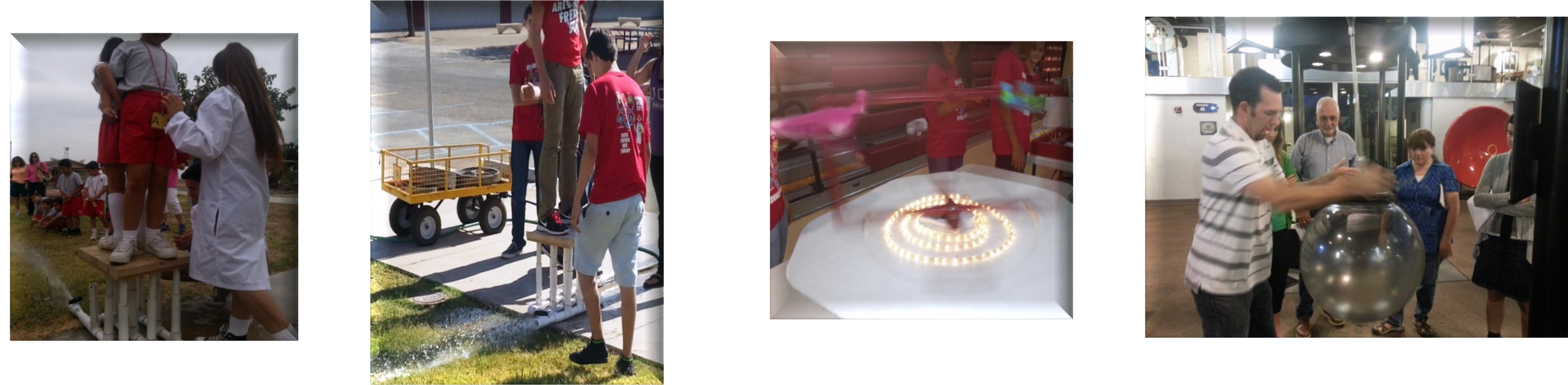


Using STEM America

Program Overview

Using STEM America (USA) is a two-year project funded by the National Science Foundation. It uses informal STEM learning opportunities to improve science literacy among students in Imperial County, California. Students 7th -12th grade utilized the engineering process to build museum style science displays which focused on topics interesting to them.

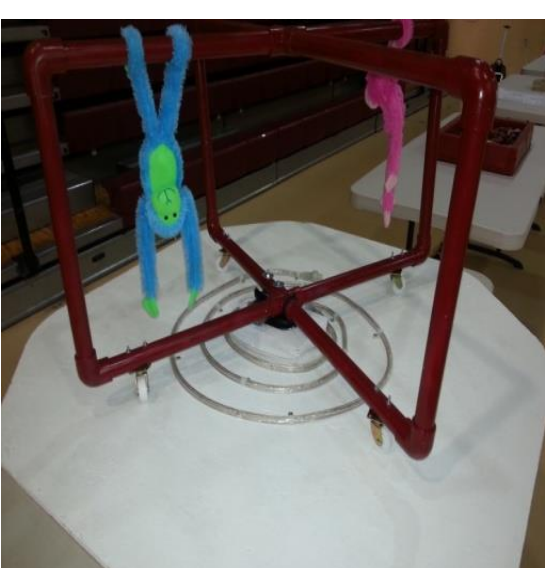


Who are the audiences for the project?

- ✓ students of all ages
- ✓ underserved populations
- ✓ public
- ✓ 7-12 grade students
- ✓ English learner students
- ✓ adults and parents
- ✓ families

How can we increase science literacy in our county?

- ✓ Provided professional development to 7-12 grade teachers
- ✓ Provided opportunities for teachers and students to visit science learning centers such as Fleet Science Center and Birch Aquarium at Scripps Ocean Institute.
- ✓ Provided teachers and students a very clear view of the process of bringing a science display to life - from inception of idea to delivery of product.
- ✓ Provided training and guidance for 7-12 grade students to follow their interests as they engineered their exhibit.
- ✓ Provided outreach to the public in the form of a community science night and a sustained display at the Imperial Valley Discovery Zone.
- ✓ Worked with program partners to install a solar irradiance observatory at Imperial Valley Discovery Zone for students use.



