is a critical part of the planning and implementation process because it helps control the learner's behavior. Furthermore, the cue signals the learner to use the target skills in situations in which the team member is not present or after the skill has been mastered.

EXAMPLES
- When teaching learners with ASD to play, the toy is the target stimulus.
- When teaching the learner with ASD to initiate social interactions, the presence of a peer is the target stimulus.
- When teaching the learner with ASD to read words, the presence of text is the target stimulus.

The cue or task direction also is important in the planning and teaching process because it signals the learner to use the target skill. Often, cues or task directions are verbal statements made by team members. Such statements do not tell the learner how to do the target skill, but they tell the learner that a certain behavior is expected. Target stimuli may be components of an activity, a team member, peers, or other elements of the natural environment. Cues and task directions often are added to the environment. For example, in teaching a learner to speak to his peers, the target stimulus is the presence of the peer. A cue or task direction may not be used beyond a general reminder at the beginning of the session to "Talk with your friends when you play." When teaching a learner to read words, the words are the target stimulus, but the cue or task direction may be the team member saying, "What's this word?" Target stimuli should be clear and consistent, so that reinforcement is successfully linked with completing the target skill. Cues and task directions are used to speed up instruction and let learners know that they should do something.

1. Team members identify one of the following as the target stimulus:

    a. *a naturally occurring event*. Examples: Having dirty hands after finger painting is the target stimulus for hand washing; needing to use the bathroom is the target stimulus for asking to use the restroom or moving to the bathroom and using it.

    b. *completion of one event or activity*. Examples: Completing an instructional activity is the target stimulus for putting materials away, cleaning up the area, and moving to the area for the next activity; finishing one job is the target stimulus for doing the next job (e.g., finishing stocking a shelf in the store is the target stimulus for taking the boxes to the trash).

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    c. *an external signal*. Examples: A ringing bell may signal (a) it is time to go to the next class; (b) a work shift is completed in an employment situation; or (c) the clothing is dry and should be taken from the dryer, sorted, folded, and put away.

2. Team members decide whether to use a cue or task direction during instruction.

In most cases, this decision is made based on the type of skill being taught. For many skills, a cue or task direction is not warranted. Examples include a peer initiating an interaction with the learner, someone speaking to the learner, the presence of toys, and so forth. In other cases, a task direction makes teaching much easier and faster. Examples include teaching learners with ASD to name objects or pictures, and read words.

3. Team members choose one or more of the following as the cue that will be used during instruction:

    a. *material or environmental manipulation*. Examples include getting the materials set up and ready before the learner comes to the activity (e.g., setting up tasks for individual work time, setting the table before snack, placing playdough and toys on the table, giving a book to the learner for story time).

    b. *task direction*. Examples include telling the learner to get his coat on to go home, giving a picture card to go wash hands, presenting a flashcard with a sight word on it and asking, "What is this?"

    c. *naturally occurring event*. Examples include a ringing phone, fire alarm, school bus arriving after school, a peer greeting the learner, the glass being empty during snack time, dirty hands after finger painting, an interesting and novel event occurring (spilling milk during snack setting the occasion to say, "uh-oh"), or a peer offering the child a toy.

Target stimuli and cues/task directions should be clear, complete, and specific, and aimed at learners' skill and interest levels. For example, a team member would not use picture cards with a learner who is able to follow verbal instructions. Furthermore, a parent would not tell a child to put on his coat if he is learning how to do this independently. In this case, the coat on the chair would serve as the naturally occurring cue. It is essential that the cue be clear enough so that learners with ASD know what they are supposed to do during the particular task or activity.

Step 3. Selecting a Controlling Prompt

In Step 3, team members select a prompt that ensures that the learner with ASD performs the target skill correctly. This prompt is referred to as the controlling prompt.

1. Team members try out different prompts to see which ones are successful in getting the learner with ASD to do the task correctly.

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The issue is not whether the prompt occasionally gets the learner to do the behavior. A controlling prompt elicits the correct behavior on a very consistent basis – nearly every time it is used! In general, team members should use the least intrusive prompt that is still controlling. For example, if pointing to the sink and saying, "Better wash your hands" is enough to get the learner to start the sequence of washing hands,that would be better than using a physical prompt. Models are good prompts, but learners must be able to imitate others for models to be effective.

