STEP-BY-STEP INSTRUCTIONS
Least-to-Most Prompting

Preparing for the Intervention

The least-to-most prompting procedure goes by many different names, including the system of least prompts and increasing assistance. The least-to-most prompting procedure can be used with discrete (single behaviors of relatively short duration) and chained skills (a series of behaviors sequenced together to form a complex skill). With this procedure, a hierarchy of prompts is used; the hierarchy has a minimum of three levels. The first level is always the **independent level** (i.e., no prompts); the remaining levels are sequenced from the least amount of help to the most amount of help. The last level of the hierarchy should be a controlling prompt – one that results in the learner doing the behavior correctly.

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 behavior in terms that are observable and measurable.

For example, "Manuel will increase his social skills" is not an observable or measurable definition of a target behavior. On the other hand, the definition "John will initiate (by speaking, giving a toy, or touching) three interactions with peers" allows team members to observe directly the target behavior and measure the learner's progress.

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

    a. *a discrete task*. A discrete task is one that requires a single response and is of relatively short duration. Examples include pointing to objects, identifying letters, and answering questions.

    or

    b. *a chained task*. Chained tasks are tasks requiring several individual behaviors that are sequenced together to form a more complex skill. Chained tasks require team members to 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, getting dressed, putting on coat, cooking, and transitioning from one class to the next. In most cases, teach the chain in the sequence that is usually used by others who are competent at completing the task.

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Step 2. Identifying the Target Stimulus

In Step 2, the team member identifies the target stimulus. The target stimulus is the event or thing that cues the learner with ASD to engage in the target behavior after instruction has stopped.

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).

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

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

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

Step 3. Selecting Cues or Task Directions

In Step 3, team members identify the stimulus that will cue the learner to perform the target skill. A cue basically tells the learner that it is time to use the target skill. 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. This statement does not tell him how to do the skills; it just tells him that it is time to do them.

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

   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.

2. Team members identify one of the following as a time to give the cue/task direction:

   a. *at the first prompt level (independent level).* For example, if the team member wants a learner with ASD to learn to wash his hands, the target stimulus is dirty hands, and the cue might be the team member saying, "Time to wash your hands." This task direction would not be repeated. This is most appropriate when a learner with ASD is starting to use the target skill independently.

   b. *at each step of the prompt hierarchy.* In a prompt hierarchy, prompts are sequenced from least to most assistance. For example, if a team member wants a learner with ASD to learn to wash his hands, the target stimulus is dirty hands, and the cue might be the team member saying, "Wash your hands." If the learner does not respond, the team member might then say, "Wash your hands" while pointing to the faucet. If the learner still does not respond, the team member again says, "Wash your hands" while taking the learner's hand and placing it on the faucet. In this example, the cue/task direction is first provided at the independent level, and then at each additional prompt level of the hierarchy. This is most appropriate when a learner is first being taught how to use the target skill.

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 to the learner with ASD.

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?).

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For example, a learner with ASD may continually request Goldfish crackers that are placed on a high shelf; however, the team member only gives them once a week. Because the learner wants the Goldfish crackers, but cannot easily get them, this is considered his deprivation state.

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

The chosen 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.

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 objects and games
- time with a favorite 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 Activities and Times for Teaching

Least-to-most prompting can be used during direct instructional sessions (e.g., individual, small groups). It can also be embedded into other ongoing activities such as free time, play time, large-group instructional activities, transitions, in community-based activities, and at times when the learner with ASD needs to use the target behavior. For example, a parent could work on "requesting help" when a learner is getting his coat on to go outside to play. The selection of activities and materials is dependent upon the skill(s) that a learner or small group of learners need to acquire. Team members also should consider using favorite activities or materials during teaching activities to increase motivation.

When identifying the activities and times for teaching with the least-to-most prompting procedure, the team member must consider a number of issues. These include whether (a) teaching can occur in the situation in which the learner with ASD needs the skill, (b) the teaching will be embedded into other activities, and (c) the skill will be taught during direct instructional sessions (individual or group).

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1. Before implementing the intervention, team members identify all the times during the day the learner may need to use the target skill.