What are the projects goals?

- ✓ The USA Project will support teachers in the planning and development of ISE (informal science education) opportunities for English language learner students and other underserved populations.
- ✓ Teachers and USA Project partners will guide students in creating ISE activities, exhibits and other opportunities to educate families, adults and children.
- ✓ The USA Project will target 7th-12th grade students to deliver ISE activities, exhibits, and other opportunities to educate their families, other adults, and other students.
- ✓ Build local capacity to sustain and disseminate ongoing ISE's.
- ✓ Improve the level of science literacy in our rural community.

I WANT YOU!

"I have no special talent

...I am only passionately curious."
1952

Become a part of the

USA Project!

Have FUN...and LEARN at the same time! What a concept, right?!

We are looking for some young people that want to make a difference in our community, by helping all sorts of people to value and enjoy learning science.

This project is funded by the National Science Foundation, in partnership with UC San Diego and the R.H. Fleet Museum, won't that look great on an application or resume!

Learn how science professionals make science come alive as you design and construct your own museum style exhibits

**Leave your mark...
Make a Difference**

Work behind the scenes at cool museums and learn BY DOING!

Ask your science teacher about this awesome opportunity! TODAY!

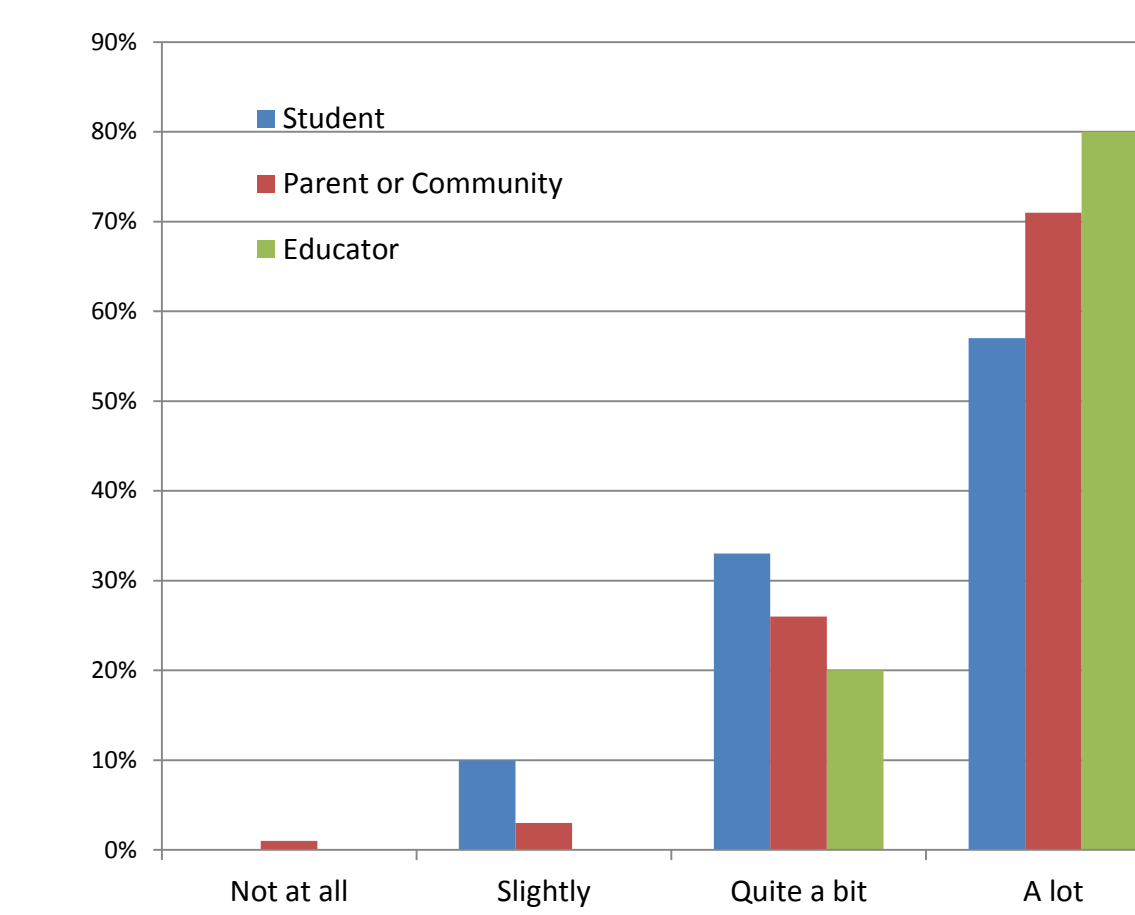
What were some challenges?

