

Module: Prompting

Evidence-Based Practice Brief: Prompting

This evidence-based practice brief on prompting includes the following components:

1. **Overview, which gives a quick summary of salient features of the practice, including what it is, who it can be used with, what skills it has been used with, settings for instruction, and additional literature documenting its use in practice**
2. **Introduction to Prompting, which provides definitions and information to help teachers/practitioners make decisions about the most appropriate prompting procedures to use with individual learners, skills, and tasks.**
3. **Prompts: Least-to-Most Steps for Implementation**
4. **Prompts: Least-to-Most Implementation Checklist**
5. **Prompts: Least-to-Most Data Collection Sheets**
6. **Prompts: Simultaneous Steps for Implementation**
7. **Prompts: Simultaneous Implementation Checklist**
8. **Prompts: Simultaneous Teacher Planning Worksheet**
9. **Prompts: Simultaneous Data Collection Sheets**
10. **Prompts: Graduated Guidance Steps for Implementation**
11. **Prompts: Graduated Guidance Implementation Checklist**
12. **Prompts: Graduated Guidance Data Collection Sheets**
13. **Evidence Base Summary, which details the NPDC-ASD criteria for inclusion as an evidence-based practice and the specific studies that meet the criteria for this practice**

Module: Prompting

Overview of Prompting

Neitzel, J., & Wolery, M. (2009). *Overview of prompting*. Chapel Hill, NC: The National Professional Development Center on Autism Spectrum Disorders, Frank Porter Graham Child Development Institute, The University of North Carolina.

Prompting procedures include any help given to learners that assist them in using a specific skill. These procedures are often used in conjunction with other evidence-based practices including time delay and reinforcement. Prompts are generally given by an adult or peer *before* or as a learner attempts to use a skill. A variety of prompting procedures support the learning and development of children and youth with autism spectrum disorders (ASD). They include:

- *Least-to-most prompts*: This prompting procedure is also referred to as the system of least prompts. With this procedure, a prompt hierarchy is used to teach learners with ASD new skills. The hierarchy is comprised of at least three levels. The first level provides the learner with the opportunity to respond without prompts. The remaining levels are sequence from the least amount of help to the most amount of help.
- *Simultaneous prompting*: With this prompting procedure, the cue (i.e., a signal to learner to use target skill) and controlling prompt (i.e., prompt that ensures that the learner will use the target skill successfully) are delivered simultaneously. The cue is then presented again while the teacher/practitioner waits for the learner to respond.
- *Graduated guidance*: With graduated guidance, teachers/practitioners provide a controlling prompt (i.e., a prompt that ensures the learner will use the skill correctly) and then gradually remove the prompt during a teaching activity. This procedure differs from other prompting procedures because it requires teachers/practitioners to make judgments during the teaching activity about the type and amount of prompting to provide based upon the learner's response.

With these procedures, teachers and other practitioners use different types of prompts in a systematic fashion to help learners with ASD acquire target skills. Prompts generally fall into one of the following categories:

- *Verbal prompts*: Teachers/practitioners make statements that help learners with ASD acquire target skills (e.g., "You might need to try it a different way," "Write your name").
- *Gestural prompts*: Teachers/practitioners make movements that cue learners to use a particular behavior or skill (e.g., pointing to the top of the paper where the learner needs to write his name).
- *Model prompts*: Teachers/practitioners perform the target skill or behavior. Full model prompts can be verbal if the skill being taught is verbal, or they can be motor responses if the skill being taught involves moving a body part.

Module: Prompting

- *Physical prompts:* Teachers/practitioners touch learners to help them use the target behavior or skill (e.g., tapping a learner's hand to cue him to begin writing his name, teacher putting hand over learner's to help her write her name).
- *Visual prompts:* Teachers/practitioners provide pictures of events that provide learners with information about how to use the target skill or behavior (e.g., task analysis checklist, transition picture card).

Evidence

Prompting meets the evidence-based practice criteria with five single-subject design studies, demonstrating its effectiveness in the domains of academic and language/communication in all three age groups (i.e., preschool, elementary, middle/high school).

With what ages is prompting effective?

Prompting can be used effectively with children and youth with ASD, regardless of cognitive level and/or expressive communicative abilities across the age range. The evidence base shows that prompting is an effective intervention for learners with ASD ranging from 3 to 22 years of age.

What skills or intervention goals can be addressed with prompting?

Prompting can be used to teach a variety of skills including seeking information, pointing to objects, identifying numbers/objects, and remaining in "on-task" behavior.

In what settings can prompting be effectively used?

The evidence-based studies were conducted mainly in clinic-based settings or in one-to-one teaching sessions with learners with ASD. The research did not demonstrate the use of prompting in more naturalistic settings such as during ongoing classroom routines and activities, in the home, or in community-based settings; however, each of the prompting procedures could be adapted for use in these settings.

Evidence Base

The studies cited in this section document that this practice meets the NPDC on ASD's criteria for an evidence-based practice. This list is not exhaustive; other quality studies may exist that were not included.

Preschool

Taylor, B. A., & Harris, S. L. (1995). Teaching children with autism to seek information: Acquisition of novel information and generalization of responding. *Journal of Applied Behavior Analysis, 28*, 3-14.

Elementary

Module: Prompting

- Akmanoglu, N., & Batu, S. (2004). Teaching pointing to numerals to individuals with autism using simultaneous prompting. *Education and Training in Developmental Disabilities, 39*(4), 326-336.
- Ault, M. J., Wolery, M., Gast, D. L., Doyle, P. M., & Eisenstat, V. (1988). Comparison of response prompting procedures in teaching numeral identification to autistic subjects. *Journal of Autism and Developmental Disorders, 18*(4), 627-636.
- Bryan, L. C., & Gast, D. L. (2000). Teaching on-task and on-schedule behaviors to high-functioning children with autism via picture activity schedules. *Journal of Autism and Developmental Disorders, 30*(6), 553-567.
- Godby, S., Gast, D. L., & Wolery, M. (1987). A comparison of time delay and system of least prompts in teaching object identification. *Research in Developmental Disabilities, 8*, 283-306.
- Taylor, B. A., & Harris, S. L. (1995). Teaching children with autism to seek information: Acquisition of novel information and generalization of responding. *Journal of Applied Behavior Analysis, 28*, 3-14.

