



THE OHIO STATE UNIVERSITY

Starlab ExpertLink Survey Results

School Leads

Starlab George Washington Carver Science Park
Director STEM Education and Outreach



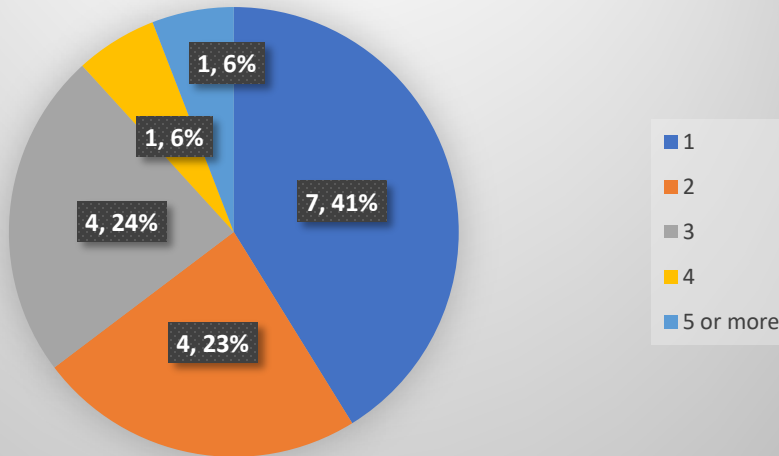
Methods

- Survey invitations (22) were emailed to School Leads via Airtable 1/14/2024
- 17 responses were received, last response on 1/23

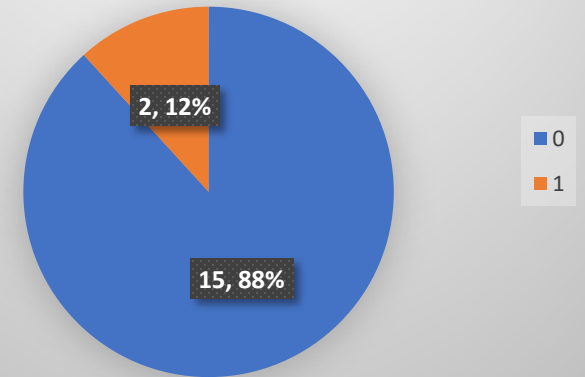


Participation

1. What is the total number of ExpertLink sessions held with your school/classroom(s)?



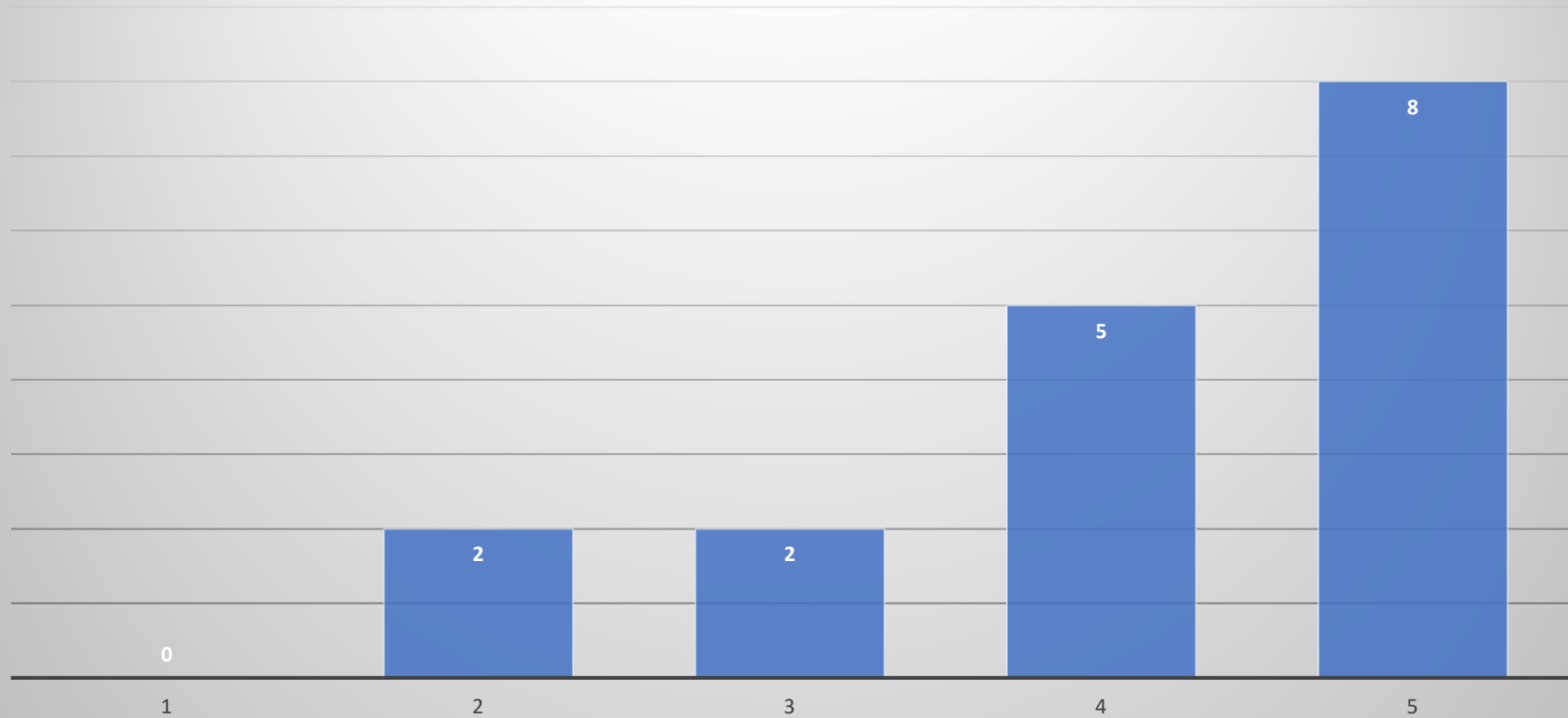
2. How many (if any) of these sessions were in person?