- ✓ Having enough workspace to accommodate 7-12 grade student demand.
- ✓ 7-12 grade students required more shop instruction (tool skills) than first anticipated.
- ✓ All participants desired a streamlined process to obtain materials, enhancing the engineering design cycle. Common building materials should be on hand at all times.
- ✓ A few teacher participants had difficulties with a lack of shop skills revolving around tool usage and basic construction.
- ✓ Many high school students are involved in multiple after school activities, making it challenging to assemble student groups.

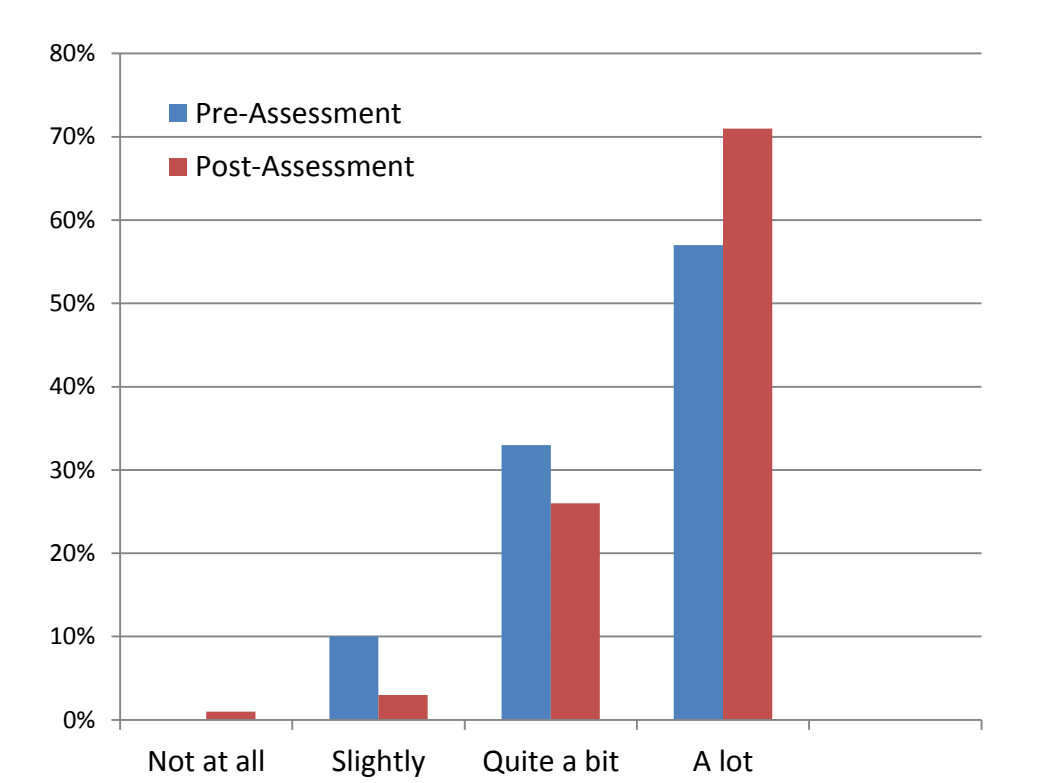
What impact have we made on our audience?

Pre/post surveys administered to all participants and audience members.