Middle/High School

- Akmanoglu, N., & Batu, S. (2004). Teaching pointing to numerals to individuals with autism using simultaneous prompting. *Education and Training in Developmental Disabilities, 39*(4), 326-336.
- Godby, S., Gast, D. L., & Wolery, M. (1987). A comparison of time delay and system of least prompts in teaching object identification. *Research in Developmental Disabilities, 8*, 283-306.

Selected Additional References

- Cicero, F. R., & Pfadt, A. (2002). Investigation of a reinforcement -based toilet training procedure for children with autism. *Research in Developmental Disabilities, 23*, 319-331.
- Charlop-Christy, M. H., Carpenter, M., Le, L., LeBlanc, L. A., & Kellet, K. (2002). Using the picture exchange communication system (PECS) with children with autism: Assessment of PECS acquisition, speech, social-communicative behavior, and problem behavior. *Journal of Applied Behavior Analysis, 35*(3), 213-231.
- Charlop, M. H., Schreibman, L., & Thibodeau, M. G. (1985). Increasing spontaneous verbal responding in autistic children using a time delay procedure. *Journal of Applied Behavior Analysis, 18*, 155-166.
- Wolery, M., Ault, M. J., & Doyle, P. M. (1992). *Teaching students with moderate to severe disabilities: Use of response prompting strategies*. NY: Longman.

Module: Prompting

Evidence Base for Prompting

The National Professional Development Center on ASD has adopted the following definition of evidence-based practices.

To be considered an evidence-based practice for individuals with ASD, efficacy must be established through peer-reviewed research in scientific journals using:

- *randomized or quasi-experimental design studies*. Two high quality experimental or quasi-experimental group design studies,
- *single-subject design studies*. Three different investigators or research groups must have conducted five high quality single subject design studies, or
- *combination of evidence*. One high quality randomized or quasi-experimental group design study and three high quality single subject design studies conducted by at least three different investigators or research groups (across the group and single subject design studies).

High quality randomized or quasi experimental design studies do not have critical design flaws that create confounds to the studies, and design features allow readers/consumers to rule out competing hypotheses for study findings. High quality in single subject design studies is reflected by a) the absence of critical design flaws that create confounds and b) the demonstration of experimental control at least three times in each study.

This definition and criteria are based on the following sources:

Horner, R., Carr, E., Halle, J., McGee, G., Odom, S., & Wolery, M. (2005). The use of single subject research to identify evidence-based practice in special education. *Exceptional Children, 71*, 165-180.

Nathan, P., & Gorman, J. M. (2002). *A guide to treatments that work*. NY: Oxford University Press.

Odom, S. L., Brantlinger, E., Gersten, R., Horner, R. D., Thompson, B., & Harris, K. (2004). *Quality indicators for research in special education and guidelines for evidence-based practices: Executive summary*. Arlington, VA: Council for Exceptional Children Division for Research.

Rogers, S. J., & Vismara, L. A. (2008). Evidence based comprehensive treatments for early autism. *Journal of Clinical Child and Adolescent Psychology, 37*(1), 8-38.

Module: Prompting

Using these criteria, the empirical studies referenced below provide documentation for supporting prompting as an evidence-based practice. This list is not exhaustive; other quality studies may exist that were not included.

Preschool

Taylor, B. A., & Harris, S. L. (1995). Teaching children with autism to seek information: Acquisition of novel information and generalization of responding. *Journal of Applied Behavior Analysis, 28*, 3-14.

Elementary

Akmanoglu, N., & Batu, S. (2004). Teaching pointing to numerals to individuals with autism using simultaneous prompting. *Education and Training in Developmental Disabilities, 39*(4), 326-336.

Ault, M. J., Wolery, M., Gast, D. L., Doyle, P. M., & Eisenstat, V. (1988). Comparison of response prompting procedures in teaching numeral identification to autistic subjects. *Journal of Autism and Developmental Disorders, 18*(4), 627-636.

Bryan, L.C., & Gast, D.L. (2000). Teaching on-task and on-schedule behaviors to high-functioning children with autism via picture activity schedules. *Journal of Autism and Developmental Disorders, 30*(6), 553-567.

Godby, S., Gast, D. L., & Wolery, M. (1987). A comparison of time delay and system of least prompts in teaching object identification. *Research in Developmental Disabilities, 8*, 283-306.

Taylor, B. A., & Harris, S. L. (1995). Teaching children with autism to seek information: Acquisition of novel information and generalization of responding. *Journal of Applied Behavior Analysis, 28*, 3-14.

Middle/High School

Akmanoglu, N., & Batu, S. (2004). Teaching pointing to numerals to individuals with autism using simultaneous prompting. *Education and Training in Developmental Disabilities, 39*(4), 326-336.

Godby, S., Gast, D. L., & Wolery, M. (1987). A comparison of time delay and system of least prompts in teaching object identification. *Research in Developmental Disabilities, 8*, 283-306.

Module: Prompting

Steps for Implementation: Least-to-Most Prompts

Neitzel, J., & Wolery, M. (2009). *Steps for implementation: Least-to-most prompts*. Chapel Hill, NC: National Professional Development Center on Autism Spectrum Disorders, Frank Porter Graham Child Development Institute, The University of North Carolina.

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 or 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, and this hierarchy has a minimum of three levels. The first level is always the independent level (i.e., no prompts), and 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, teachers and other practitioners define the target behavior or skill that they want a learner with ASD to acquire.

1. Teacher/practitioners 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 teachers/practitioners to observe directly the target behavior and measure the learner’s progress.

2. Teachers/practitioners 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.
 - b. *a chained task*. Chained tasks are those requiring a number of individual behaviors that are sequenced together to form a more complex skill. Chained tasks require teachers and practitioners to determine (1) the number and sequence of steps in the chain, (2) whether to teach one step at a time, or (3) 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.

Module: Prompting

Step 2. Identifying the Target Stimulus

In Step 2, the teacher/practitioner must identify 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. Teachers/practitioners 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 teacher to ensure learners are attending to the target stimulus before starting the chain. This will reduce dependence on teacher instructions and teacher prompts.

Step 3. Selecting Cues or Task Directions

In Step 3, teachers and other practitioners 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 teacher 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 teacher 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.

