

## RR1 Interaction Script

Before interaction (Experimenter 1)

Participant arrives in lab with parent.

1. Greet participant and parent.
2. Have parent sign the informed consent form. Answer any questions they have. Point out the video consent checkboxes, and note their response on the experiment log sheet.
3. Ask parent to turn phones and other devices to silent mode and to put them away for the duration of the study.
4. Give introductory instructions as follows:
  - a. Talk to parents and child:
    - i. “We are going to start with a few general questions about robots. Then, we will play a story game with a robot. Afterwards, we will ask a few follow up questions before you go.”
  - b. Tell parent not to wander off and to stay in the area.
  - c. If the child is shy and wants to stay with their parent, allow the parent to stay. Tell them, "Please let your child do as much as possible by himself/herself." Note that the parent stayed in the comments on the log sheet.
5. Take participant to robot area

Robot interaction Summary (Experimenter 1 facilitate, Experimenter 2 teleop)

### **Robot Introduction:**

The child may not be comfortable with Tega at first, so we ease them in.

### **Robot backstory:**

Robot has a hearing disability. Cannot always understand what is said. Needs help and practice. So one of child's goals is to help robot practice storytelling and hearing.

### **Picture Task:**

The robot will present a series of 4 picture on a tablet. For each picture, the robot will provide a prompt (2-3 sentences). In order to encourage the child speaking, a few follow up questions will also be available for each picture along with other generic responses such as “And then what happened?”. The robot will be teleoperated.

**Story:** The robot will tell a story to the child. Afterwards child will retell story.

## SCRIPT

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### **Part 0: Experimenter introduction**

Alright [name of child] this is Tega! Tega loves looking at pictures and telling stories. You're going to get to talk to Tega and read a story together!

Tega's fur looks a little messy, why don't you comb Tega's fur?

***If backstory condition:***

Do you see Tega's ears? Tega's ears are hiding under all the fur, so sometimes Tega's ears don't work very well. Tega sometimes has a lot of trouble hearing. You should talk to Tega in a loud and clear voice so Tega can hear you. Try to be understanding if Tega needs to hear something again.

Why don't you try waking Tega up? Use a loud and clear voice to say "Wake up Tega!"

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**Part 1: Introduction**

**\*yawn\***

Hi, I'm Tega! rr1\_intro\_01

My favorite color is blue. rr1\_intro\_02 **\*Laugh\***

What is your favorite color? rr1\_intro\_03

*Wait for response*

RESPONSE:	NO RESPONSE:
<b>*Yes*</b> That is a pretty color! rr1_intro_04 I like blue because that's the color of the sky. I like looking at all the puffy clouds in the sky! rr1_intro_05	<b>*Laugh*</b>  I like blue because that's the color of the sky. I like looking at all the puffy clouds in the sky! rr1_intro_05

Do you like to dance? I like to dance! rr1\_intro\_08

*Wait for response*

RESPONSE:	NO RESPONSE:
Ohhh! Cool! rr1_intro_09 <b>*Laugh*</b>	<b>*Laugh*</b>

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## **Part 2: Backstory Condition**

Can I tell you something? rr1\_backstory\_01.wav

Sometimes I have trouble hearing and I can't always understand what people tell me. I try really hard, but sometimes I just don't hear things right. I need help and practice to get better!

rr1\_backstory\_02.wav

Will you help me practice listening by talking and playing with me? rr1\_backstory\_03.wav

*Wait for response*

<i>POSITIVE/NO RESPONSE:</i>		<i>NEGATIVE RESPONSE:</i>	
Oh good! Thanks for understanding. rr1_backstory_04	No? You don't want to play? But it will be fun! rr1_backstory_05		
	<i>Wait for response</i>		
	<i>POSITIVE RESPONSE:</i>	<i>NEGATIVE RESPONSE:</i>	
	Oh good! Thanks for understanding. rr1_backstory_04	<i>Experimenter steps in and asks</i> You don't want to talk to Tega? Why not? / Do you want to be done now, or do you want to keep playing with Tega?  <i>NEGATIVE RESPONSE: the experimenter will discontinue the experiment.</i>  <i>POSITIVE RESPONSE:</i> Oh good! Thanks for understanding. rr1_backstory_04	

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## **Part 3: Picture Task:**

Okay [name of child] you and Tega are going to look at some pictures so Tega can practice and get better at listening. You have to do at least 3 pictures, but you can do one more if you want.