This is easy with some skills, such as putting on and taking off clothing, washing hands, using a spoon, cleaning up a work area or station, or going to the bathroom. When this arrangement is used, the team member must decide who will do the instruction.

2. Before embedding prompting procedures, team members identify specific routines and activities in which they can be incorporated to teach target skills.

For example, free time can be used to teach social interactions, conversations between children, pretend play, and so forth. Circle time or large-group instructional time may be a time to embed instruction on academic tasks. When embedding, the team member must decide who will do it, what will cue the team member to implement a trial (e.g., learner beginning a particular activity, learner interacting with a specific toy), and how much time will pass between trials (e.g., 5 minutes, 15 minutes, 2 hours).

3. With skills that will be taught during direct instruction (individual or in small groups), team members identify when and where the instruction will occur.

Step 6. Selecting the Number of Levels in the Hierarchy

In Step 6, team members select the number of prompt levels to be used in the prompt hierarchy. With the least-to-most prompting procedure, the hierarchy must have at least three levels, but it may have more. The first level is always the independent level (no prompts are used), and the last level uses the controlling prompt (one that ensures the learner with ASD responds correctly). The other prompt levels, called intermediate levels, provide more help than the independent level and less help than the controlling prompt.

1. When selecting the number of prompt levels to use, team members consider:

   a. *task characteristics*. With easy skills, fewer levels of the hierarchy are recommended, and with more difficult skills, more levels of the hierarchy may be necessary. These decisions are made individually for each learner and task. Often, a three-level hierarchy is adequate (independent level, intermediate level, and controlling prompt level). However, sometimes, the intermediate prompt levels contain information that is useful to learn. For example, when teaching a learner to "sound out" words, the intermediate prompt levels might be the sounds for individual letters or blends, or rules for applying phonetic principles (e.g., "an 'e' on the end makes the middle vowel say its name"); and the controlling prompt level might be a verbal model of the word.

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b. *learner characteristics.* As levels are added to the prompting hierarchy, learners are required to wait longer during initial instruction to obtain the assistance needed to respond correctly. Having to go through several prompt levels before adequate help is available may result in less attention and more interfering behavior (e.g., disruptive, stereotypical, repetitive). For example, if a learner with ASD has difficulty staying engaged in a task for a long period of time, a prompting hierarchy that includes several levels would not be a good choice. On the other hand, if a learner needs quite a bit of assistance to complete a skill successfully, a prompting hierarchy with more levels would be appropriate.

c. *time available for instruction.* In general, when more levels are included in a prompting hierarchy, each trial takes longer (particularly during initial instruction) and fewer trials can be implemented during instructional sessions.

The least-to-most prompting procedure requires a minimum of three prompt levels (independent, intermediate, and controlling prompt). There is no limit to how many levels can be used, but generally no more than five levels are practical. If five levels are used, these would be independent level, three intermediate levels (each providing more assistance than the former), and the controlling prompt. The least-to-most procedure must always start with the independent level and end with a controlling prompt.

Step 7. Selecting the Types of Prompts to Be Used

In Step 7, team members select the types of prompts that will be used at each level of the prompting hierarchy. These prompts may be from the same or from different types of prompts.

1. Team members select at least one of the following prompts for each level of the prompting hierarchy:

   a. gestural,
   b. verbal (e.g., clues, hints, commands, questions, rule statements),
   c. visual (e.g., pictures, objects),
   d. model (full, partial – can be verbal or motoric), and/or
   e. physical (full, partial).

Team members use any number of prompt combinations. Within the hierarchy, they can use different types of prompts (e.g., gestural, full physical) or different variations of the same type (e.g., partial physical prompts followed by full physical prompts).

2. Team members choose prompt types based upon:

   a. *learner characteristics.* Team members should consider the individual learner with ASD when selecting prompts. For example, if the learner does not like to be touched, then full physical prompts might not be a good choice. Conversely, if the learner

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seeks being touched, then full physical prompts may not be a good choice, either. For learners who can easily imitate others, models are often good prompts; but if learners cannot imitate adults, then models would not be a wise choice.

b. *skill characteristics.* Team members should consider matching the prompt type with the skill being taught. For example, if a team member is trying to teach a learner how to respond to "What's that?," verbal and model prompts would be most helpful. If a learner is being taught how to follow his picture schedule, gestural or and pictorial prompts might be more helpful in this situation.