1. Teachers/practitioners select at least one of the following cues to begin the teaching exchange (trial):

Module: Prompting

- 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 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. Teachers/practitioners 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 teacher wants a learner with ASD to learn to wash his hands, the target stimulus is dirty hands, and the cue might be the teacher 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 teacher wants a learner with ASD to learn to wash his hands, the target stimulus is dirty hands, and the cue might be the teacher saying, "Wash your hands." If the learner does not respond, the teacher might then say, "Wash your hands" while pointing to the faucet. If the learner does not respond again, the teacher 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 provided at the independent level, and 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, teachers/practitioners 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?).

For example, a learner with ASD may continually request Goldfish crackers that are placed on a high shelf; however, the teacher only gives them to the learner once a week. Because the

Module: Prompting

learner wants the Goldfish crackers, but cannot easily get them, this is considered his deprivation state.

2. Teachers/practitioners 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 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 is requesting.

Some 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, and
- 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 the learner with ASD needs to use the target behavior. For example, a teacher could work on “requesting help” when a learner is getting his coat on to go home at the end of the day. The selection of activities and materials is dependent upon the skill(s) that a learner or small group of learners need to acquire. Teachers and other practitioners 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 teacher/practitioner must consider a number of issues. These include whether teaching can occur in the situation in which the learner with ASD needs the skill, whether the teaching will be embedded into other activities, and whether the skill will be taught during direct instructional sessions (individual or group).

1. Before implementing the intervention, teachers/practitioners identify all the times during the day the learner may need to use the target skill.

Module: Prompting

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, then the teacher/practitioner must decide who will do the instruction.

2. Before embedding prompting procedures, teachers/practitioners 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 teacher/practitioner must decide who will do it, what will cue the teacher 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., five minutes, 15 minutes, two hours).

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

Step 6. Selecting the Number of Levels in the Hierarchy

In Step 6, teachers and other practitioners 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, teachers/practitioners 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, of course, 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 have information in them 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.
 - b. *learner characteristics.* As more 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, then a prompting

Module: 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 then 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. Five levels would have an 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, teachers and other practitioners select the types of prompts that will be used at each level of the prompting hierarchy. These prompts may be from the same or different types of prompts.

1. Teachers/practitioners 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).

Teachers and other practitioners use any number of prompt combinations. Within the hierarchy, teachers and other practitioners 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. Teachers/practitioners choose prompt types based upon:
 - a. *learner characteristics.* Teachers 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 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 can not imitate adults, then models would not be a wise choice.
 - b. *skill characteristics.* Teachers and other practitioners should consider matching the prompt type with the skill being taught. For example, if a teacher is trying to teach a

Module: Prompting

learner how to respond to “What’s that?” then verbal and model prompts would be most helpful. If a learner is being taught how to follow his picture schedule, then 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, teachers and other practitioners 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. Teachers/practitioners then provide prompts that provide 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, teachers/practitioners 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 teachers and other practitioners attempt 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 practitioners 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 teacher uses as visual prompt (holding up the pitcher and having an inquisitive facial expression). In the second prompt level (3rd level of the hierarchy), the teacher uses a verbal prompt in the form of a question. In the last prompt level (4th of the hierarchy), the teacher uses a verbal model of the target response.

Module: Prompting

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

Skill: Requesting “more”

Level	Cue and Type of Prompt	Example
<i>Independent</i> (Learner is able to perform the target skill without any additional assistance.)	<i>Target stimulus:</i> Empty cup when the learner is thirsty <i>Cue:</i> 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.
<i>Intermediate</i> (first prompt level)	<i>Target stimulus:</i> Empty cup when the learner is thirsty <i>Cue:</i> Pitcher of juice Gestural prompt	Teacher holds up juice pitcher, shrugs shoulders, and raises eyebrows as if to say, “What do you want?”
<i>Intermediate</i> (second prompt level)	<i>Target stimulus:</i> Empty cup when the learner is thirsty <i>Cue:</i> Pitcher of juice Verbal prompt	Taylor reaches for the juice pitcher. Teacher says, “What do you want?”
<i>Controlling</i> (Prompt is provided that ensures the learner will use the target skills correctly.)	<i>Target stimulus:</i> Empty cup when the learner is thirsty <i>Cue:</i> Pitcher of juice Model prompt	Taylor reaches for the juice pitcher. Teacher says, “More, please.” Taylor says, “More.” Teacher 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, teachers/practitioners provide learners with the same amount of time to respond. If the learner responds correctly, the teacher/practitioner provides reinforcement (e.g., more juice, “Good job,” preferred activity). If the learner does not use the target skill correctly, the teacher/practitioner provides the prompt in the next level of the hierarchy.

1. When selecting a response interval, teachers/practitioners time how long it takes the learner to complete similar skills/tasks.
2. When determining the length of the response interval, teachers/practitioners consider:
 - a. *learner characteristics.* Teachers/practitioners 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 usual time is generally adequate for determining the length of the response interval.

Module: Prompting

- b. *task characteristics*. Teachers/practitioners might consider how long it takes another learner with ASD to use a similar skill. For example, if it takes another learner four seconds to respond to a verbal prompt, then the teacher 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), teachers/practitioners 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 teachers and other practitioners 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 teacher/practitioner to remember, and to make it predictable for the learner.

3. Teachers/practitioners identify an initial response interval of 3 to 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 will be more effective with learners who wait for help when they are faced with unknown tasks. This 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.

Implementing the Intervention

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

1. Teachers/practitioners 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 such as matching the stimulus, touching it, repeating the task direction also have been used. Once attention is

Module: Prompting

secured, the teacher/practitioner presents the cue or task direction to let learners know what they are expected to do.

EXAMPLE: A teacher says, “David.” David looks at the teacher. She presents a flash card with the word “stop” on it (target stimulus) and says, “What is this, David?” while pointing at the flash card.

The teacher 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 teacher saying, “What is this, David?”

Step 2. Waiting for the Learner to Respond

1. Teachers/practitioners wait for the learner to respond before providing increased support.

Prompting procedures often are used in conjunction with time delay, another evidence-based practice. Teachers/practitioners 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, teachers and practitioners 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, teachers/practitioners 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.”)
2. If the learner’s response is incorrect, teachers/practitioners:
 - a. interrupt the incorrect response and
 - b. deliver the next prompt in the hierarchy.
3. If the learner does not respond, teachers/practitioners use the prompt in the next level of the prompting hierarchy.
4. Teachers/practitioners continue through the prompting hierarchy until a correct response (prompted correct response) occurs, and then deliver the reinforcer.