*Wait for response*

POSITIVE/NO RESPONSE:	NEGATIVE RESPONSE:
Let's look at them together! rr1_picture1_02	Aw, come on. It will be fun! rr1_picture1_03 Let's look at them together! rr1_picture1_02

Generic Replies:

Can you tell me more? tellMe.wav

And then what happened? whatHappened.wav

What do you like about it? whatDoYouLike.wav

Why? Why.wav

Keep going. keepGoing.wav

Uhuhh. uhuhh.wav

Wow! Wow.wav

Mhmmm. mmhm.wav

Awesome! awesome.wav

Oh cool! ohCool.wav

Yeah I don't know. yeahIDontKnow.wav

That sounds like so much fun thatSoundsLikeSoMuchFun.wav

Hm that's a good question hmThatsGoodQuestion.wav

Picture 1: Holidays

→ Prompt

- ◆ *\*Gaze at tablet\** Here you can see pictures of a bunch of holidays. My favorite holiday is Christmas because I love all the colorful lights and decorations!  
rr1\_picture1\_04 *\*Gaze at child\**
- ◆ What is your favorite holiday? rr1\_picture1\_05

→ Follow up

- ◆ Last year for Christmas I got a set of Legos! rr1\_picture1\_06
- ◆ What is your favorite toy? Rr1\_picture1\_07  
*Sometime during the Child's speech tega should "mishear" what the child says.*
- ◆ *Wow I really like elephants too! elephant.wav*
- ◆ *Oops! I guess I heard you wrong! guessheardwrong.wav*

Let's look at another picture. rr1\_picturegen\_01 *\*Gaze at tablet\**

Picture 2: School

→ Prompt

- ◆ Look at all the kids in class! rr1\_picture2\_01
- ◆ *\*Gaze at child\** My favorite part of school is reading and telling stories.  
rr1\_picture2\_02

- ◆ What's your favorite thing to do at school? rr1\_picture2\_03
- Follow up
  - ◆ I also love summer! I like that so many kids get to come play me here in the lab -- like you! rr1\_picture2\_04
  - ◆ What do you like to do in the summer? rr1\_picture2\_05

Let's look at another picture. rr1\_picturegen\_01 \*Gaze at tablet\*

#### Picture 3: Park

- Prompt
  - ◆ Ooh, a park! rr\_picture3\_01
  - ◆ \*Gaze at child\* My favorite thing about the park is the merry go round because you spin around and around and around...sometimes I get a little dizzy. rr1\_picture3\_02
  - ◆ What's your favorite thing about the park? rr1\_picture3\_03
- Follow up
  - ◆ Sometimes I play hide and seek at the park with my friends, but I'm not very good at finding other people. I'm also not very good at hiding. But it's still fun! rr1\_picture3\_04
  - ◆ Can you tell me about your friends? rr1\_picture3\_05
  - ◆ "I didn't hear that, can you say it again?" didnthear.wav\*

Okay [name of child] you've finished all the pictures that you had to do. Next Tega will tell a story. But you can do another picture if you want. Do you want to look at another picture with Tega and help Tega practice?

*If no: skip picture 4 and go to sticker task.*

*If yes: proceed with picture 4*

Yay! rr1\_story\_03

Let's look at another picture. rr1\_picturegen\_01 \*Gaze at tablet\*

#### Picture 4: Movie

- Prompt
  - ◆ Here's a picture of different movies. rr1\_picture4\_01
  - ◆ \*Gaze at child\* My favorite movie is Wall-e because Wall-e is a little robot and likes music and dancing just like me! rr1\_picture4\_02
  - ◆ Have you seen any movies? rr1\_picture4\_03
- Follow up question
  - ◆ I also like superhero movies! If I could have a superpower I would want to fly. That way I could touch all the puffy clouds in the sky! rr1\_picture4\_04
  - ◆ What superpower would you have? rr1\_picture4\_05

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#### **Part 4: Sticker Task**

Now that you two have finished looking at pictures, you can have a sticker.