How Helpful?

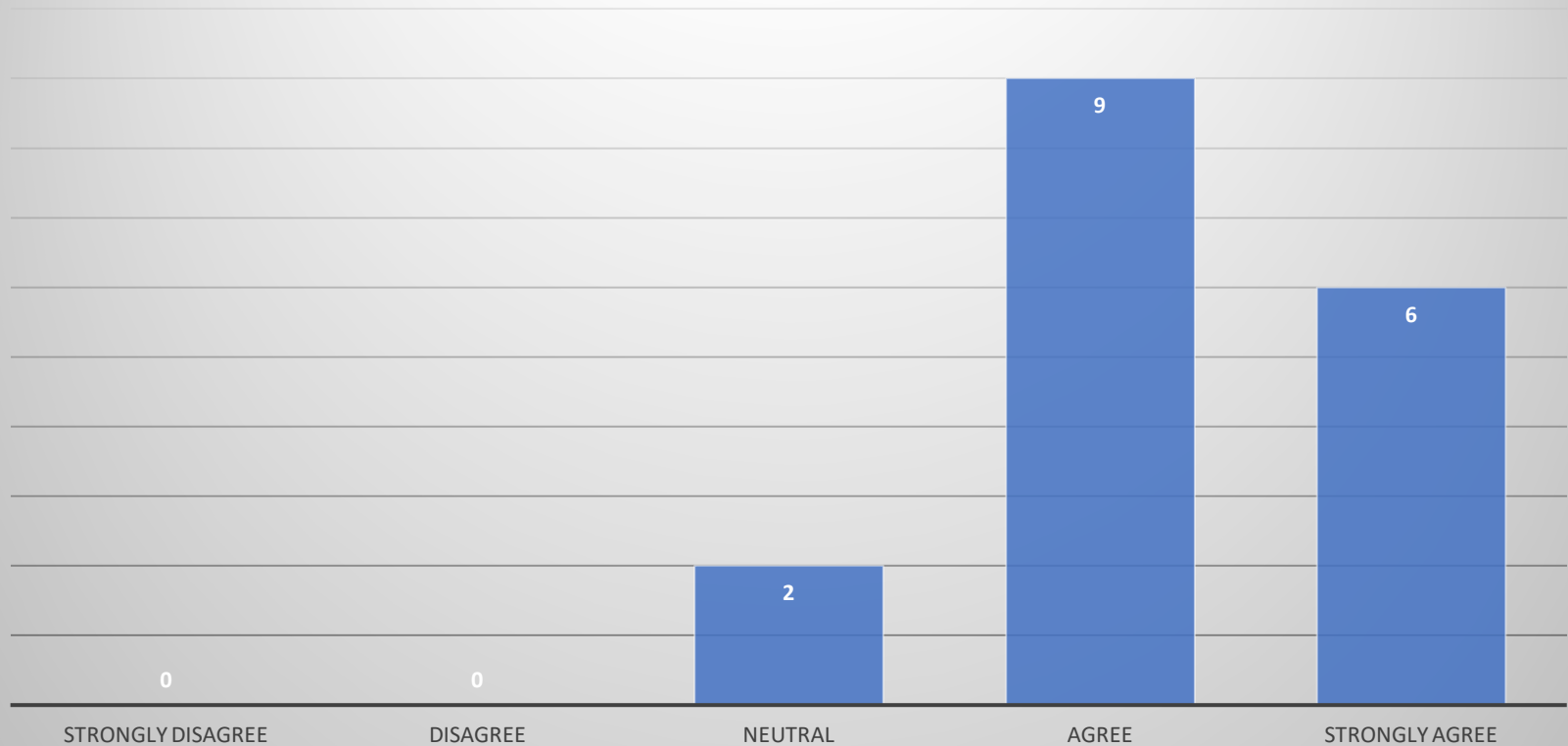
3. How helpful do you believe the panel interactions were to your students in the execution of their design challenge?