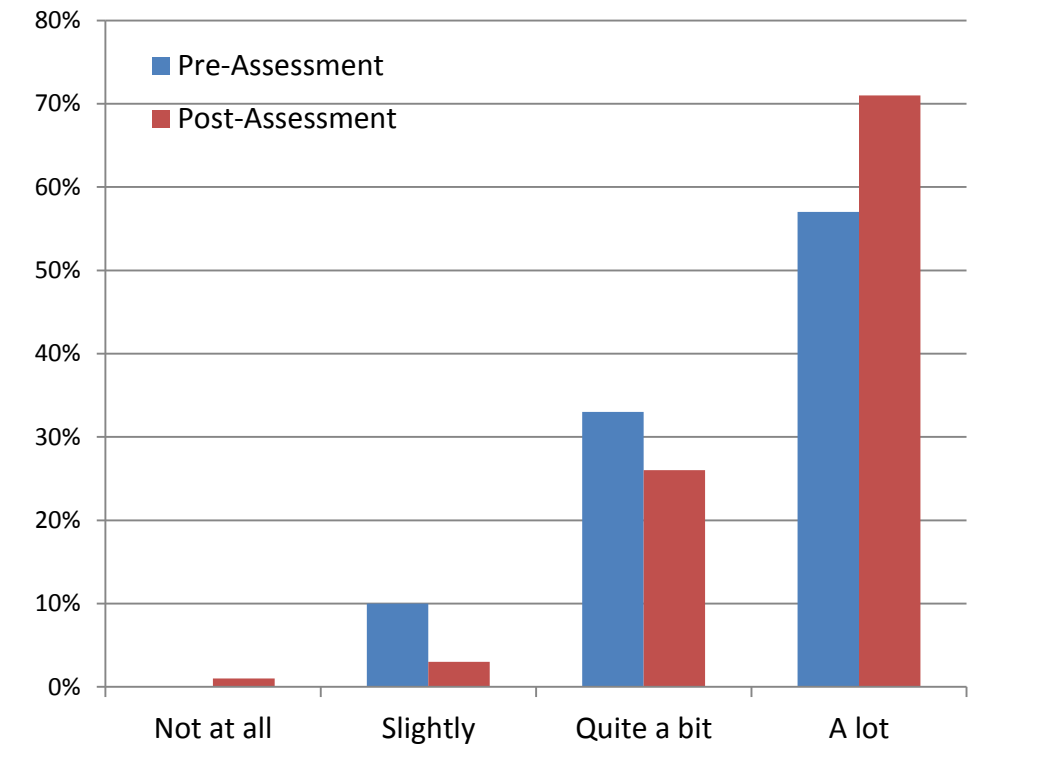
Would you be interested in seeing other projects or exhibits like this?



