Talking Paper Dolls to Build Character Development and SEL Student Connections

by NaomiHarm

In this guide you will be inspired to design, make and program your own talking paper dolls. You will then program and record your voice storyline, or an interactive dialogue of a character creation with Scratch!

Supplies:
Items you will need:

- Makey Makey kit
- Laptop or Chromebook
- Copper foil
- Brass brads
- Alligator clips
- Cardboard cut out of a person- you can make or buy cardboard stencils
- Maker supplies to build a character to represent a person (scissors, glue stick, etc)
- Personalized photo printed of yourself or character you are portraying
- Construction paper, or magazine clippings, or wall paper samples
- Paint, water colors, crayons or markers (optional)
- Water bottle and paper strip holder to prop up your character

Step 1: Literacy and SEL Connections and Examples to Enhance Student Engagement

Making a personalized talking paper doll can truly build a better understanding of character development traits within a story, or social emotional learning connections amongst your students by building a stronger community of learners. There are many extensions to this activity to add enhancements to the creative student learning outcomes such as the following examples:

- Getting to know you activity or "All About Me" to build a stronger community of compassionate learners in your classroom.
- Interview and interviewee activity where each student has a partner, they each interview each other through a series of questions, and then each student builds out a talking paper doll active listening example, to represent their teammates best self of personal interests, learning traits, hopes, dreams, and wonders.
- Retelling the story through taking on the personification role of a character in a book, and putting oneself into the character shoes, to empathize and create a new learning outcome of the story, plot, setting or conflict resolution with another character.
- Living STEM history museum of representing a famous woman STEM influencer to represent "Her-Story" and lifetime contributions of making our world a better place through her innovation idea or project.
- Interactive trivia game show to better understand three notable contributions a STEM woman

influencer/leader, where she has contributed to the advancement of women as leaders in the STEM field.

Supportive STEM women in leadership children's books or website to compliment this guide include the following:

Short Book List

1. Calling All Minds- How To Think and Create Like and Inventor

2. Doll-E 1.0

3. Girling Up: How To Be Strong, Smart and Spectacular

4. Girls Who Code Book Series

5. Hello Ruby CS Book Series and Rosie Revere Engineer and Iggy Peck Architect

6. Herstory

7. How To Code a Sand Castle and How To Code A Roller Coaster

8. I Am Jane Goodwall

9. Jada Jones Rockstar, Sleep Over Scientist, Dancing Queen, Class Act,

10. Women In Science and Women Who Dared

Supportive Websites

1. Engineering Girl https://www.engineergirl.org

2. Girls Who Code https://girlswhocode.com

3. Project CS Girls https://www.projectcsgirls.com

4. SciGirls Connect http://www.scigirlsconnect.org

5. TechGirlz https://www.techgirlz.org

Step 2: Define Your Purpose and Student Learning Outcome

Anytime we are asking students to create a project, we need to define the purpose and the student learning outcome. This way students will find personal value and take ownership into the creation and making experience. The graphic organizer image I have shared with you, and linked here as a Canva file template, helps students define and visual think while reflecting on their purpose in learning. It can also guide students when designing their final talking paper doll with a purpose in mind, and to stay on task.

Step 3: Create and Design Your Paper Doll

Create and design unique clothing for a paper doll and attach onto a character card board template or stencil using conductive and non-conductive materials. Make sure to have at least two spots on your paper doll that are conductive that do not touch.

If you are hot-glueing your conductive parts together, make sure to be safe and ask for an adult's help.

You'll be attaching your Makey Makey to the two conductive parts of your paper doll or using the brass brads.

Options: you can create origami paper dolls using popsicles sticks too. Here is a how to video and PDF guide if you are interested in this choice as well.

Step 4: Create a Database of Recording Sayings in Your Inventor's Notebook

In your innovation journals, or Rocketbook notebooks sketch and write a list of sayings you would like to add to your paper doll's database. (These sayings can be from the interview questions you asked a student friend, they could be trivia questions if you

are creating a game show, or they could be famous notable sayings or important need to know facts of a women in STEM influencer. It's all based on the student's learning outcomes and purpose).