The last prompt level in the hierarchy must always be the controlling prompt. That is, when the prompt is provided, the learner with ASD will do the target behavior.

Step 8. Sequencing Prompts from Least-to-Most Assistance

In this step, team members arrange prompts from least to most intrusive. That is, they organize the prompt hierarchy so that the first level is the independent level. In this level, the target stimulus and perhaps a cue or task direction are present. Team members then provide prompts that include progressively more assistance. The last level in the prompting hierarchy ensures that learners with ASD use the target skill successfully (controlling prompt).

1. When sequencing the prompting hierarchy, team members determine which type of prompt provides a learner with:

   a. the least amount of assistance,
   b. more information, and
   c. the most amount of assistance (i.e., enough to be correct).

The following questions may be helpful when attempting to sequence prompts from least to most assistance:

- Which types of prompts have been used to teach a learner new skills?
- Has the learner been taught how to use this type of skill before, or have other team members focused on different types of skills?
- What types of prompts have been most successful when teaching the learner a variety of skills?
- When a prompt is needed, what type of prompt is used most often with the learner?
- If this skill/task has been successfully taught to other learners with ASD, what was the least-to-most sequence?
- Does the learner use the skill correctly when each prompt is used separately? (Wolery, Ault, & Doyle, 1992).

In the example that follows, the hierarchy has four levels. The first level is the independent level. In the first prompt level (2nd level of the hierarchy), the team member uses as visual prompt

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(holding up the pitcher and having an inquisitive facial expression). In the second prompt level (3rd level of the hierarchy), the team member uses a verbal prompt in the form of a question. In the last prompt level (4th of the hierarchy), the team member uses a verbal model of the target response.

The following table provides an example prompt hierarchy selected for a learner with ASD.

Skill: Requesting "more"

Level	Cue and Type of Prompt	Example
Independent (learner is able to perform the target skill without additional assistance.)	*Target stimulus*: Empty cup when the learner is thirsty *Cue*: Pitcher of juice Material/environmental manipulation	Taylor finishes a cup of juice at snack. Taylor reaches for the pitcher of juice that is slightly out of reach.
Intermediate (first prompt level)	*Target stimulus*: Empty cup when the learner is thirsty *Cue*: Pitcher of juice Gestural prompt	Team member holds up juice pitcher, shrugs shoulders, and raises eyebrows as if to say, "What do you want?"
Intermediate (second prompt level)	*Target stimulus*: Empty cup when the learner is thirsty *Cue*: Pitcher of juice Verbal prompt	Taylor reaches for the juice pitcher. Team member says, "What do you want?"
Controlling (prompt is provided that ensures the learner will use the target skills correctly.)	*Target stimulus*: Empty cup when the learner is thirsty *Cue*: Pitcher of juice Model prompt	Taylor reaches for the juice pitcher. Team member says, "More, please." Taylor says, "More." Team member pours Taylor more juice.

Step 9. Determining the Length of the Response Interval

After each level of the prompting hierarchy, the learner with ASD has the opportunity to respond. This is called the **response interval**. At each level, team members provide learners with the same amount of time to respond. If the learner responds correctly, the team member provides reinforcement (e.g., more juice, "Good job," preferred activity). If the learner does not use the target skill correctly, the team member provides the prompt in the next level of the hierarchy.

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

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

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   a. *learner characteristics*. Team members 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 four seconds as the response interval for this particular learner with ASD.

   c. *the amount of time a learner will be allowed to begin and 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).

This information gives team members a good starting point for the response interval. The response interval for each level of the prompt hierarchy should be the same to make it easy for the team member to remember, and to make it predictable for the learner.

   3. Team members identify an initial response interval of 3-5 seconds.

Generally, the response interval is only a few seconds. Often 3, 4, or 5 seconds is adequate. The longer the response interval, the longer each trial (particularly during initial instruction) will take.

Because this procedure requires the learner to wait for the assistance, the procedure is more effective with learners who wait for help when they are faced with unknown tasks. The waiting need only be for a small number of seconds. This procedure will be less effective with learners who impulsively respond regardless of whether they know the correct response.