STEM Career Awareness

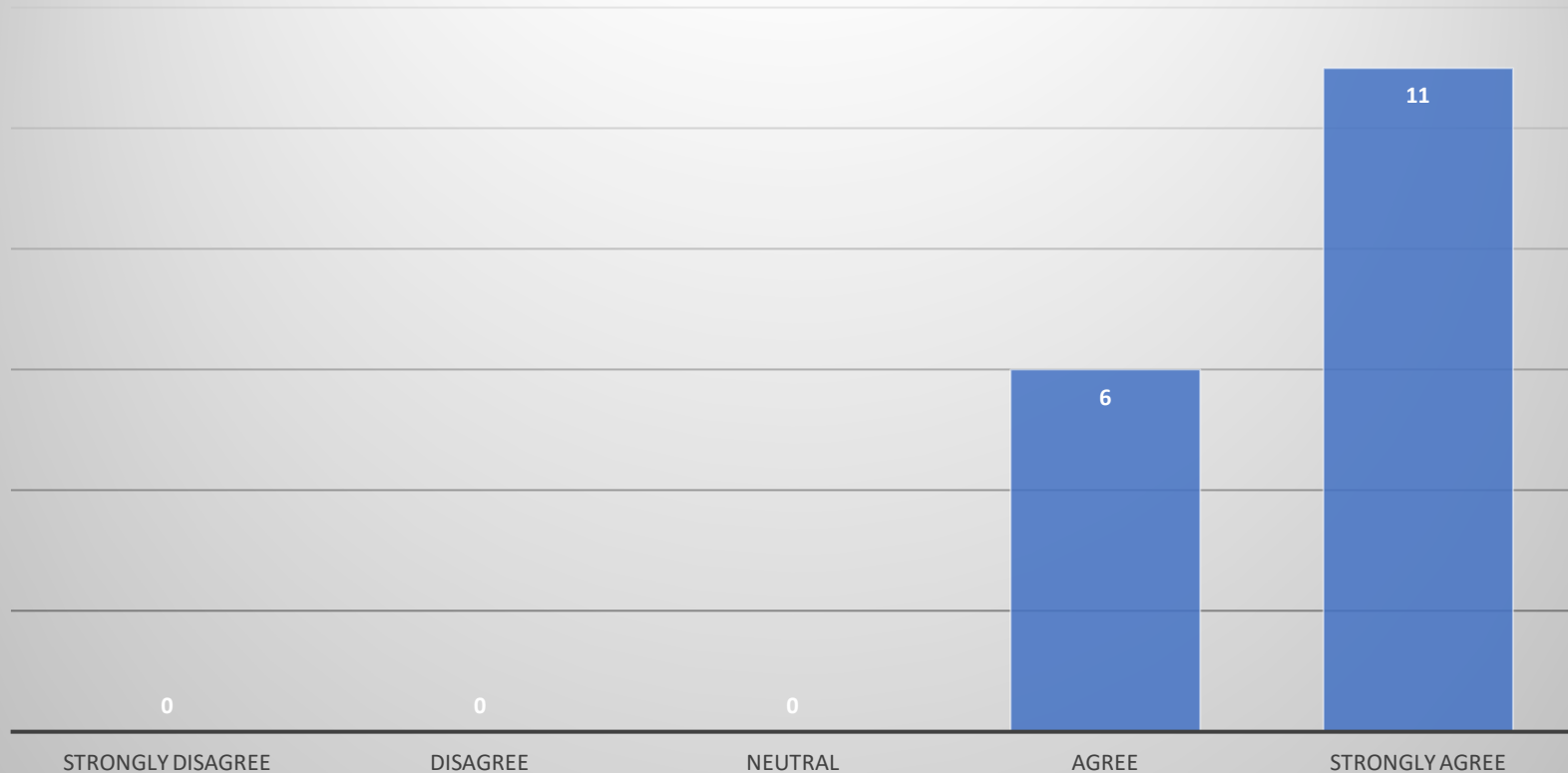
4. As a result of Starlab ExpertLink, my students became more aware of STEM careers.