Module: Prompting

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.

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

1. Teachers/practitioners record each type of response that occurs.

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

2. Teachers/practitioners review data to determine if progress is being made.

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 a number of 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).

Module: Prompting

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	-	+	+	+	
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)

Module: Prompting

These data help teachers 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 teachers/practitioners might 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.	Teacher 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 teacher (1) increases the number of levels in the hierarchy (use an additional prompt), (2) selects a new type of prompt, or (3) 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 teacher differentially reinforces prompted and unprompted correct responses OR eliminates reinforcement for prompted correct responses altogether.
Learner consistently fails to respond at any level, including the final level.	The teacher finds a more powerful reinforce.

Adapted from Wolery, Ault, & Doyle (1992)

References

Wolery, M., Ault, M.J., & Doyle, P.M. (1992). *Teaching students with moderate and severe disabilities: Use of response prompting strategies*. White Plains, NY: Longman.

Module: Prompting

Steps for Implementation: Simultaneous Prompting

Neitzel, J., & Wolery, M. (2009). *Steps for implementation: Simultaneous prompting*. Chapel Hill, NC: National Professional Development Center on Autism Spectrum Disorders, Frank Porter Graham Child Development Institute, The University of North Carolina.

The simultaneous prompting procedure can be used with discrete (single responses of relatively short duration) and chained skills (a number of 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, teachers and other practitioners define the target behavior or skill that they want a learner with ASD to acquire.

1. Teachers/practitioners 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 teachers/practitioners to directly observe the target skill/behavior and measure the learner's progress.

2. Teachers/practitioners 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 teachers/practitioners 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.

Module: Prompting

Step 2. Selecting the Target Stimulus and Cue

In Step 2, teachers and other practitioners 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 teacher/practitioner 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 by the teacher. These 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, the teacher, 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 teacher 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. Teachers/practitioners 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).

Module: Prompting

- 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.
2. Teachers/practitioners 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. Teachers/practitioners 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 play dough 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, specific, and aimed at learners' skill and interest levels. For example, a teacher 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 that learners with ASD know what they are supposed to be doing during the particular task or activity.

Step 3. Selecting a Controlling Prompt

In Step 3, teachers/practitioners 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. Teachers/practitioners try out different prompts to see which ones are successful in getting the learner with ASD to do the task correctly.

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

Module: Prompting

used. In general, teachers and other practitioners 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, then 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 to the learner with ASD.

1. When choosing reinforcers for learners with ASD, teachers/practitioners 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. Teachers/practitioners 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 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 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.

Some 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, and
- 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.

Module: Prompting

Step 5. Determining the Response Interval

The simultaneous prompting procedure uses two types of regular sessions: instructional sessions and probe (test) sessions. In the instructional sessions, the teacher/practitioner 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 teacher should present a *response interval* for the child to respond. With the probe sessions, the teacher 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.

In Step 5, teachers and other practitioners 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 teacher/practitioner provides reinforcement (e.g., more juice, "Good job," preferred activity). If the learner does not do the target skill correctly, the teacher/practitioner ignores the response or corrects it and provides the next trial.

1. When determining the length of the response interval, teachers/practitioners consider:
 - a. *learner characteristics*. Teachers/practitioners 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 seconds to this usual time is generally adequate for determining the length of the response interval.
 - b. *task characteristics*. Teachers/practitioners 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, then the teacher might try using 4 seconds as the response interval for this particular learner with ASD. Teachers/practitioners 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), teachers/practitioners 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, teachers/practitioners time how long it takes the learner to complete similar skills/tasks.

This information gives teachers and other practitioners a good starting point for the response interval. The response interval for instructional sessions and the probe sessions should be the same to make it easy for the teacher/practitioner to remember.

Module: Prompting

Step 6. Identifying Activities and Times for Teaching

Simultaneous prompting can be used during didactic 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 also 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. Teachers and other practitioners also should consider using favorite activities or materials during teaching activities to increase motivation. Regardless of whether discrete or chained behaviors are taught, two regular sessions are needed with the simultaneous prompting procedure.

1. Teachers/practitioners identify two regular times during the day when the target skill can be taught and measured.

One time is used for instruction, and one time is a “probe” session, or test session.

2. Teachers/practitioners 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 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, then 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 done.

The probe sessions often have fewer trials (two or three) per target skill than the instructional sessions. The probe sessions are 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. Teachers/practitioners 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), 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

Module: Prompting

attention is secured, the teacher/practitioner presents the cue or task direction to let the learner know a behavior is expected from him/her.

EXAMPLE: A teacher says, “David.” David looks at the teacher. She presents a flash card with the word “stop” on it (target stimulus) and says, “What is this, David?” while pointing at the flash card.

The teacher 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 teacher saying, “What is this, David?”

Step 2. Implementing the Prompt

During the *instructional sessions* with the simultaneous prompting procedure, teachers and other practitioners 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, teachers/practitioners immediately deliver the controlling prompt.

In the example used, above, after saying, “David” (to get his attention), showing the word ‘stop,’ and saying “What is this David?” the teacher would immediately say, “stop” (controlling prompt).

2. If the learner’s response is correct (prompted correct), teachers/practitioners 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 with ASD does not respond, teachers/practitioners ignore the response and go on to the next trial.

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

B. Probe Sessions

1. After securing attention, presenting the target stimulus, and delivering the cue/task direction, teachers/practitioners 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 teacher would look expectantly at David for him to provide the response.

Module: Prompting

2. If the learner’s response is correct (unprompted correct), teachers/practitioners 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, teachers/practitioners ignore the response and go on to the next trial.

When errors occur with chained tasks, the teacher 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 teachers/practitioners to evaluate learners’ acquisition of skills.

A. Instructional Data

1. Teachers/practitioners collect data daily during the instructional sessions.

Data gathered during instruction tell teachers/practitioners whether (1) the prompt is providing enough support for the learner to do the target skill correctly and (2) the reinforcer is effective. The following table provides an example data sheet that can be used during instructional sessions.