Step 4. Selecting Reinforcers

Step 4 is focused on selecting reinforcers that are appropriate for individual learners with ASD, task demands, and target skills. The goal of reinforcement is to increase the likelihood that the learner with ASD will use the target skill again in the future. Therefore, selected reinforcers should be highly motivating.

1. When choosing reinforcers for learners with ASD, team members identify:

   a. what has motivated learners in the past and
   b. learners' deprivation state (i.e., What do they want that they can't easily get?).

2. Team members identify a reinforcer that is appropriate for the target skill and instructional task.

The reinforcer should be as natural as possible. That is, it should be related to the activity that is going on. For example, it would be natural for a learner with ASD to get free time or have access to a preferred activity/object after taking part in a challenging, non-preferred learning activity. Another example would be to use food as a reinforcer during food-related activities such as snack time or lunch when the target skill is requesting "more" or talking with peers. Two critical things to remember about reinforcers are (a) they are individually determined, and (b) they may lose their power with repeated use.

Examples of positive reinforcement include:

- preferred activity/favorite toy (e.g., special job, squishy ball, sand table)
- free time
- verbal praise
- food-related activity
- opportunities to be away from others
- objects used in stereotypic behavior
- preferred games and activities
- time with a preferred adult or peer

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Please refer to *Positive Reinforcement: Steps for Implementation* (National Professional Development Center on ASD, 2008) for more information about reinforcement.

Step 5. Determining the Response Interval

The simultaneous prompting procedure uses two types of sessions: instructional sessions and probe (test) sessions. In the instructional sessions, the team member secures the learner's attention, presents the target stimulus and cue/task directions, and then presents the controlling prompt. The prompt is presented before the learner has a chance to respond. After the prompt, the team member should present a *response interval* within which the child must respond. With the probe sessions, the team member secures the learner's attention, presents the learner with the target stimulus and cue/task directions, and then presents the *response interval.* No prompt is delivered.

5. Team members consider both learner characteristics and task difficulty when determining the response interval. When using a full physical prompt (i.e., physically guiding the learner to complete the task) during the instructional sessions, no extra response interval is provided. If the learner responds correctly to a prompt, the team member provides reinforcement (e.g., more juice, "Good job," preferred activity). If the learner does not do the target skill correctly, the team member ignores the response or corrects it and provides the next trial.

1. When determining the length of the response interval, team members consider:

   a. *learner characteristics.* Team members should consider factors such as how long it usually takes the learner to respond when the learner knows how to do the behavior. Adding a couple of seconds to this typical length of time is generally adequate for determining the length of the response interval.

   b. *task characteristics.* Team members might consider how long it takes another learner with ASD to use a similar skill. For example, if it takes another learner 4 seconds to respond to a verbal prompt, the team member might try using 4 seconds as the response interval for this particular learner with ASD. Team members also should consider the amount of time a learner will be allowed to *begin* a task as well as how long the learner will have to *complete* the task. For example, a learner with ASD may begin writing his name within 4 seconds of the cue; however, it may take him 2 minutes to complete the task. In this case, setting the response interval at 6 seconds for the learner to start the task, and 2.5 minutes to complete it is reasonable. For tasks that require more than one step (e.g., setting the table, getting dressed, washing hands), team members use the same response interval for each step; however, some skills may require more time than others to complete (e.g., turning on water takes less time than rubbing soap between hands).

2. When selecting a response interval, team members time how long it takes the learner to complete similar skills/tasks.

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This information gives team members a good starting point for determining the response interval. The response interval for instructional sessions and the probe sessions should be the same to make it easy for the team member to remember.

Step 6. Identifying Activities and Times for Teaching

Simultaneous prompting can be used during explcit instruction to teach discrete skills (e.g., answering questions, pointing to numerals) in which learning takes place during individual work or small-group time. It can also be embedded into ongoing activities to teach such skills. In addition, simultaneous prompting can be used to teach chained tasks (e.g., putting on coat, washing hands, cooking) that often are embedded within ongoing routines and activities. The selection of activities and materials depends upon the skill(s) the learner needs to acquire. Team members also should consider using favorite activities or materials during teaching activities to increase motivation. Regardless of whether discrete or chained behaviors are taught, two sessions are needed with the simultaneous prompting procedure.