Motivation/Inspiration/Excitement

5. As a result of Starlab ExpertLink, my students were more motivated/inspired/excited about the design challenge.

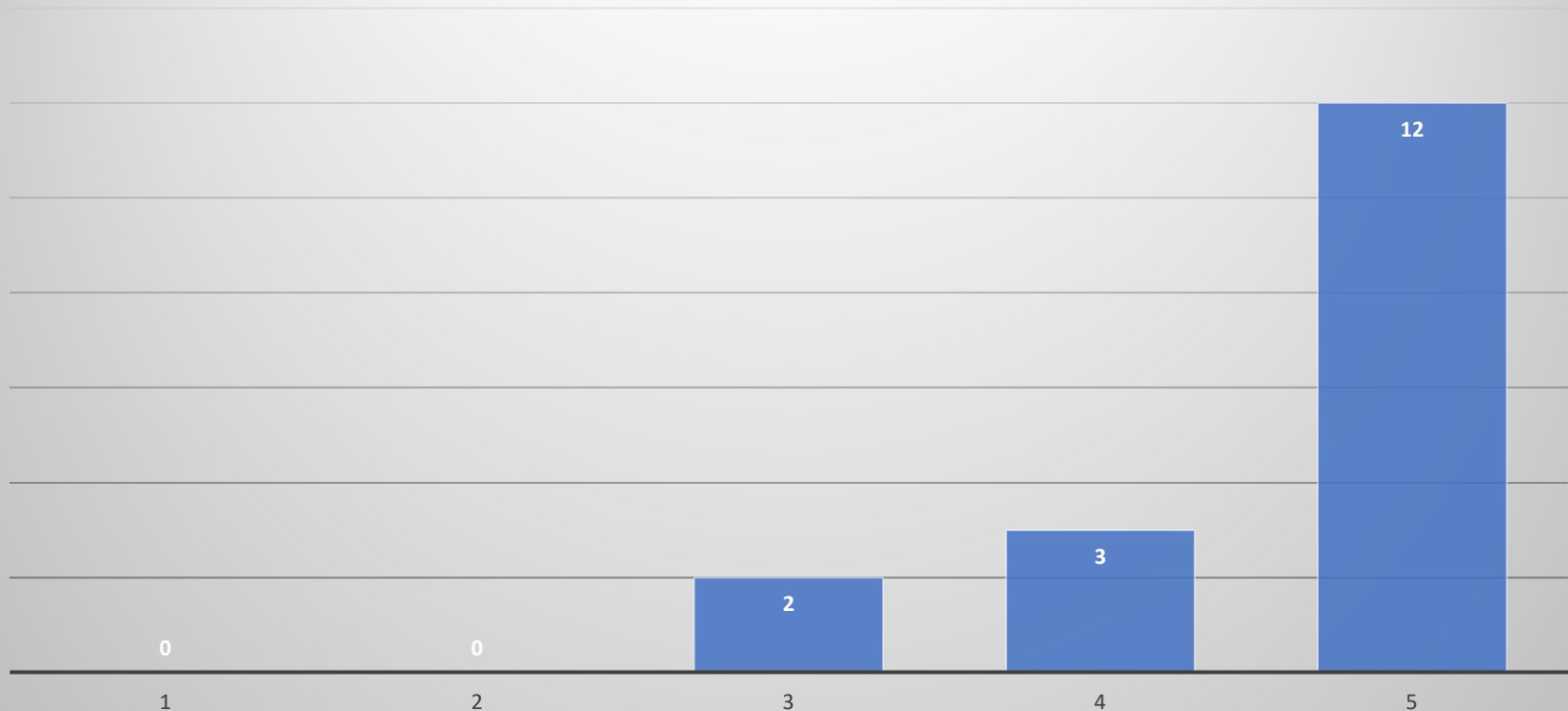




Panelist Teamwork

6. How well do you think your panelists worked together (as a team) during the session(s)?

5=Extremely well, 1= not so well

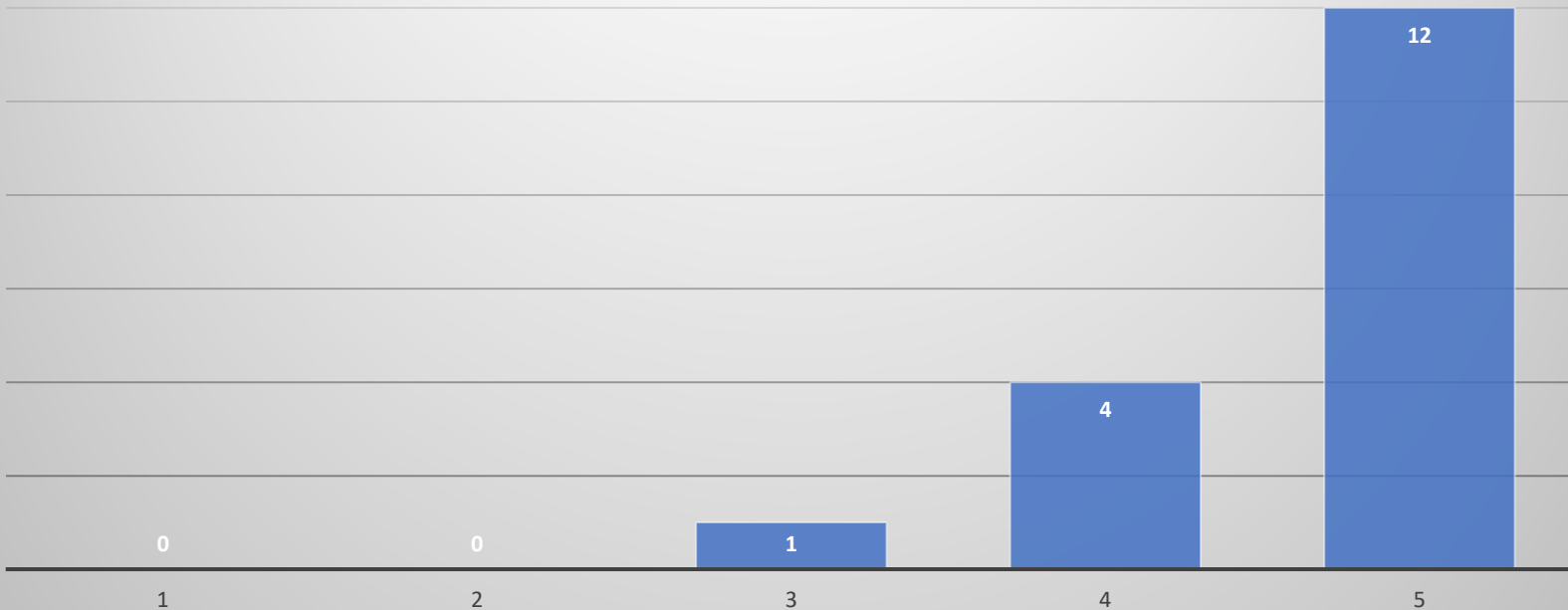




Panel Leader Interaction

7. How would you characterize your offline interaction with the panel leader?

5= Very effective/helpful , 1= not so effective or helpful