Step 5: Record Your Database in Scratch

You can create your own sounds and verbal recordings in Scratch. Watch the video from Colleen Graves if you need help, and for full instructions if you've never used Scratch for recordings before.

Once you've started a game, click on the "Sounds" tab. Under "new sound" you have 3 options: Choose a sound, Record a sound, and Upload a sound. Click on the "microphone" icon to record a sound. In the "recording" workspace, there is a triangle to play your sound, a square to stop your sound, and the circle is how you record your sound. Once you hit record, make sure to "allow" Scratch to use your microphone and make sure your recording stays "green." After recording, you can select your sound to edit or add effects.
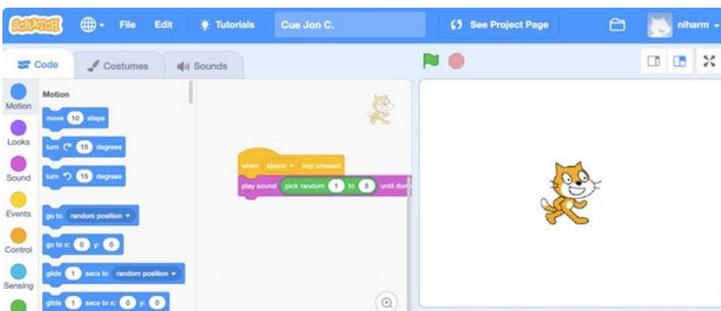
Step 6: Create a Program in Scratch

You have two options for programming your doll/robot in Scratch. Watch the video for step by step instructions on how to program your creation in Scratch!

The simple (and random) way:

<u>Watch Video Part 1 Picture 1:</u>

Trigger an event by attaching a "play sound __ until done" block to a "when space key pressed" block. You can find the green "pick random __ to ___" in the operator palette of Scratch. Change the number to the amount of recordings you created. (For instance, if you created 5 recordings, then put "pick random 1 to 5" as your variables.)

Another way: Defining a Block and/or Creating a Variable

rel="nofollow">Watch Video Part 2 Picture 2: Define a block: Did you know you can create your own blocks in Scratch? By making and defining your own block, you can have even more control of your programs! Watch the video to learn how to define your own block. Picture 3: Create a Variable: In the "Data" palette, you can "make a variable" that will help you control when your creation speaks! To use this feature, follow these steps: Create a variable called "Next Sound"Set "next sound" to zero at the start of the game.When a key is pressed, change your variable by 1.Use an If/Else statement to control the sound effects. If the variable is larger than the amount of recordings you have, set it back to zero. Otherwise, play "next sound" until done!Now you are ready to hook up your Makey Makey!

Credit to <u>Colleen Graves</u> for the linked and recorded video links.
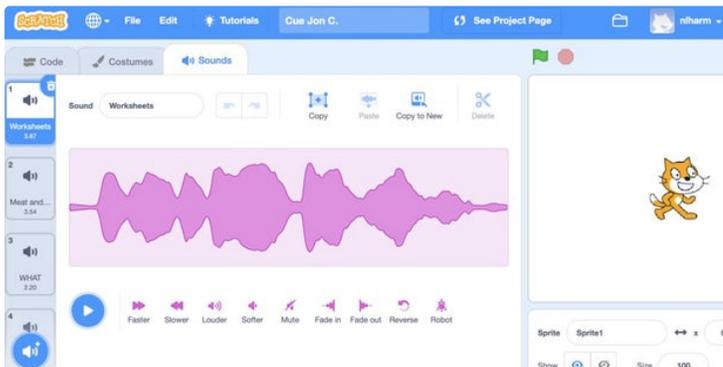
Step 7: Connect Your Makey Makey and Test Your Project

Picture 1: Hook one alligator clip to the SPACE input on your Makey Makey and another alligator clip to an EARTH input on your Makey Makey.

