

# RR2 Session 1 Procedure

## Equipments and materials

- All robot equipment (see separate list with Setup Instructions)
- Session 1 Folder with:
  - RR2 Session 1 Log
  - Anomalous Picture Task answer sheet
  - IOS instructions, circle cards, and answer sheet
  - Social Relational Interview instructions, response sheet, and answer sheet
- Tablets with vocabulary assessment app
- Headphones

## So you're just started the interaction for Session 1!

1. Fill in one line of the RR2 Session 1 log for each participant. Make sure to record the date, and the start and end times. We will need to know the order of participants and what time they each played with the robot so that later, we can match up the photos taken of each child with the robot with participant ID numbers.
2. Follow the steps below:

### 1. Introduce robot

"All right [name of child] this is my robot friend Red! Red loves animals, and looking at pictures, and also loves telling stories. You see Red is sleeping? (point to sleepy robot) Yeah, Red sleeps a lot, like a cat, because... being a robot is actually quite tiring."

"Do you see Red ears? Where do you think Red's ears are? (points to Red's flappers) No, those are actually Red's flappers, not ears. Red's ears are hiding under all the thick fur. Do you think you can hear well if your ears are covered in thick fur? (no) That's right. Sometimes Red's ears don't work very well. Red sometimes has a lot of trouble hearing."

"That's why when you speak to Red, you need to speak loudly. Also, when Red asks you a question, wait for 2 seconds before you answer. Okay? Let's practice. Remember, loud and slow. 'What is your name?' 'How old are you?'"

"All right. Let's see if we can wake Red up to play with you. Use a loud and clear voice and say *ice cream!*"

If the child has trouble waking up the robot (e.g. if they are shy and don't speak very loud or don't speak at all), you should say "ice cream" loudly so the robot will wake up.

## 2. Robot Interaction

The robot will wake up, introduce itself, and ask the child their name. If the child does not want to say anything, you should introduce the child: "Red, this is <name>".

After that, or, if the child seems nervous on their own, a few minutes later, excuse yourself over to your laptop. You can say something like "I'll be over here working on some stuff" if the child is curious. We want the child to do as much of the interaction as possible by themselves, and as much as possible in a "play" context, without such obvious adult supervision.

If the child looks to you or has questions, you can answer them (this is the first session and we want the child to be comfortable). However, remember these things:

- Always refer to the robot as "Red". Do not gender the robot. Do not use he, she, or it.
- Don't say much about the robot. Sometimes kids ask "Is Red a boy or a girl?" or "Did you make Red?" or "Why did she do that?" These are questions you respond to generically or with questions, such as: "What do you think?", "Hmm...", "I'm not sure..." The robot has a particular backstory in this study, so it is best if you let the robot do all the explaining about itself.

After a brief conversation, the robot will do the same Anomalous Picture Task that you or another experimenter did with the child during the Pretest. In this case, however, the images will appear on the tablet. Pay attention!

### Anomalous Picture Task

You may have done this task with the child during the Pretest: Two pictures are shown, one at a time, of animals in strange situations.

1. When each picture comes up, make tally marks on the Anomalous Picture Task Answer Sheet to record how many comments, questions, and laughs the child produces.

Doing this now saves us time so we don't have to go back and code it all later!

### Story retelling

The robot will have a brief conversation with the child, then tell a story. During the story, the robot asks the child several questions about vocabulary words in the story. For each one, the robot asks: "Can you say <word>?"

1. Record in the Session 1 Log whether the child says the word when the robot asks them to.

After the story, the robot asks the child if they liked the story.

1. Record in the Session 1 Log whether the child says they liked the story, sort of liked it, or didn't like it. (The robot will reference this in a later session).

Then, the child is invited to retell the robot's story.

If the child does not want to or has trouble retelling the story, you may give a few brief prompts, in this order:

1. "<child name>, Red really likes listening to stories. You don't have to remember all of it or get it all right. Anything you remember helps Red practice listening."
2. Look, you can flip through the pages using these arrows. What do you remember about this page?
3. What's happening on this page?
4. (Red backchannels) See? Red is trying hard to listen!

