

Computerized Comprehension Task
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Introduction

1. Screen resolution must be set to 1280x1024.
2. The program consists of a training phase consisting of four trials, a test phase consisting of 41 trials, and a reliability phase consisting of 14 trials and the option of presenting these trials in the same orientation or opposite orientation from their presentation in the testing phase.
 - **see appendix 1 for list of trial stimuli, stimulus orientation, designated targets (Form 1, Form 2), and trial difficulty level.
3. All trials consist of pairs of digital photographs presented simultaneously at left and right center screen.
4. Each image (*.jpeg, 160ppi) in the program is accompanied by an auditory reinforcer (*.wav) repeating the lexicon in infant directed speech followed by an associated sound.
5. The program contains two invisible buttons. One in the bottom left corner of the screen and one in the bottom right corner of the screen.
6. Double-clicking / double-touching the ‘**CLL**’ icon on the desktop will produce a log on screen used to acquire participant information prior to testing. The log on screen contains the following data fields:
 - Participant
 - Sex
 - Date of Birth
 - Date of Testing (automated)
 - Form number (1-2)
 - Experimenter Initials
 - Five additional blank fields
7. Terminating Log On Screen: Double-clicking / double-touching the invisible button at the bottom right corner of the screen prompts the user to enter a path and filename for the output data file (note: program saves output as a comma-delimited text file by default. To save as an excel file, add .csv to the filename).
8. Double-clicking / double-touching the invisible button at the bottom left corner of the screen at any time during testing produces an “EXIT PROGRAM?” dialog box with three buttons: REPEAT, EXIT, and CANCEL.
9. The REPEAT feature functions only during training and test phases. During a trial (images on the screen), REPEAT refreshes the screen reproducing the images from the current trial. Between trials (blue screen), REPEAT refreshes the screen reproducing the images from the most recent trial. In both cases, touch data to this refreshed screen overwrites existing touch data for that trial (no touch data recorded on training trials).

10. EXIT causes the program to code data for the current trial as missing (.) (except for training trials), saves the file under the specified path and filename, and terminates the program.
11. CANCEL initiates a blue screen. A double-click / double-touch on the invisible button at the bottom right corner on the screen continues the program with the presentation of the next trial in the sequence.
12. Double-clicking / double-touching the invisible button at the bottom right corner of the screen will initiate the next screen in the sequence (either a blank blue screen or the next trial). A blank blue screen intercepts all trials.
13. Data Recording:
 - a. Data will be saved as a comma-delimited output file by default.
 - b. Each pair of photographs (each trial) will be associated with a single variable in the output file.
 - c. A touch to any area designated as the “target” will be coded as “1” in the output file.
 - d. A touch to the foil will be coded as “0” in the output file.
 - e. For any single trial, once a touch has been recorded, all subsequent touches will not be coded to the data file for the duration of the trial.
 - f. The trial will be terminated by a double-click / double-touch of the invisible button at the bottom right corner.
 - g. If a trial is terminated and no touch (0 or 1) is recorded, the trial is coded as missing “.”
 - h. No data is recorded in the output file for the four training trials.

Navigation Through the Program

SC = single click or single touch
 DC = double click or double touch

1. DC ‘**CLL**’ icon on the desktop. Blue data screen will appear.
2. Enter subject number, sex, date of birth, form #, and experimenter initials.
3. DC bottom right invisible button. “SAVE AS” dialog box will appear. Name file by subject number entered on data screen (note: this will save as a comma-delimited ASCII output file by default. If you would like to save as an excel file, type .csv after the filename).
4. SC Save. "BEGIN CLL EVALUATION PROGRAM" dialog box will appear with three buttons: BEGIN TRAINING, BEGIN TEST, EXIT.
5. SC BEGIN TRAINING. Blank blue screen will appear.
6. For all trials, in all three phases: Make sure the child is oriented toward the center of the screen before presenting the images.
7. DC bottom right invisible button. First two training images will appear.
8. Prompt Child: (all training trials are noun pairs)
 “Where’s the _____?” Touch the _____.”
 Training example:
 “Where’s the shoe? Touch the shoe.”