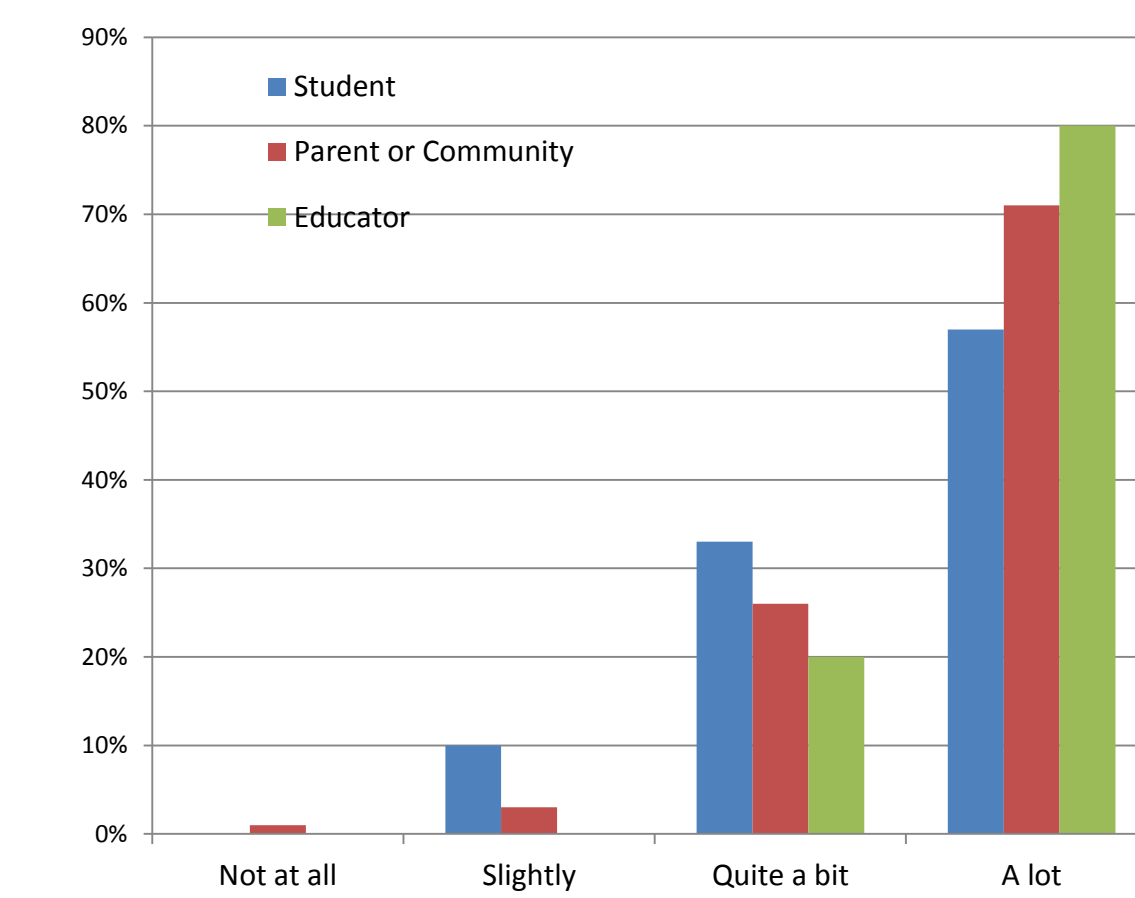
I know how to build a hands on science exhibit



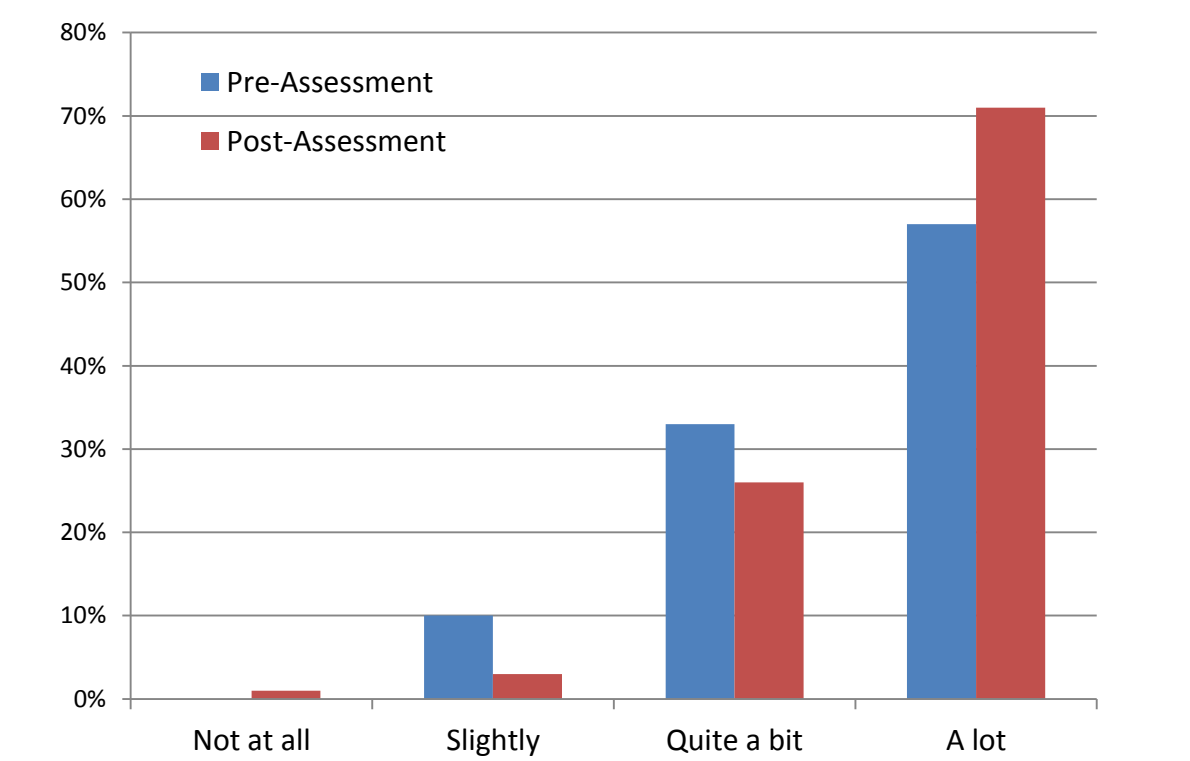
How comfortable are you in presenting before adults and your peers?