Table 1. Sample Data Sheet for Simultaneous Prompting Instructional Session

Trial	Stimulus	PC	PE	NR
1				
2				
3				
Total #				
Total %				

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

The teacher/practitioner then makes instructional changes using the following decision rules.

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

Module: Prompting

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

3. Teachers/practitioners 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), teachers/practitioners 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 he 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. Teachers/practitioners implement at least one probe session daily.

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

2. Teachers/practitioners identify how many trials will be implemented during the probe session (at least 2 trials on each behavior per probe session).

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

3. Teachers/practitioners 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

Module: Prompting

waits for him to put them together. The remaining Legos are on her lap in a box which 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 2. 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 teacher/practitioner then makes instructional decisions using the following decision rules.

4. Teachers/practitioners 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. Teachers/practitioners 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, teachers/practitioners modify that step to make it more apparent to the learner with ASD (e.g., using more than one cue rather than one).

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 which can be placed right behind the warm water handle. His hope is that the soap pump will be more obvious to her, thus limiting the need for any additional prompting for this step to be completed successfully.

Module: Prompting

Steps for Implementation: Graduated Guidance

Neitzel, J., & Wolery, M. (2009). *Steps for implementation: Graduated guidance*. Chapel Hill, NC: The National Professional Development Center on Autism Spectrum Disorders, FPG Child Development Institute, The University of North Carolina.

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, teachers/practitioners 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, teachers and other practitioners 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. Teachers/practitioners 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 their proper location” does specify the behaviors John will be taught. This specificity allows teachers/practitioners to observe the target skill/behavior directly and measure his progress.

2. Teachers/practitioners 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, teachers and other practitioners 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

Module: Prompting

the same time. In most cases, it makes sense to teach the chain in the sequence usually used by competent performers.

Step 2. Identifying the Target Stimulus

In Step 2, teachers/practitioners must identify the target stimulus. The target stimulus is the event or thing that should cue the learner with ASD to begin the chain.

1. Teachers/practitioners 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 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 when someone asks a question, this is the target stimulus for answering.

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

Step 3. Selecting the Cue or Task Direction

In Step 3, teachers and other practitioners 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 teacher 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 teacher 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.

Module: Prompting

1. Teachers/practitioners 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 play dough and toys on the table, arranging desks for small group work).
 - b. *task direction*. Telling 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, teachers/practitioners 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. Teachers/practitioners identify a reinforcer that is appropriate for the target skill/behavior and instructional task.

The chosen 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, with many learners this is not the case. Thus, additional reinforcers should be used at the end of the chain.

Some 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,

Module: Prompting

- preferred toys and games, and
- 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, teachers/practitioners 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 may be as simple as pointing to the faucet to prompt hand washing, while others may need full hand-over-hand assistance.

1. Teachers/practitioners 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 prompts, although with learners who have a lot of language skills, verbal prompts could be used. When selecting and using physical prompts, teachers/practitioners should be careful in how they use these prompts. Providing physical prompts from behind the individual often allows for more natural movements to be taught. Teachers/practitioners 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, then continue to prompt the movement. Be sure others (supervisors, assistants, co-workers) 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 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, teachers/practitioners consider:
 - a. *learner characteristics*. Teachers/practitioners 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 seconds to this usual time is generally adequate for determining the length of the response interval.
 - b. *task characteristics*. Teachers/practitioners 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, then the teacher might try using 4 seconds as the response interval for this particular learner with ASD. Teachers/practitioners 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

Module: Prompting

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, teachers/practitioners time how long it takes the learner to complete similar skills/tasks.

This information gives teachers and other practitioners a good starting point for the response interval.

Step 7. Specifying Prompt Fading Procedures

In this step, teachers/practitioners determine how they will fade prompts as the learner with ASD becomes more proficient at doing the chained skill.

1. Teachers/practitioners 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 teachers/practitioners 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. Teachers/practitioners analyze the day and determine when and where the chain is needed.

Those times should be selected as the instructional times.

Module: Prompting

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

For example, if the skill being taught is taking off a coat, 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.

Implementing the Intervention

Step 1. Implementing Graduated Guidance

1. When implementing graduated guidance, teachers/practitioners:
 - 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 teacher would approach the learner; speak to him (attending cue); say, "Your hands are dirty" (calling attention to the target stimulus); say, "time to wash your hands" (task direction); and wait 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 has been provided, teachers/practitioners provide additional assistance to the learner.

2. Teachers/practitioners 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, teachers/practitioners 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, teachers/practitioners 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, teachers/practitioners 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, teachers/practitioners:

Module: Prompting

- a. stop moving and
 - b. hold the learner's hands in place.
7. When the resistance subsides, teachers/practitioners start the movement toward completing the chain again by applying the amount and type of prompt needed.
 8. As the learner with ASD completes each step of the chain correctly (prompted or unprompted), teachers/practitioners provide verbal praise and encouragement.
 9. At the end of the chain, teachers/practitioners 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, teachers/practitioners stop teaching the target skill/behavior until the learner with ASD is no longer resistant. Teachers/practitioners 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, teachers/practitioners should measure chains that were completed without prompts, chains completed correctly with prompts, and chains completed with resistance. Some teachers/practitioners 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. Teachers/practitioners record the number of chains done:
 - a. correctly without prompts,
 - b. correctly with prompts, and
 - c. correctly, but with resistance.
2. Teachers/practitioners review progress monitoring data to determine whether the learner is starting to do the skill without prompts.

Module: Prompting

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

Table 1. 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
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 teachers make decisions about when to make changes in the prompting procedure. For instance, if the learner was very resistant to completing the chain, then increasing the reinforcer for completing the chain without resistance is recommended.

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

Module: Prompting

Implementation Checklist for Least-to-Most Prompts

Neitzel, J., & Wolery, M. (2009). *Implementation checklist for least-to-most prompts*. Chapel Hill, NC: The National Professional Development Center on Autism Spectrum Disorders, FPG Child Development Institute, The University of North Carolina.

Instructions: The Implementation Checklist includes each step in the process of implementing use of least-to-most prompts. Please complete all of the requested information including the site and state, individual being observed/interviewed, and the learner’s initials. To assure that a practice is being implemented as intended, an observation is *always* preferable. This may not always be possible. Thus, items may be scored based on observations with the implementer, discussions and/or record review as appropriate. Within the table, record a 2 (implemented), 1 (partially implemented), 0 (did not implement), or NA (not applicable) next to each step observed to indicate to what extent the step was implemented/addressed during your observation. Use the last page of the checklist to record the target skill, your comments, whether others were present, and plans for next steps for each observation.