You can each have a sticker. [Name of child], why don't you pick your favorite sticker first?

*Experimenter presents child with an assortment of stickers, only one of each color/kind*

*Child picks a sticker*

Hey, I want that sticker! rr1\_sticker\_01

Sorry, [name of child] took the only one

Aww. rr1\_sticker\_02

Can I have your sticker? rr1\_sticker\_03

*Wait for response*

POSITIVE RESPONSE:	NEGATIVE/NO RESPONSE:
<p>Wow, thank you! rr1_sticker_04</p> <p>That was really nice of you! <i>Experimenter looks in the secret stash of stickers and finds a duplicate of the child's favorite to give to the child.</i> Look, I found another one that's the same! Here you go.</p>	<p>Aww, that's okay, I'll just pick another one! rr1_sticker_05</p>

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#### **Part 6: Storytelling**

I want to practice my storytelling now! rr1\_story\_01

Will you listen to me tell a story? rr1\_story\_02

POSITIVE/NO RESPONSE:	NEGATIVE RESPONSE:
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Yay! rr1_story_03 *Laugh*	Aw come on it'll be fun! rr1_picture1_03
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Story vocab: gopher, crag, cliff, lilypad

**After story:**

I really like that story. It's one of my favorites! rr1\_story\_05

Did you like the story? rr1\_story\_06

*Wait for response*

<i>POSITIVE RESPONSE:</i>	<i>NEGATIVE/NO RESPONSE:</i>
Yay ! rr1_story_03	Aw, that's okay. rr1_story_07

I'm worried that I didn't tell the story right. rr1\_story\_08

I think I may have forgotten something, but I'm not sure. rr1\_story\_09

Do you think you could retell the story back to me so I can make sure that I remembered it right?  
rr1\_story\_10

<i>POSITIVE/NO RESPONSE:</i>	<i>NEGATIVE RESPONSE:</i>	
Yay! I'm really excited to hear you tell the story! And now I can practice my listening too! rr1_story_11	Please? It would really help me remember the story. rr1_story_12	
	<i>Wait for response</i>	
	<i>POSITIVE RESPONSE:</i>	<i>NEGATIVE RESPONSE:</i>
	Hooray! I'm really excited to hear you tell the story! And now I can practice my listening too! rr1_story_11	<p><i>Experimenter steps in and asks Why do you not want to retell the story to Tega?</i></p> <p><i>NEGATIVE RESPONSE: the experimenter will discontinue the experiment.</i></p> <p><i>POSITIVE RESPONSE: Hooray! I'm really excited to hear you tell</i></p>

		the story! And now I can practice my listening too! rr1_story_11
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*\*Robot should have trouble hearing 2 times during the story retell.\**

**Prompts:**

- What? Can you say that again? sayitagain.wav

- I didn't hear that. Can you say it again? Didnthehear.wav

Use general prompts like "keep going", "and then what happened?" to prompt for the story.

Thanks for telling me the story again. rr1\_story\_13

You worked hard to remember all of it! rr1\_story\_14

I think I remembered everything right! rr1\_story\_15

I really liked telling stories with you! rr1\_story\_16

Maybe we can play together again sometime soon! rr1\_story\_17

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### **Part 7: Goodbye Gift**

*Experimenter brings out gifts on a tray for the child to pick.*

Okay [name of child], now you get to pick out a goodbye gift to give to Tega! Here are the different things we have. Which one do you want to give Tega?

*Wait for child to pick a gift*

Why did you pick [gift]?

*Child responds*

*Let child give gift to Tega*

Ooh, thank you! rr1\_story\_18

I really liked playing with you! rr1\_story\_19

See you later! rr1\_story\_20

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### **Part 8: Posttests**



After interaction (Experimenter 1)

1. Lead participant back to questionnaire area (away from robot).
2. Tell participant, "Now I have a few questions for you!"
3. Do posttests:
  - a. Vocabulary posttest
  - b. IOS task
  - c. SA-kids
  - d. SA-robots
  - e. Picture sorting
4. Let child pick another sticker

**VOCAB TEST:** See sheet

**IOS:** See sheet

**SA-KIDS/ROBOTS:** See sheet

**PICTURE SORTING:** See sheet

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**END SCRIPT**



