

# Self-Efficacy and Self-Identify of Second Grade Girls in STEM Club

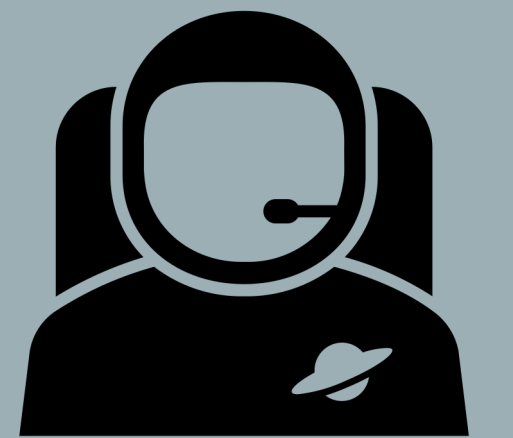
## Essential Questions



Research Question: How does job-based science learning and female mentorship influence science identity and self-efficacy for female 2<sup>nd</sup> grade students?

SQ1: How does job-based science learning and female mentorship affect science identity in female students.

SQ2: How does job-based science learning and female mentorship affect self-efficacy in female students.



### Treatment

#### Who

12 girls in second grade, twice per week for six months.

#### Mentor Focused Learning

Each month a new expert comes in to talk to the girls about what their job is like and what they did to get to this point.

#### Job-Based Learning

October-Microbiologist

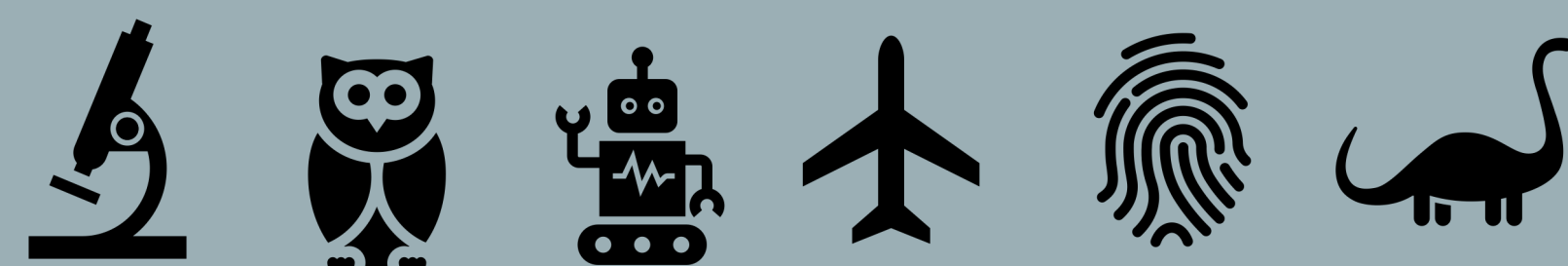
November-Biologist

December-Robotics/Coding

January-Aerospace Engineering

February-Forensics

March-Paleontology



### Initial Data

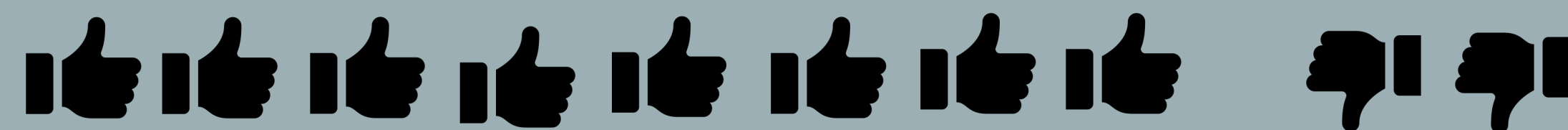
7 out of 10 girls think that science comes easy to them!



9 out of 10 girls believe they are a scientist!



8 out of ten girls believe that they can do any science!



### Concluding Data

9 out of 11 girls believed science comes easy for them!



11 out of 11 girls believe that they are a scientist!



10 out of 11 girls believe they can do any science!



Girls in STEM Club were more likely than their peers to...

- ✓ think science is fun!
- ✓ think they are scientists!
- ✓ believe they can do any science!
- ✓ believe that science comes easy for them!
- ✓ believe that girls are just as good at science than boys!

### Conclusions

Girls in the STEM Club, at the beginning of the program were less likely to believe that they were scientists, that science came easy for them, or they could do any science. This all changed at the end of the STEM Club!

At the end compared to their peers, girls in the STEM Club believed that girls were just as good, if not better, than boys at science. While their peers overall, believed that boys were better.

Girls in the STEM Club were more likely to recognize and be able to explain science jobs.

When commenting on what they liked about the STEM Club, girls were more likely to comment on interests, changes in their opinion of themselves as scientists, and the relationships they developed in the STEM Club.