



## SGD iPad Mand Training Protocol

**Learner:** \_\_\_\_\_

**Written by:** KA

**Date:** 5/13/2013

### **Set Up:**

- The instructor will set up the program and will set up the lock screen feature so that Nick cannot exit from Proloquo to the home screen or any other applications.
- Nick will be taught (through physical prompting) to carry the iPad during all transitions and to set up the iPad on its stand once he arrives in each new teaching environment.
- The iPad should always be available to Nick in all settings with the field of 9 current targets (in a 3 x 3 display) visible. This field will continue to grow in size as all previously mastered targets will always remain in the field and new targets will be added to the field as appropriate based upon changes in Nick's motivation. As the field grows, the icons can be made smaller and/or Nick can be taught to scroll to locate icons that do not fit on a single screen display.

### **Target Selection:**

- All items for which Nick regularly demonstrates motivation should be selected as targets for the iPad mand probe program.
- Begin with teaching mands for the items for which Nick is most consistently and strongly motivated.
- 9 targets should be open (i.e., in teaching) to begin with. This number can be increased or decreased in the future based upon Nick's motivation. The first 9 targets were selected based upon Nick's motivation, selecting targets across a variety of motivating operations (MOs), and consideration of what activities would be simplest for teaching this new form of manding. These targets are:
  - Computer
  - Bathroom
  - Pretzel
  - Water
  - Ball
  - Cookie

- Beads
- Puzzle
- Cereal
- Once Nick masters a target, additional targets should be introduced based upon Nick's motivation.

**Response Definitions:**

- Correct (Yes; Y) = Nick orients towards/looks at the iPad screen, scans the display, and uses an isolated index finger to touch/select the icon which corresponds with the item for which he has declared motivation (thereby causing the iPad to produce speech output corresponding with the name of the pictured item)
- Incorrect (No; N) = Nick skips, incorrectly completes, or requires prompting to complete any one or more of the steps described above for a correct response (e.g., touches/selects without looking/scanning, selects an icon that does not correspond with what he declared motivation for, touches more than one icon, requires prompting to selecting the correct icon)

**Procedures:**

**First Trial/Cold Probes**

1. Conduct one first trial/cold probe for each iPad mand target.
2. Capture or contrive motivation for each target.
3. The first time Nick declares motivation for a target and attempts to mand for that reinforcer, score his response as correct (Y) or incorrect (N). (See response definitions above.)  
NOTE: If there was question about Nick's motivation, do not score the trial. Instead, run a test for motivation between the items in question and then, once motivation has been confirmed, conduct the probe trial and score as Y or N.
4. If Nick emits a correct response, immediately deliver the reinforcer.
5. If Nick emits an incorrect response, error correct as appropriate
  - If problem behavior accompanied the mand, run a count and mand procedure (to a count of 10).
  - If the mand was an incorrect iPad mand (see definition above), see the section below for how to error correct incorrect trials (**Teaching (Trial by Trial)**, Step 3).
6. Occasionally rotate the field of pictures.
7. Once the first trial/cold probe has been completed for one target, begin teaching for that target (see procedures below) while continuing throughout the session to conduct cold probes on remaining targets based upon Nick's motivation.
8. Make decisions about restricting access to some reinforcers so as to build stronger motivation for others as needed in the moment.

9. If by the end of the 2-hour session Nick has not declared motivation for a particular target item, score this as “No MO.” If you did not present a particular target item, score this as IGN (for ignore).

### Teaching (Trial by Trial)

1. Capture and/or contrive many opportunities for Nick to mand for all target items throughout the session. Make decisions about restricting access to some reinforcers so as to build stronger motivation for others as needed in the moment.
2. Errorlessly teach Nick to use the iPad to mand for each of the target items using physical prompts. Fade physical prompts so as to transfer stimulus control to the pictured icons. Rotate the icons to ensure the pictures are exerting stimulus control over Nick’s responses, not some kind of inadvertent positional prompt. The steps to follow when doing this are:
  - Present several consecutive teaching trials for a particular item, as long as Nick’s motivation persists.
  - **Physically Prompt:** As soon as Nick declares motivation, physically prompt him to touch the corresponding icon.  
NOTE: Prevent his finger from pressing the icon until he is looking at the icon so he learns to attend to the icons on the screen.
  - **Fade Physical Prompts:** Fade physical prompts over several successive trials.
  - **Adjacent Location Trial:** If you can completely eliminate physical prompts, and Nick mands under the control of the presence of the item, rotate the field of pictures so the item being taught is moved to an adjacent location on the display field (i.e., one position up, down, left, right, or diagonal).
  - **Distant Location Trial:** If Nick scans and selects the correct picture on the **adjacent location trial**, then rotate the field of pictures so the item being taught is moved to a distant location within the field, 2 or more spaces away.
  - **Distracters:** If Nick scans the field and responds correctly on a **distant location trial**, then slowly build the number of distracters (i.e., mands for other items for which he is motivated) before conducting another “probe” of his mand response for this item. In other words, mix in mands for other items one at a time, then two or three at a time, etc. before recontriving motivation for this target item and probing to see if Nick emits an unprompted mand.  
NOTE: You may make in the moment decisions to errorlessly teach rather than probe when beginning to mix in mands for other items so as to errorlessly teach these mands in discrimination and ensure high rates of correct responding.
3. For incorrect trials:

- Reset Nick’s hands to a neutral position
  - Be sure that it is clear which item Nick is declaring motivation for.
  - **Prompt:** Restart the trial and physically prompt the target mand
  - **Distracters/Time Delay:** Require Nick to complete 1 – 3 responses (e.g., motor imitation, receptive)
  - **Transfer:** Require Nick to independently complete a correct trial with the icon in the same location.
  - **Differentially Reinforce:** Deliver a small amount of the reinforcer.
  - **Recontrive:** Contrive another trial and errorlessly teach (as described above) with the icon in the same location. If Nick responds independently and correctly, deliver a larger amount of the reinforcer and continue through the teaching sequence described above.
  - If at any point Nick responds incorrectly again, repeat this error correction sequence.
4. If you have unable to fade physical prompts, still be sure to occasionally rotate the field of pictures.

**Data Collection:**

**First Trial/Cold Probes**

- List all current iPad mand targets on Nick’s Daily Data sheet and record first trial/cold probe Y/N data (see response definitions above).

**Trial by Trial**

- Develop a data sheet with the following columns:
  - Reinforcer – write the name of each manded reinforcer.
  - Prompt Level
    - FPP – full physical prompt; hand-over-hand guidance was necessary throughout the entire mand trial to evoke the correct mand
    - PPP – partial physical prompt; hand-over-hand guidance was necessary for only a portion of the mand trial, or a faded (partial) physical prompt was necessary throughout a part of or the entire mand trial to evoke the correct mand
    - GP – gestural prompt; movement by the teacher was necessary to evoke the correct mand (but NO physical guidance)
    - V – vocal prompt; the teacher said the name of the item but did not provide any gestural or physical prompts to evoke the correct mand
    - Item – the desired item (and the pictured icon for that item) was present (in sight), but NO

teacher-provided prompts were necessary to evoke the correct mand

- Scrolling
  - N/A – mark this for all errorlessly taught trials (i.e., FPP or PP) on which Nick did not have the opportunity to scroll
  - Y – for all mands when Nick had the opportunity to scroll (i.e., when not errorlessly teaching), mark this if Nick pressed an icon that did not correspond with his MO, or if he pressed more than one icon
  - N – for all mands when Nick had the opportunity to scroll (i.e., when not errorlessly teaching), mark this if Nick pressed only the icon that corresponded with his MO
- Transcription of vocal mand emitted accompanying the initial mand attempt – transcribe only for iPad mands scored as Item; if iPad mand was emitted under the control of a FPP, PPP, GP, or V prompt (errorlessly or error corrected), mark N/A in this column.
- Use this data sheet to record trial-by-trial data for all iPad mands reinforced throughout each 2-hour session.

### **Graphing:**

#### **First Trial/Cold Probes**

- Discontinue all current targets and graphs within the Sign Discrimination Probe section.
- Set up an iPad Mand section.
  - Within the iPad Mand section, set up all components for Y/N probe data collection section (i.e., Y/N probe sheets, a skills tracking sheet, and a cumulative skills graph).
  - Graph Y/N data daily.
  - Graph cumulative number of iPad mands mastered monthly.

#### **Trial by Trial**

- Continue the Current Mand List
- Continue the Mand Summary Sheet, but revise as necessary to reflect the changes to graphing outlined below.
- Continue the following mand trial-by-trial data graphs:
  - Total Frequency of Mands Emitted per 2-hour Session
  - Total Variety of Mands per 2-hour Session
  - Percentage of Mands per 2-hour Session with Vocalizations across Vocal Response Categories on the Initial Mand Attempt – No Sound, Speech Sounds, and Word Approximations

- Percentage of Mands per 2-hour Session with Vocalizations across Vocal Response Categories on the Initial Mand Attempt – Intelligible Words and Adult Form
- Add the following mand trial-by-trial data graphs:
  - Percentage of Mands by Prompt Level per 2-hour Session – iPad Mands
    - One graph will have 3 data paths – FPP, PPP, GP
    - One graph will have 2 data paths – V, Item
  - Frequency of Scrolled Mands and Number of Opportunities to Scroll per 2-hour Session – iPad Mands
- Put the following mand trial-by-trial graphs on hold:
  - Percentage of Improved Vocal Productions after Treatment while Manding per 2-hour session
    - 2 data paths – time delay, echoic prompting
- Discontinue the following mand trial-by-trial graphs:
  - Total Frequency of Mands under the Control of the Motivating Operation and the Transitive Motivating Operation per 2-hour Session
  - Total Frequency of Prompted Mands by Prompt Level – Sign Mands
  - Total Frequency of Scrolled Mands – Sign Mands

**Mastery Criterion:**

**First Trial/Cold Probes**

- 7 consecutive sessions with a Y on the first trial/cold probe to master an individual iPad mand target.

## Multiple Screens

- Once the learner has mastered the selection of a sufficient number of items in a category, e.g. toys, foods, snacks, etc. place them in a category on a separate screen.
- When the motivation is strong for an item in a category folder prompt the learner to select the category then allow the learner to select the item desired without a prompt since that response is already acquired.
- Do this across all categories that are relevant.
- Ultimately train the learner to select the home page after selecting a desired item.