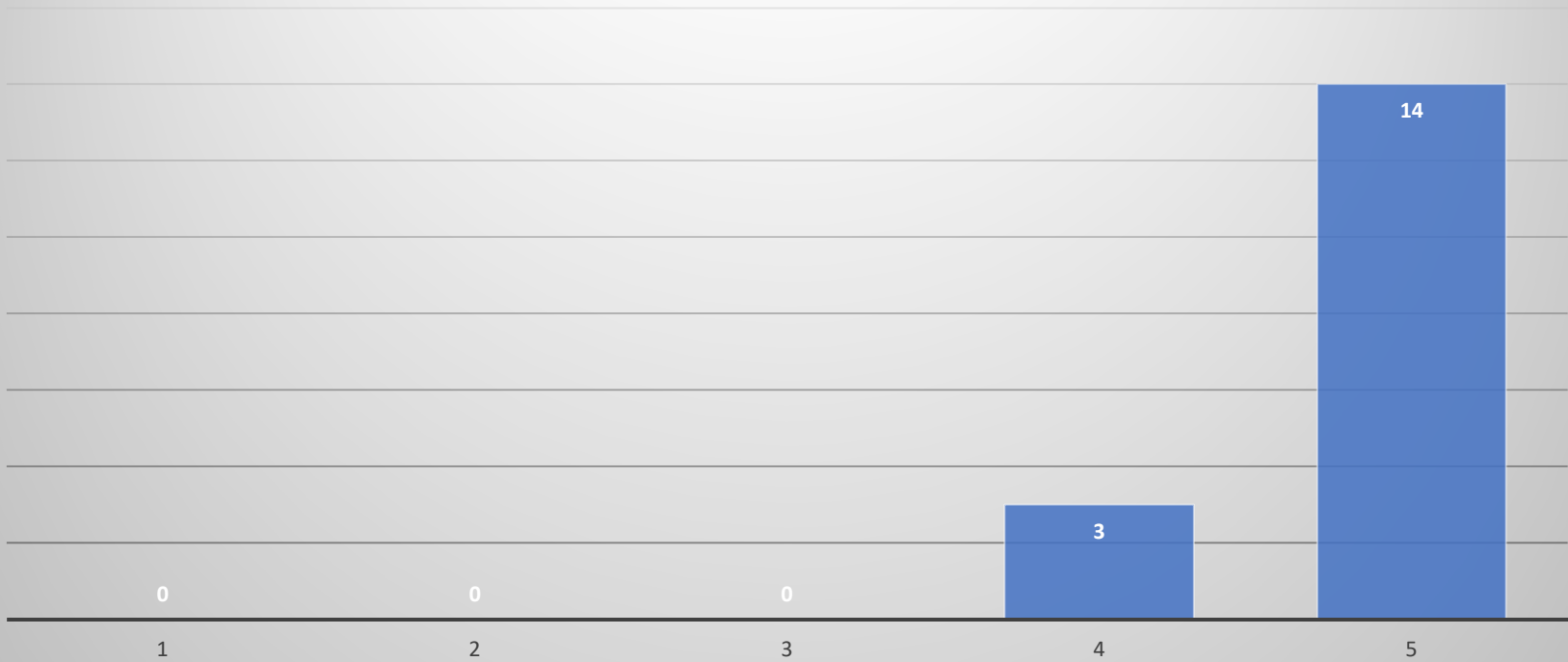




Program Leader Interaction

8. How would you characterize your interaction with the ExpertLink program lead (Howard Greene)?

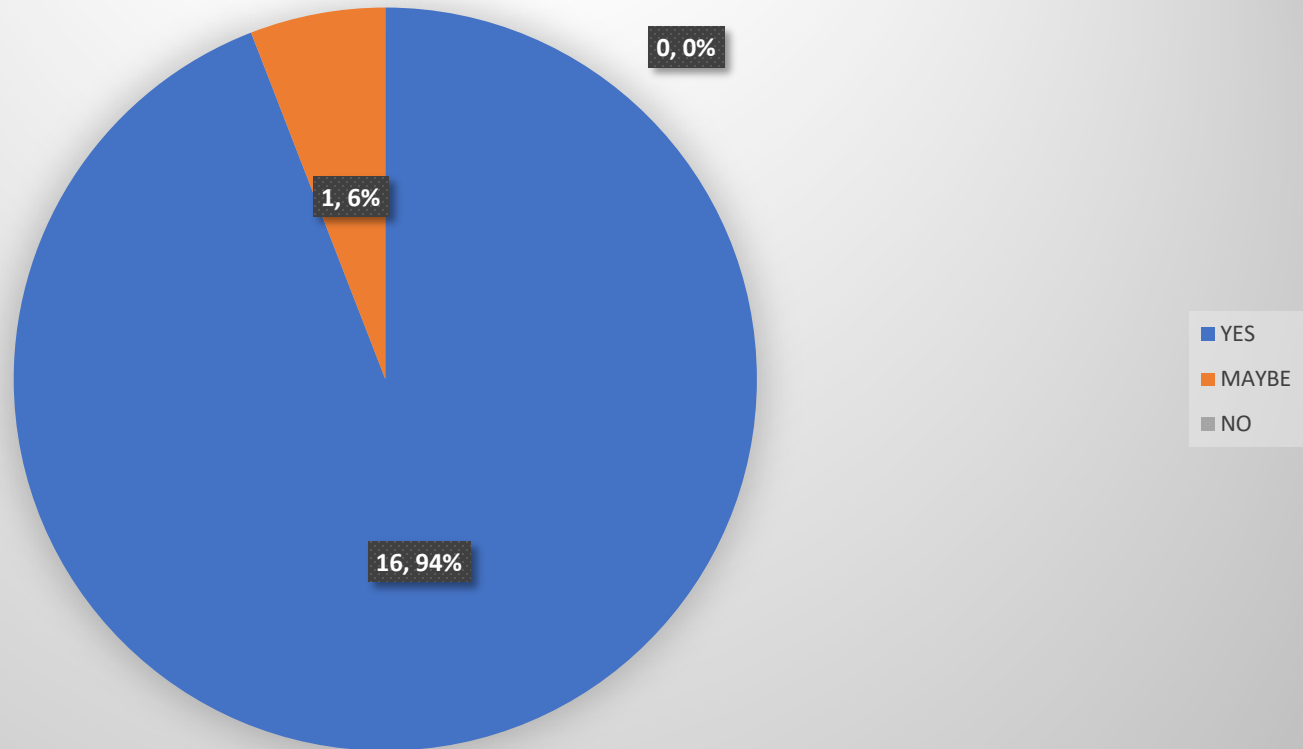
5= Very effective/helpful , 1= not so effective or helpful





Do It Again?

12. Would you be interested in participating in a similar program in the future wherein experts link remotely to your classroom(s)?





Please share your experience of SpaceBytes:

- It was a straight-forward way to search for answers to team questions or post your own. It was very useful and easy to navigate.
- It was a great addition to ExpertLink because it didn't require all the moving parts of setting up a meeting. Students had access to it anytime.
- Our students did not ask any questions directly but used it as a resource.
- We found a lot of information we could use on SpaceBytes.
- I definitely like the idea of "SpaceBytes", unfortunately my students and I did not get to utilize the forum. I peeked at it once and then didn't look back at it. Not really sure why, it just happened that way.