1. Team members identify two times during the day when the target skill can be taught and measured.

One time is used for instruction, and the other is a "probe" session, or test session.

2. Team members identify how many trials will be implemented during each instructional and probe session.

This decision is made by taking into account the learner's characteristics (how readily the learner acquires new skills) and the characteristics of the skill (how difficult the skill is). In general, more than one discrete skill is taught at a time. For example, if the skill is reading words, at least two words should be taught at once. At least five trials should occur in each instructional session for each skill. Chained skills are generally taught with total task instruction, meaning all steps of the chain are taught simultaneously as the chain should be performed.

Probe sessions often have fewer trials (two or three) per target skill than instructional sessions. The purpose of probe sessions is simply to test (measure) whether learning is occurring. With chained skills, one opportunity to practice the skill each day may serve as the probe session.

Implementing Simultaneous Prompting

Step 1. Establishing Learner Attention, Delivering the Stimulus, and Providing the Cue

1. Team members establish the learner's attention by:

   a. delivering the target stimulus,

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    b. using an attention-getting strategy (e.g., saying learner's name, saying, "Look;" having the learner touch the stimulus), and/or

    c. presenting the cue or task direction.

Eye contact is often used as an indication of attention, but other behaviors, such as matching the stimulus, touching the stimulus, or repeating the task direction also have been used. Once attention is secured, the team member presents the cue or task direction to let the learner know a behavior is expected from him/her.

EXAMPLE: A team member says, "David." David looks at the team member. She presents a flashcard with the word "stop" on it (target stimulus) and says, "What is this, David?" while pointing at the flashcard.

The team member behavior used to secure attention was saying the child's name. The target stimulus is the word "stop." The cue or task direction in this example is the team member saying, "What is this, David?"

Step 2. Implementing the Prompt

During the instructional sessions with the simultaneous prompting procedure, team members immediately provide the controlling prompt to the learner with ASD. During the probe sessions, no prompts are provided.

A. Instructional Sessions

1. After securing attention, presenting the target stimulus, and delivering the cue/task direction, team members immediately deliver the controlling prompt.

In the previous example, after saying, "David" (to get his attention), showing the word "stop," and saying "What is this David?," the team member would immediately say, "stop" (controlling prompt).

2. If the learner's response is correct (prompted correct), team members immediately provide positive feedback by:

    a. offering reinforcement (e.g., praise, access to materials, break) and

    b. stating what the learner did (e.g., "You said, 'More,.' Here's more snack," "You said, 'Two times two is four.' That's right. Two times two is four.").

3. If the learner's response is incorrect (prompted error), or if the learner does not respond, team members ignore the response and go on to the next trial.

With chained skills, when errors (prompted errors) occur, the team member may have to correct the step before moving on to the next trial.

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B. Probe Sessions

1. After securing attention, presenting the target stimulus, and delivering the cue/task direction, team members deliver the response interval (no prompt is provided).

In the example used above, after saying, "David" (to get his attention), showing the word "stop," and saying "What is this David?," the team member would look expectantly at David for him to provide the response.

2. If the learner's response is correct (unprompted correct), team members immediately provide positive feedback by:

   a. offering reinforcement (e.g., praise, access to materials, break) and
   b. stating what the learner did (e.g., "You said, 'More,.' Here's more snack," "You said, 'Two times two is four.' That's right. Two times two is four.").

3. If the learner's response is incorrect (unprompted error) or if the learner with ASD does not respond, team members ignore the response and go on to the next trial.

When errors occur with chained tasks, the team member may have to correct the step before moving on to the next step.

Step 3. Monitoring Learner Progress

A key component of simultaneous prompting is collecting data to monitor a learner's progress. This is accomplished by (a) collecting data during instructional sessions and (b) collecting data in the daily "probe" sessions in which no prompts are used. The probe sessions allow team members to evaluate learners' acquisition of skills.

A. Instructional Data

1. Team members collect data daily during the instructional sessions.

Data gathered during instruction tell team members whether (a) the prompt is providing enough support for the learner to do the target skill correctly and (b) the reinforcer is effective. The following table provides an example data sheet that can be used during instructional sessions.