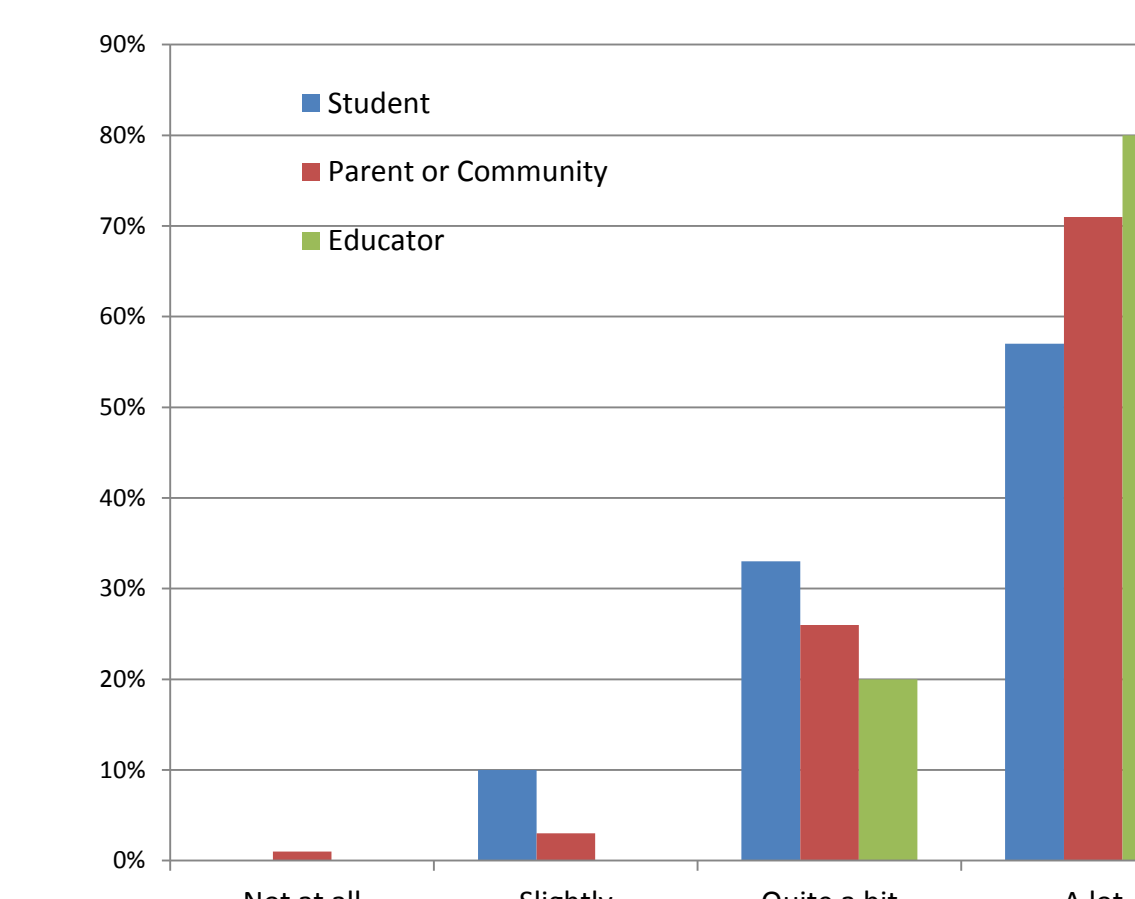
Were the facilitators (students) able to explain what the display was about?