Describe how Starlab ExpertLink affected/helped you or your students

- First, it motivated students to stick to deadlines. Second, it gave them the sense that their ideas mattered. Lastly, it gave students a great place to bounce ideas and brainstorm with professionals in the industry.
- Hearing from experts in the field made the experience real for these kids, and motivated many of them to do their best work.
- It sped up their research because they could get their questions answered by experts versus looking it up and verifying it through multiple resources. It also helped some of them expand upon their ideas.
- They gave so many ideas of real problems that need to be worked on then they were supportive of all the ideas the kids came up with and gently suggested research and improvements.
- Being from a very rural community I felt my students were given a whole new perspective on the future and what careers might be possible.



Describe how Starlab ExpertLink affected/helped you or your students (2)

- They were excited and it gave them both practice in presenting their design and important feedback as a checkpoint before submitting to the challenge
- My group was so big and the time crunch was difficult with when we pulled students compared to when we were able to online chat. I think if I were to do this again ... I would handle it very differently with smaller groups based on focus. I do think that students were able to get their questions answered and I also enjoyed my final group getting to have an individual conference to pitch ideas and help refine.
- Students gained confidence from sharing their ideas with professionals and receiving tips for improvement. Our students were K-2 and the experts were very effective at communicating with them on an understandable level!
- Wow, there is nothing more powerful than having someone from the "real world" interact with our students.



Describe how Starlab ExpertLink affected/helped you or your students (3)

- Our team of experts were so great! They understood where our students are developmentally and were very supportive of their ideas and their project overall.
- The students enjoyed being able to connect with experts in the field. They were excited to learn from them and ask questions connected to their project.
- All of my students in my 5th grade all year STEM class , almost 60 kids total, interacted with one or both of our two expert panelists. Each team was able to share their design idea with the expert panelist and both sides asked questions. Our expert panelist provided each group with glows and grows. Students gained practice of speaking and gained another path to information and knowledge.
- My students were very excited about the researcher and their work.
- It gave students the ability to have a conversation about their projects...not just rely on written articles and/or videos.



Describe how Starlab ExpertLink affected/helped you or your students (4)

- As a class, we reflected on the entire project today and their favorite parts of the project were actually creating their prototypes, brainstorming ideas, and Zooming with their "Experts". Quote from one student that melted my heart: "They made me feel important, smart, and that one day I could truly have an innovative idea to change the world!" I just loved hearing that.

Thanks for making this challenge extra special. This was a tough one to research!



Anecdotes and Aha's

- Kids thought it was wild that nutrition bars/pills are being 3d printed. My students were very excited about the researcher and their work.
- Another group was working on a more comfortable bed that had a pillow and soft mattress. The experts reminded them that without gravity in space that might not be as important as here on earth.
- From their research on plant towers, our students came up with an idea to 3D print foam for growing seeds. Our expert in 3D printed materials gave them kudos for this idea and said he now wanted to try it. This made our students feel very confident in their ability to design ideas for astronauts, which otherwise was a pretty intimidating task.
- Our students wanted to put essential oils in their device so the astronauts could smell certain "earth smells" while in space. The experts told the students that the oil that is diffused would gum up the computers and things in the StarLab. That was really good feedback for the students.



Anecdotes and Aha's (2)

- Although our interaction with our experts was minimal due to scheduling issues because of our tight school schedule, students really enjoyed sharing their identified problem with our experts.
- All sides, or participants, enjoyed the sessions. I know the expert panelists were excited to meet and share with students. Students met professionals and got to interact and pick their brains. No matter how many times our expert panelist talked about not going to space themselves, my students always asked our expert panelist about them being in space themselves.
- Now, that the design challenge submission deadline has come, I gave reflection questions and I know everyone in my classes want to go back and do things differently. I noticed which groups that took their session and information seriously and actually used what they learned to their benefit. This is great real- life opportunities to practice the 4 C's of success: Communication, Collaboration, Critical Thinking, and Creativity!



Anecdotes and Aha's (3)

- One group was researching creating a gravity break room and one of our experts led them to a link where this was actually being researched.



If you could make one change to the ExpertLink program to make it BETTER OR MORE EFFECTIVE what would that be?

- More structure to the interactions.
- NASA expert didn't use his camera, which takes away some of the interest and connection with students.
- The experts' areas of expertise doesn't necessarily cover the areas of student research. We got lucky and had an unexpected expert join in who was incredibly knowledgeable.
- We could have a suggested timeline of meetings- I wasn't really sure when I should hold meetings
- On my end... scheduling. I only have my students one day a week.
- This experience was painless and so easy . It really is hard to think about a way to improve it.



If you could make one change to the ExpertLink program to make it BETTER OR MORE EFFECTIVE what would that be (2)?