Site: _____ State: _____

Individual(s) Observed: _____ Learner’s Initials: _____

Skills below can be implemented by a practitioner, parent, or other team member

<i>Planning (Steps 1 – 9)</i>									
	Observation	1	2	3	4	5	6	7	8
	Date								
	Observer’s Initials								
Step 1. Identifying the Target Skill/Behavior	Score**								
1. Define the target behavior in terms that are observable and measurable.									
2. Identify the target behavior as being either:									
a. a discrete task or									
b. a chained task.									

**Scoring Key: 2 = implemented; 1 = partially implemented; 0 = did not implement; NA = not applicable

Module: Prompting

	Observation	1	2	3	4	5	6	7	8
	Date								
	Observer's Initials								
Step 2. Identifying the Target Stimulus									
1. Identify one of the following as the target stimulus:									
a. a naturally occurring event, b. completion of one event or activity, or c. an external signal.									
Step 3. Selecting Cues or Task Directions									
1. Select at least one of the following cues to begin the teaching exchange (trial):									
a. material or environmental manipulation, b. task direction, or c. naturally occurring event.									
2. Identify one of the following as a time to give the cue/task direction:									
a. at the first prompt level (independent level) or b. at each step of the prompt hierarchy.									
Step 4. Selecting Reinforcers									
1. When choosing reinforcers for learners with ASD, 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. Identify a reinforcer that is appropriate for the target skill and instructional task.									

****Scoring Key: 2 = implemented; 1 = partially implemented; 0 = did not implement; NA = not applicable**

Module: Prompting

	Observation	1	2	3	4	5	6	7	8
	Date								
	Observer's Initials								
Step 5. Identifying Activities and Times for Teaching	Score**								
1. Before implementing the intervention, identify all the times during the day when the learner may need to use the target skill.									
2. Before embedding prompting procedures, identify specific routines and activities in which prompting procedures can be incorporated to teach target skills.									
3. Identify when and where the direct instruction will occur.									
Step 6. Selecting the Number of Levels in the Hierarchy									
1. When selecting the number of prompt levels, consider:									
a. task characteristics,									
b. learner characteristics, and									
c. time available for instruction.									
Step 7. Selecting the Types of Prompts to Be Used									
1. 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), and/or e. physical (full, partial).									

****Scoring Key:** 2 = implemented; 1 = partially implemented; 0 = did not implement; NA = not applicable

Module: Prompting

	Observation	1	2	3	4	5	6	7	8
	Date								
	Observer's Initials								
Step 7. Selecting the Types of Prompts to be Used (cont.)	Score**								
2. Choose prompt types based upon:									
a. learner characteristics and									
b. skill characteristics.									
Step 8. Sequencing Prompts from Least-to-Most Assistance									
1. When sequencing the prompting hierarchy, 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.									
Step 9. Determining the Length of the Response Interval									
1. When selecting a response interval, time how long it takes the learner to complete similar skills/tasks.									
2. When determining the length of the response interval, consider:									
a. learner characteristics,									
b. task characteristics, and									
c. the amount of time a learner will be allowed to begin and complete the task.									
3. Identify an initial response interval of 3 to 5 seconds.									

**Scoring Key: 2 = implemented; 1 = partially implemented; 0 = did not implement; NA = not applicable

Module: Prompting

<i>Intervention (Steps 1 – 4)</i>									
	Observation	1	2	3	4	5	6	7	8
	Date								
	Observer's Initials								
Step 1. Establishing Learner Attention, Delivering the Stimulus, and Providing the Cue	Score**								
1. Establish the learner's attention by:									
<ul style="list-style-type: none"> 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. 									
Step 2. Waiting for the Learner to Respond									
1. Wait for the learner to respond using the identified response interval before providing increased support.									
Step 3. Responding to Learners' Attempts									
1. If the learner's response is correct, 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.")									
2. If the learner's response is incorrect,									
a. interrupt the incorrect response and									
b. deliver the next prompt in the hierarchy.									

**Scoring Key: 2 = implemented; 1 = partially implemented; 0 = did not implement; NA = not applicable

Module: Prompting

	Observation	1	2	3	4	5	6	7	8
	Date								
	Observer's Initials								
Step 3. Responding to Learners' Attempts (cont.)	Score**								
3. If the learner does not respond, use the prompt in the next level of the prompting hierarchy.									
4. Continue through the prompting hierarchy until a correct response (prompted correct response) occurs, and deliver the reinforcer.									
<i>Progress Monitoring (Step 4)</i>									
Step 4. Monitoring Learner Outcomes									
1. Record each type of response that occurs.									
2. Review data to determine if progress is being made.									

**** Scoring Key:** 2 = implemented; 1 = partially implemented; 0 = did not implement; NA = not applicable

Module: Prompting

Date	Observer Initials	Target Skill/Behavior, Comments, and Plans for Next Steps
Date	Observer Initials	Target Skill/Behavior, Comments, and Plans for Next Steps
Date	Observer Initials	Target Skill/Behavior, Comments, and Plans for Next Steps
Date	Observer Initials	Target Skill/Behavior, Comments, and Plans for Next Steps

Module: Prompting

Date	Observer Initials	Target Skill/Behavior, Comments, and Plans for Next Steps
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Date	Observer Initials	Target Skill/Behavior, Comments, and Plans for Next Steps

Module: Prompting

Implementation Checklist for Simultaneous Prompting

Neitzel, J., & Wolery, M. (2009). *Implementation checklist for simultaneous prompting*. Chapel Hill, NC: The National Professional Development Center on Autism Spectrum Disorders, FPG Child Development Institute, The University of North Carolina.

Instructions: The Implementation Checklist includes each step in the process of implementing simultaneous prompting. Please complete all of the requested information including the site and state, individual being observed/interviewed, and the learner’s initials. To assure that a practice is being implemented as intended, an observation is *always* preferable. This may not always be possible. Thus, items may be scored based on observations with the implementer, discussions and/or record review as appropriate. Within the table, record a 2 (implemented), 1 (partially implemented), 0 (did not implement), or NA (not applicable) next to each step observed to indicate to what extent the step was implemented/addressed during your observation. Use the last page of the checklist to record the target skill, your comments, whether others were present, and plans for next steps for each observation.