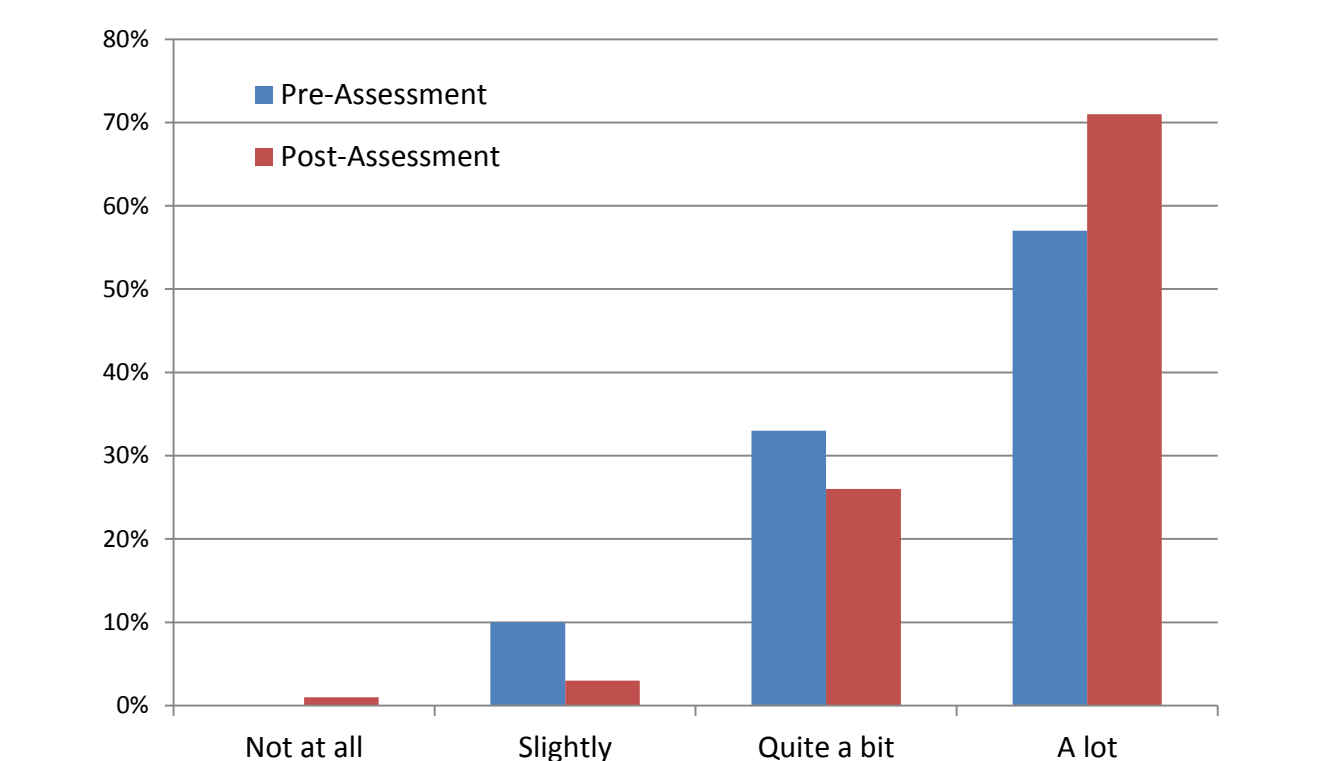
How far along are you in learning to design a scientific procedure to answer a question?