- N/A - everything was great. Scheduling was a little rushed but that was because of the design challenge deadline and the holidays.
- Set up on kick off day so that it is ready to schedule much sooner.
- More panelists maybe ... and this could be just to me ... but we only had two panelists.
- I don't have any feedback like that. We were very happy with the time the experts spent with us and the support they gave our students.



If you could make one change to the ExpertLink program to make it BETTER OR MORE EFFECTIVE what would that be (3)?

- For sessions, scheduling purposes, it would be nice to be linked with our person as soon as possible in order to work out at least to set dates with times. It might have been more on my end, but I felt like we weren't able to be proactive in scheduling because everything happened so quickly once we got started on the project. Our students only were able to meet once a week, so that time was very valuable. Hoping that when we do this project again in the future, more days/time can be allotted for it.
- We sent our ideas and notes ahead of time so that we could maximize question time.



If you could make one change to the ExpertLink program to make it BETTER OR MORE EFFECTIVE what would that be (3)?

- The ability to meet sooner and more frequently.
- I think the students needed to get farther into the project before we had to choose which experts we wanted. I know there was maybe an option for that, but it also felt like if we didn't hurry and sign up, there was no guarantee we'd get experts assigned to our school. I think it could be a running sign-up where teachers share what kinds of projects/problems the students are working on and then you're able to match experts based on the expertise needed for those students/projects/schools.



If you could make one change to the ExpertLink program to make it EASIER FOR YOU TO PARTICIPATE, what would that be?

- A video camera for my classroom so experts could see what my kids are doing, rather than having to explain it.
- Have a few sessions that any classes can jump into featuring a variety of experts. Maybe require question submissions beforehand and make it view only.
- I think it was very smooth!
- If there were folks who could come in person that might get more students to attend, but I understand how difficult those logistics would be
- Next time, I would submit the initial student questions in advance of the meeting so scientists could possibly have visuals to help with comprehension of explanations.
- I don't have any feedback. It was easy for us to participate.
- (nothing for now) I like how at the very beginning we got to select possible panelist that we would want to interact with. I knew that I'd be happy with anyone!



Is there anything else you would like to share?

- We had a great experience and look forward to the next challenge!
- Thank you for everything Howard. I know it wasn't always smooth, but it was appreciated. The students got a lot from it and you made something possible, that, as a teacher, I could have never arranged.
- It was a great experience for my kids- thanks!
- I loved being able to interact this year with our experts John and Ari. Sandy did a great job following up with questions quickly. Howard was also an amazing resource.
- Our school contest ended with 2 groups tied. I sent the Google slides link to our experts and Howard for feedback and they did an amazing job commenting and helping me reflect with my classroom groups to give them honest feedback. It's hard when you work closely with the students and see all of the effort they put into the challenge to just send one group on.... This made it easier and allowed me to use the rubrics and comments from judges to reflect with each team.



Is there anything else you would like to share (2)?

- Thank you for allowing us to be a part of this challenge and for all of your time and effort to make this possible.
- Thank you to everyone who made this possible. As a teacher I am already excited about what new experiences next year will bring to my students.
- Thank you so much for the opportunity!



Take-aways

- Panels made the design challenge experience 'real' for students. They helped students feel more inspired, motivated and excited about the design challenge.
- Panels helped students become aware of STEM careers they didn't know about.
- Logistics of scheduling and setting up sessions with the panelists was smooth, but a little rushed to get enough sessions in-between the start of the design challenge and the holidays
- SpaceBytes was a great idea and was helpful, but inconsistently utilized.
- Experts were very effective in communicating with students in an age-appropriate way and had developmentally appropriate expectations.
- Experts did an excellent job displaying support and encouragement first and then later gently suggesting possible improvements
- Interaction with panelists gave students confidence in their ability to solve real problems. It also kept them on schedule and motivated them to do their best work.



Take-aways

- School leads that met with their panels ahead of time had a much better classroom experience
- This was a 'real life' opportunity for students that schools could not have arranged on their own.
- Schools leads were incredibly thankful for the opportunity
- Schools would like to participate in ExpertLink again



Action Items

- Program needs to do a better job matching panelist expertise to student projects
- Pool of experts needs to be expanded and yet refined
 - Most schools did not get to indicate panelist preferences because there weren't enough to do that.
 - More carefully recruit experts for the theme of the design challenge.
 - Better match experts to the preferences/needs of the school
- Schedule a few sessions that any classes from any school can jump into featuring a variety of experts.
- Invoke SpaceBytes again, but start it earlier and advertise it better
- School leads need a little better training on how to set up and be prepared for panel sessions.
- Multiple classroom Zoom sessions were less effective and generally didn't allow students to interact directly with panelists. Students were less engaged in these sessions.