Site: _____ State: _____

Individual(s) Observed: _____ Learner’s Initials: _____

Skills below can be implemented by a practitioner, parent, or other team member

<i>Intervention (Steps 1 – 2)</i>									
	Observation	1	2	3	4	5	6	7	8
	Date								
	Observer’s Initials								
Step 1. Establishing Learner Attention, Delivering the Stimulus, and Providing the Cue	Score**								
1. 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), and/or c. presenting the cue or task direction.									
Step 2. Implementing the Prompt									
<i>A. Instructional Sessions</i>									
1. After securing attention, presenting the target stimulus, and delivering the cue/task direction, <u>immediately deliver</u> the controlling prompt.									

**Scoring Key: 2 = implemented; 1 = partially implemented; 0 = did not implement; NA = not applicable

Module: Prompting

	Observation	1	2	3	4	5	6	7	8
	Date								
	Observer's Initials								
Step 2. Implementing the Prompt (cont.)		Score**							
2. If the learner's response is correct (prompted correct), 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.").									
3. If the learner's response is incorrect (prompted error) or if the learner with ASD does not respond, ignore the response and go on to the next trial.									
<i>B. Probe Sessions</i>									
1. After securing attention, presenting the target stimulus, and delivering the cue/task direction, deliver the response interval (no prompt is provided).									
2. If the learner's response is correct (unprompted correct), 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.").									
3. If the learner's response is incorrect (unprompted error) or if the learner with ASD does not respond, ignore the response and go on to the next trial.									

***Scoring Key: 2 = implemented; 1 = partially implemented; 0 = did not implement; NA = not applicable*

Module: Prompting

<i>Monitoring Progress (Step 3)</i>									
	Observation	1	2	3	4	5	6	7	8
	Date								
	Observer's Initials								
Step 3. Monitoring Learner Progress					Score**				
<i>A. Instructional Data</i>									
1. Collect data daily during the instructional sessions.									
2. Select a new controlling prompt if the learner makes errors on 25% of the trials over the course of three consecutive instructional sessions.									
3. 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), make modifications to the initial cue (e.g., using two different types of cues instead of one).									
Step 3. Monitoring Learner Progress					Score**				
<i>B. Probe Data</i>									
1. Implement at least one probe session daily.									
2. Identify how many trials will be implemented during each probe session (at least 2 trials on each behavior per probe session).									
3. Present the cue, but not the controlling prompt, during each probe session.									

****Scoring Key:** 2 = implemented; 1 = partially implemented; 0 = did not implement; NA = not applicable

Module: Prompting

	Observation	1	2	3	4	5	6	7	8
	Date								
	Observer's Initials								
Step 3. Monitoring Learner Progress (cont.)	Score**								
4. Select a different prompting procedure (e.g., least-to-most, graduated guidance) 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. 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, modify that step to make it more apparent to the learner with ASD.									

****Scoring Key:** 2 = implemented; 1 = partially implemented; 0 = did not implement; NA = not applicable

Module: Prompting

Date	Observer Initials	Target Skill/Behavior, Comments, and Plans for Next Steps
Date	Observer Initials	Target Skill/Behavior, Comments, and Plans for Next Steps
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Module: Prompting

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Date	Observer Initials	Target Skill/Behavior, Comments, and Plans for Next Steps

Module: Prompting

Implementation Checklist for Graduated Guidance

Neitzel, J., & Wolery, M. (2009). *Implementation checklist for graduated guidance*. Chapel Hill, NC: The National Professional Development Center on Autism Spectrum Disorders, FPG Child Development Institute, The University of North Carolina.

Instructions: The Implementation Checklist includes each step in the process of implementing graduated guidance. Please complete all of the requested information including the site and state, individual being observed/interviewed, and the learner’s initials. To assure that a practice is being implemented as intended, an observation is *always* preferable. This may not always be possible. Thus, items may be scored based on observations with the implementer, discussions and/or record review as appropriate. Within the table, record a 2 (implemented), 1 (partially implemented), 0 (did not implement), or NA (not applicable) next to each step observed to indicate to what extent the step was implemented/addressed during your observation. Use the last page of the checklist to record the target skill, your comments, whether others were present, and plans for next steps for each observation.

Site: _____ State: _____

Individual(s) Observed: _____ Learner’s Initials: _____

Skills below can be implemented by a practitioner, parent, or other team member

<i>Planning (Steps 1 – 8)</i>									
Observation	1	2	3	4	5	6	7	8	
Date									
Observer’s Initials									
Step 1. Selecting and Describing the Target Skill/Behavior	Score**								
1. Define the target skill/behavior in terms that are observable and measurable.									
2. Identify the target skills/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.									

**Scoring Key: 2 = implemented; 1 = partially implemented; 0 = did not implement; NA = not applicable

Module: Prompting

	Observation	1	2	3	4	5	6	7	8
	Date								
	Observer's Initials								
Step 2. Identifying the Target Stimulus	Score**								
1. Identify one of the following as the target stimulus:									
a. a naturally occurring event, b. completion of one event or activity, or c. an external signal.									
Step 3. Selecting Cues or Task Direction									
1. Select at least one of the following cues to begin the teaching exchange (trial):									
a. material or environmental manipulation, b. task direction, and/or a c. naturally occurring event.									
Step 4. Selecting Reinforcers									
1. When choosing reinforcers for the learner, identify:									
a. what has motivated learners in the past and									
b. the learners' deprivation states (i.e., What do they want that they can't easily get?).									
2. Identify a reinforcer that is appropriate for the target skill/behavior and instructional task.									

****Scoring Key:** 2 = implemented; 1 = partially implemented; 0 = did not implement; NA = not applicable

Module: Prompting

	Observation	1	2	3	4	5	6	7	8
	Date								
	Observer's Initials								
Step 5. Identifying the Controlling Prompt	Score**								
1. Try out different prompts to see which ones are successful in getting learners with ASD to complete the task correctly.									
Step 6. Determining the Length of the Response Interval									
1. When determining the length of the response interval, consider:									
a. learner characteristics and									
b. task characteristics.									
2. When selecting a response interval, time how long it takes the learner to complete similar skills/tasks.									
Step 7. Specifying Prompt Fading Procedures									
1. Select one of the following prompting strategies that will be used to fade prompts:									
a. decreasing the intensity of the prompt, b. providing less assistance by changing the prompt type, or c. immediately removing the prompt.									
Step 8. Identifying Activities and Times for Teaching									
1. Analyze the day and determine when and where the chain is needed.									