These two prompts go together. Since this is a practice trial, spend as much time as necessary, touch the picture yourself if needed (“See, this is the shoe”). Let the child touch the item. Let him/her get used to the task.

9. DC bottom right invisible button. Blank blue screen will appear.
10. DC bottom right invisible button. Next two training images will appear.
11. Go through all four practice trials in the same manner. Make sure child is engaged and understands the task.
12. After the last training trial (door/bathtub), DC bottom right invisible button. Blue screen will appear with the “CHOOSE PRACTICE OR TEST” dialog box.
13. To repeat training trials, SC PRACTICE. A blank blue screen will appear.
 - a. DC bottom right invisible button. First two training trials will appear.
 - b. Go through all four training trials again. Make sure child is engaged in the task.
 - c. Repeat training or move on.
14. To begin testing phase, SC BEGIN TEST. Blank blue screen will appear.
15. DC bottom right invisible button. First test trial will appear.
16. Prompt child:
 - a. **Nouns:**
“Where’s the _____? Touch the _____.”
 - b. **Verbs:**
“Who is _____? Touch the one who is _____.”
 - c. **Adjectives:**
“Which one is _____? Touch the _____ one.”
17. **Delivery of Messages** (example):
 - a. “Where’s the car? Touch the car.”
If child touches correct item, move on to next trial.
 - b. *If no response:*
“(Child’s name) touch the car”
Child touches the item, move on.
 - c. *If no response:*
“Touch the car.”
Child touches item, move on. No response, move on.
 - d. *If wrong response,*
“Actually, this is the car.”
(Experimenter, touch the car).
18. If the child accidentally bumps the screen or touches the screen before looking at the images:
 - a. DC bottom left invisible button. “EXIT PROGRAM?” dialog box will appear.
 - b. SC REPEAT. Images from the same trial will reappear and coded response will be overwritten.
 - c. Repeat prompt.
19. If the child becomes noncompliant and you need to exit the program during testing:
 - a. DC bottom left invisible button. “EXIT PROGRAM?” dialog box will appear.

- b. *If you can get the child reengaged in the task*, SC CANCEL. Blank blue screen will appear. DC bottom right invisible button. Images from the next trial in the sequence will appear.
 - c. *If you cannot get the child to continue the task*, SC EXIT.
20. DC bottom right invisible button. Blank blue screen will appear.
 21. DC bottom right invisible button. Next test trial will appear.
 22. Proceed through all 41 test trials in the same manner.
 23. After the last test trial (girl/boy), DC bottom right invisible button. Blank blue screen will appear.
 24. To conduct reliability phase, DC bottom right invisible button. “RELIABILITY” dialog box will appear with two buttons: SAME and OPPOSITE.
 - To begin reliability phase with photographs in the same left/right orientation as they appeared during the test phase, SC SAME. Blank blue screen will appear.
 - a. DC bottom right invisible button. First reliability trial will appear.
 - b. Prompt child in the same manner as the testing phase.
 - c. Proceed through reliability phase in the same manner as the testing phase.
 - d. After the last trial (washing/reading), DC bottom right invisible button. Blank blue screen will appear.
 - e. To exit program, DC bottom left invisible button “EXIT PROGRAM?” dialog box will appear.
 - f. SC EXIT.
 - To begin reliability phase with photographs in the opposite left/right orientation as they appeared during the test phase, SC OPPOSITE. Blank blue screen will appear.
 - g. DC bottom right invisible button. First reliability trial will appear.
 - h. Prompt child in the same manner as the testing phase.
 - i. Proceed through reliability phase in the same manner as the testing phase.
 - j. After the last trial (reading/washing), DC bottom right invisible button. Blank blue screen will appear.
 - k. To exit program, DC bottom left invisible button. “EXIT PROGRAM?” dialog box will appear.
 - l. SC EXIT.