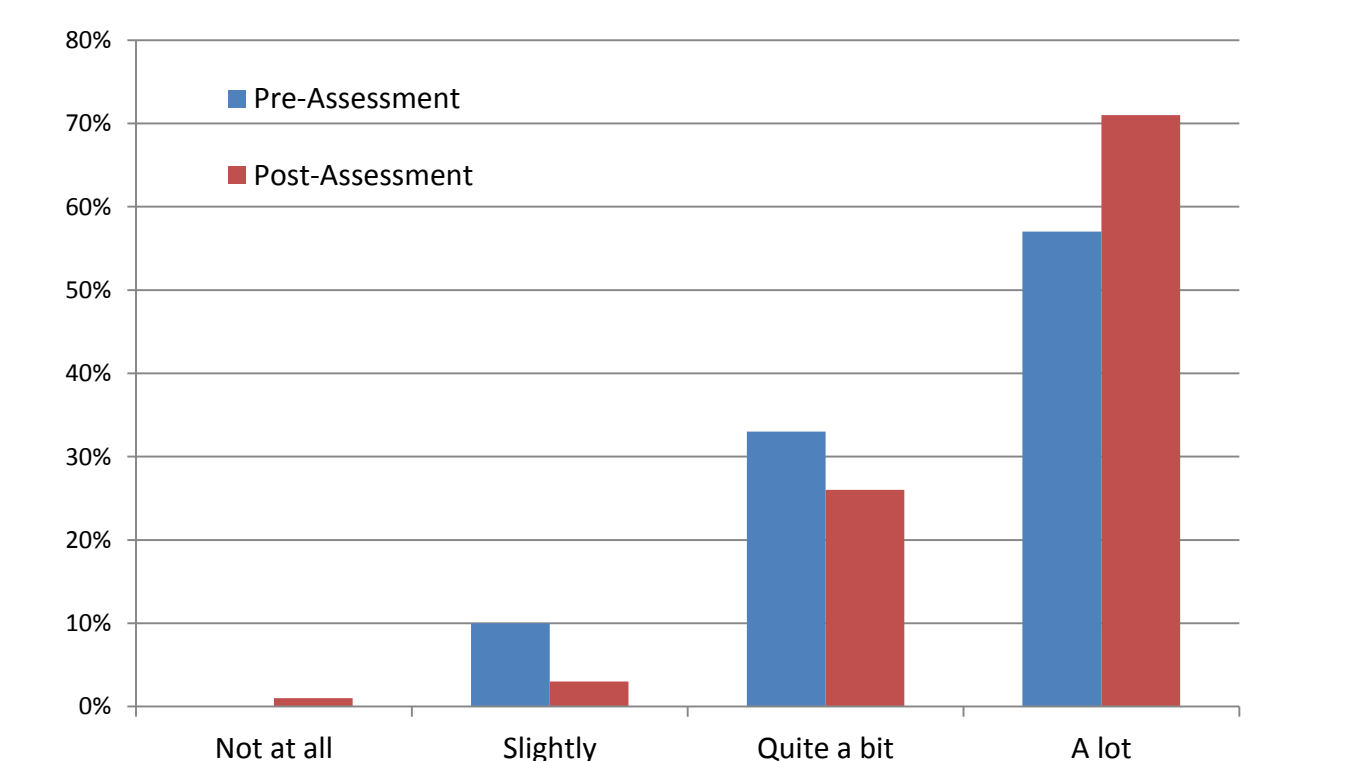
How comfortable are you in presenting before adults and your peers?



How far along are you in learning to formulate a question that can be answered by collecting data?



How far along are you in learning to analyze the results of a scientific investigation?



Project summary

Project USA looked to engage grade 7-12 students in construction of STEM based experiences for viewing by our community members. With a primary goal of increasing science literacy in our community. Kids learn how to do STEM exhibits by utilizing the engineering design process, as they prepare experiences for the community to increase their science literacy.

Grant Partners