When the child is done or if the child refuses to retell the story at all, ask the child to say "the end" or "that's the end of the story". *"Duh-end" is better recognized than "thee-end"*.

1. Record in the Session 1 Log whether the child retold the whole story, retold some of it (e.g., did a couple pages then skipped to the end or skipped over most of pages and only spoke a little), or did not retell it at all.

## Photo

At end of the story retell, come out into the child's view (the interaction is almost over).

- The robot will ask the child: "Hey, do you want to take a picture with me?"
  - If the child agrees, the robot will ask you to take a photo of them.
  - If the child declines, the robot will ask you to take a photo of just the robot.
- Use your smartphone or one of the extra robot phones to take a photo. You may want to take several to ensure you get a good one. We will be sharing these photos with the kids and their parents.
- When you are done, say loudly and clearly, "Okay all done!" (the robot is listening for this phrase).
- Go back to your spot to set the phone down while the robot says goodbye and goes back to sleep.

As soon as the robot falls asleep, go over to the child: "Okay! It looks like Red has fallen back asleep. Before we go back to your class, I have a couple questions for you, okay?"

## 3. Posttest

The assessments that are administered after Session 1:

- Vocabulary assessment
- IOS task
- Social Relational Interview

## Instructions

1. During the assessments, write down any comments about the participant, e.g., "did not complete vocab assessment", "stopped halfway to use the bathroom then came back to finish",

"mostly spoke Spanish", "did not understand questions", etc. These comments are very useful during data analysis.

2. Set up the camera pointing toward where the child will sit.
3. **Do the IOS Task:**
  - a. Instructions are printed in your Session 1 folder.
  - b. Do the task. Record the child's responses on the IOS answer sheet.
2. **Do the Social Relational Interview :**
  - a. Instructions are printed in your Session 1 folder.
  - b. **Start camera recording.** We need only need audio for transcribing children's explanations of their responses, but if starting the camera again is easier, that's fine too.
    - i. If using a webcam plugged into a laptop: use the camera recording script `record_from_camera.sh` from [https://github.com/mitmedialab/rr\\_tools](https://github.com/mitmedialab/rr_tools)
    - ii. If using a webcam: Run `$ ./record_from_camera.sh RR2-P000-s1-sri.mp4`
    - iii. Make sure to select the camera and microphone!
    - iv. If you use a separate standalone microphone, e.g. on your smartphone, you are responsible for tracking the order of participants and making sure that the video filenames are changed to include the participant IDs!
  - c. Do the task.
    - i. Make sure to record the child's answers on the log sheet. You should try to make notes about the children's explanations, but we can transcribe them later to get the full content.
  - d. **Stop camera recording.** If using a webcam, press "Ctrl-c" in the terminal tab to end recording.
3. **Do the vocabulary assessment:**
  - a. The vocabulary assessment uses a subset of the items from the Pretest. For each test item, children are shown four images. A vocabulary word is said and the child should touch the image that shows the word. No feedback about right or wrong answers is given.
  - b. Adjust the tablet volume so that audio it plays will be audible.
  - c. Open the "Session 1 Posttest" app.
  - d. Enter the correct participant ID. You can skip entering a birthdate.
  - e. Before clicking "Start", tell the child, "Remember the word game we played last time? You'll hear a word, then you should touch the picture that show the word you heard."
  - f. When the child is ready, press "Start".
  - g. This assessment should take approximately 1-2 minutes.
  - h. **If you need to pause**, click the home button on the navigation bar (you need to either swipe left from the right side of the screen or swipe down from the top of the screen to reveal the navigation bar) to go to the home screen. When you launch the app again, it will automatically continue.
  - i. **If the app fails for any reason**, relaunch the app, enter the correct participant ID, and click continue. The app will continue the assessment where it left off.