Picture 2: Clip one alligator clip to one conductive spot on your paper doll and the touch and tap the other alligator clip to the other conductive spot.

Alternatively, you could make a conductive sidewalk for your paper doll by putting conductive tape or foil on a cardboard. Make sure your SPACE alligator clip is hooked to one conductive track and the EARTH alligator clip is hooked to the other conductive track. Now when you place your paper doll on the track, Scratch will be triggered.
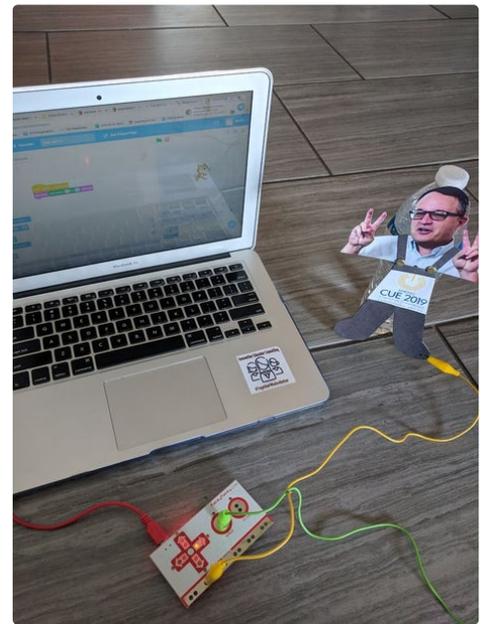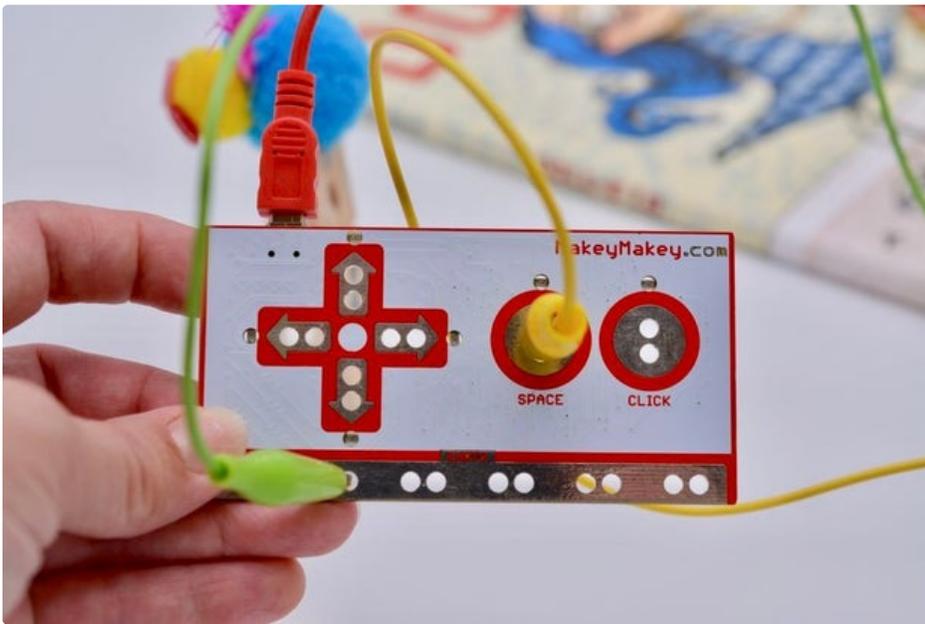
Step 8: Showcase the Celebrations of Learning

Share your creation with your friends through an interactive gallery walk, a STEM living history museum or student directed learning rotations stations!

> https://youtu.be/FWLmQlQSOE4

🟥 Great guide, Naomi! We've featured it on our community hub! Also, you made Colleen's day. :D

👷 Great project idea!! :)

👤 Thank you, will be expanding on this idea more by creating and building choose your own adventure stories with "Her-Stories." Will share if I can master this technique over the next three days :-)