Table 5. Sample Data Sheet for Simultaneous Prompting Instructional Session

Trial	Stimulus	PC	PE	NR
1				
2				
3				
Total #				

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Total %				

Key: PC = prompted correct; PE = prompted error; NR = no response

The team member makes instructional changes using the following decision rules.

2. Team members select a new controlling prompt if the learner makes errors on 25% of the trials over the course of three consecutive instructional sessions.

Each instructional session includes a certain number of trials. In the sample data sheet in Table 5, the instructional activity contains three trials. Two more instructional activities need to be completed before making any changes to instruction.

3. Team members select a different reinforcer if no responses occur on 25% of the trials over the course of three consecutive instructional sessions.

4. If a learner begins to make errors when using a previously mastered discrete skill (e.g., raising hand, pointing to letters), team members make modifications to the initial cue (e.g., using two different types of cues instead of one).

EXAMPLE: A young child with ASD, Nate, has been working on requesting more by saying, "More, please." Marissa, Nate's teacher, has been implementing instructional activities within classroom activities to work on this skill using simultaneous prompting. A planned instructional activity for this skill is snack time. Nate had been consistently requesting more snack by saying, "More, please;" however, for the past two days, he has been grabbing the snack bag on Marissa's lap without asking. Marissa reviewed the instructional data from the past several days and determined that the initial cue might need to be changed because Nate is consistently using "more" correctly, but only when she prompts him by saying, "What do you want?" while holding up the bag. The new initial cue will be for Marissa to hold up the bag in front of Nate when she notices that he is almost finished with what is on his plate. She hopes that this will be enough of a signal to Nate to use the target skill.

B. Probe Data

Probe data are used to evaluate how learners are acquiring target skills. This is accomplished by implementing sessions without using prompts.

1. Team members implement at least one probe session daily.

The probe sessions allow team members to evaluate learners' acquisition of skills. When no prompt is provided, team members determine whether or not the learner is able to use the target skill correctly without the controlling prompt.

2. Team members identify how many trials will be implemented during the probe session (at least two trials on each behavior per probe session).

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At least two trials on each behavior should be implemented during each probe session.

3. Team members present the cue, but not the controlling prompt, during the probe session.

EXAMPLE: Using the previous example, Marissa, Nate's teacher, collects probe data by sitting with Nate during free play to determine how well he can ask for "more" without prompts. At a table in the writing center, she conducts a familiar instructional activity without using prompts. She presents Nate with one of his favorite toys, Legos. She places two Legos on the table and waits for him to put them together. The remaining Legos are on her lap in a box that she previously selected as the cue. When Nate finishes putting the two Legos together, he grabs for the box without asking. Marissa does not prompt him to use the skill and records on her data sheet that Nate's response was an *Error*. Marissa then puts the Legos back in the box and places two more Legos on the table in front of Nate. She completes five trials to collect sufficient probe data.

The following table provides a sample data sheet that can be used during probe sessions.

Table 6. Sample Data Sheet for Simultaneous Prompting Probe Sessions

Trial	Stimulus	C	E	NR
1				
2				
3				
Total #				
Total %				

Key: C = correct; E = error; NR = no response

The team member makes instructional decisions using the following decision rules.

4. Team members select a different prompting procedure (e.g., graduated guidance, least-to-most) to use if the following occurs:

   a. learner errors occur on 25% of trials over the course of five consecutive probe sessions *and*
   b. instructional data indicate 100% correct responses.

5. Team members select a different reinforcer if no responses occur on 25% of the trials over the course of three consecutive probe sessions.

6. If a learner omits a step from a chained task, team members modify that step to make it more apparent to the learner with ASD (e.g., using more than one cue rather than one).

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EXAMPLE: A target skill for Molly, a middle school student with ASD, is to wash her hands sufficiently before going to lunch. To accomplish this, Molly must check her schedule, walk to the bathroom, turn on the water, get soap, rub her hands together 10 times, get a paper towel, throw the paper towel in the trash can, and check her schedule again. For the past several days, Molly has been washing her hands without soap. The soap is located in a soap dispenser on the wall to the right of the sink. Molly's teacher, Tate, has decided that this may not be an obvious location for Molly. He has decided to get a soap pump that can be placed right behind the warm water handle. His hope is that the soap pump will be more obvious to Molly, thus limiting the need for any additional prompting for this step to be completed successfully.