****Scoring Key:** 2 = implemented; 1 = partially implemented; 0 = did not implement; NA = not applicable

Module: Prompting

	Observation	1	2	3	4	5	6	7	8
	Date								
	Observer's Initials								
Step 8. Identifying Activities and Times for Teaching (cont.)	Score**								
2. If few natural times to teach the chain are identified, build in times when the skill might be taught.									
<i>Intervention (Step 1)</i>									
Step 1. Implementing Graduated Guidance									
1. When implementing graduated guidance:									
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.									
2. Provide the amount and type of prompt needed to get the learner with ASD to start doing the chain.									
3. As soon as the learner with ASD begins to do the chain, reduce the intensity and amount of the prompt and start to shadow the learner's movements.									
4. If the learner with ASD stops doing the chain, immediately provide the amount and type of prompts needed to get the movement started.									

**Scoring Key: 2 = implemented; 1 = partially implemented; 0 = did not implement; NA = not applicable

Module: Prompting

	Observation	1	2	3	4	5	6	7	8
	Date								
	Observer's Initials								
Step 9. Implementing Graduated Guidance (cont.)	Score**								
5. If the learner with ASD starts to use the skill incorrectly, immediately block the 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:									
a. stop moving and									
b. hold the learner's hands in place.									
7. When the resistance subsides, start the movement toward completing the chain again by applying the amount and type of prompt needed.									
8. As the learner with ASD completes each step of the chain correctly (prompted or unprompted), provide verbal praise and encouragement.									
9. At the end of the chain, provide reinforcement to the learner with ASD for completing the task correctly.									
<i>Progress Monitoring (Step 2)</i>									
Step 2. Monitoring Learner Progress									
1. Record:									
a. the number of chains done correctly without prompts,									
b. the number of chains done correctly with prompts, and									

**Scoring Key: 2 = implemented; 1 = partially implemented; 0 = did not implement; NA = not applicable

Module: Prompting

	Observation	1	2	3	4	5	6	7	8
	Date								
	Observer's Initials								
Step 2. Monitoring Learner Progress (cont.)		Score**							
c. the number of chains done correctly, but with resistance.									
2. Review progress monitoring data to determine whether the learner is starting to do the skill without prompts.									

****Scoring Key: 2 = implemented; 1 = partially implemented; 0 = did not implement; NA = not applicable**

Module: Prompting

Date	Observer Initials	Target Skill/Behavior, Comments, and Plans for Next Steps
Date	Observer Initials	Target Skill/Behavior, Comments, and Plans for Next Steps
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Module: Prompting

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Module: Prompting

**Least-to-Most Prompting Data Collection Sheet for
Discrete Skills**

Learner _____

Date _____

Target skill/behavior _____

Trial	Target stimulus	Level 1:	Level 2:	Level 3:	Level 4:
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
Summary Data		# correct	# correct	# correct	# correct

Key: + = correct; - = incorrect; 0 = no response

Adapted from Wolery, Ault, & Doyle (1992)

Module: Prompting

**Least-to-Most Prompting Data Collection Sheet for
Chained Skills**

Learner _____

Date _____

Target skill/behavior _____

Trial 1	Level 1: Independent	Level 2:	Level 3:	Level 4:	
1.					
2.					
3.					
4.					
5.					
Trial 2	Level 1: Independent	Level 2:	Level 3:	Level 4:	
1.					
2.					
3.					
4.					
5.					
Summary Data	Correct	# correct	# correct	# correct	Summary Data
		%	%	%	
	Incorrect	# incorrect	# incorrect	# incorrect	
		%	%	%	
	No response	# no response	# no response	# no response	
	%	%	%	%	

Key: + = correct; - = incorrect; 0 = no response

Adapted from Wolery, Ault, & Doyle (1992)

Module: Prompting

Simultaneous Prompting Data Collection Sheet

Learner _____

Date _____

Observer _____

Classroom/setting _____

Target Skill/Behavior _____

Trial	Stimulus	C	E	NR
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
Total #				
Total %				

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

Adapted from Wolery (2008)

Module: Prompting

Graduated Guidance Data Collection Sheet

Learner _____

Classroom/Setting _____

Target skill/behavior _____

Steps of the chain	Time			
	Session	1	2	3
	Date			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				

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

Module: Prompting

Teacher Planning Worksheet for Simultaneous Prompting

Neitzel, J., & Wolery, M. (2009). *Teacher planning worksheet for simultaneous prompting*. Chapel Hill, NC: The National Professional Development Center on Autism Spectrum Disorders, FPG Child Development Institute, The University of North Carolina.

Note: This planning worksheet is specially designed as a companion to the steps for implementation. If you do not understand any portion of this worksheet, please refer to the steps for implementation for further explanation. This planning sheet should be completed before implementing the intervention.

Step 1. Identifying the Target Skill/Behavior

Define the target skill/behavior in terms that are observable and measurable:

Is this target a discrete task or a chained task? (Check the appropriate box)

Step 2. Selecting the Target Stimulus and Cue

What is the target stimulus?

Is this target stimulus a naturally occurring event
 the completion of one event or activity or
 an external signal?

Step 3. Selecting a Controlling Prompt

Try out different prompts to see which ones are successful in getting the learner with ASD to do the task correctly.

Prompt	Level of Success

Module: Prompting

Step 4. Selecting Reinforcers

Think about what has motivated this learner in the past and the learners' deprivation state (i.e. what do they want that they can't easily get?) Then **select a reinforcer** that is appropriate for the target skill and instructional task:

Step 5. Determining the Response Interval

Time how long it takes the learner to complete similar skills/tasks.

Similar Skill/Task	Time to Complete

Consider the learner characteristics, task characteristics, and the amount of time a learner will be allowed to begin and complete the task. Then **select a response interval**:

_____ seconds

Step 6. Identifying Activities and Times for Teaching

Identify **two regular times** during the day when the target skill can be taught and measured.

Identify **how many trials** will be implemented during each instructional and probe session.:

_____ trials