



2023

**Facilitated
Discussions for
USECitSci
Notes and Next Steps**

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Goals

To become aware of:

- Issues and barriers that are currently hindering undergraduate educators from including citizen science projects as part of their class curriculum
- Discuss ways to promote a more widespread and effective participation of undergraduate students in citizen science projects in a way that aligns well with project goals

Methods

Facilitated discussions:

- Two meetings, these discussions were 60 minutes and occurred over Zoom
- List of participants and RSVPs collected by USECitSci
 - Invited participants were a mix of educators, citizen science project leaders and folx who identified as both.
- A survey was sent out to participants who had RSVPed a week before the discussion date (appx. 1: draft, appx. 2: results)
- Discussion began with an brief overview of survey findings (appx. 3)
- Participants were then sent to break out groups that were equally populated with folx from all three groups.
- Breakout groups were lead by Resolve Conservation using a simple protocol (appx. 4) but conversations were allowed to flow freely from these initial prompts

Deliverables

TWO 60 minute discussion **planning** meetings

TWO 60 minute **facilitated discussion** meetings

ONE report with recommendations

TWO co-created surveys

Success will be measured by the number of self-reported educator-CS project connections beyond the first round of discussions, and by the number of discussion participants that engage further with USE CitSci working groups and activities.

Pre-Survey Findings

23 participants answered the survey
10 people identified as an educator
10 as citizen science project lead
3 as both

Educators/Both

- 20 participants regardless of role consider engaging students in citizen science to be **very or extremely important**.
- Most educators or those who identified as both will be very or extremely likely to engage students in a citizen science project in the next 12 months
 - From this group, 10 out of 13 responses had engaged in a citizen science project in the last 12 months.
- The most common goals for engaging students in a citizen science project are:
 - to teach students about the scientific process, data gathering, data analysis
 - to help citsci project leaders
 - to build a bridge between students and the community.
- Participants felt these **goals were achieved** when it comes to data gathering, teaching the scientific process and helping the project lead, but in most cases educators felt they **did not achieve** the goal of connecting students to the community.
- 10 out of 13 respondents that identified as educators or both have considered a citizen science project in the last 12 months but they decided **not to use** in the classroom.
 - These projects were not implemented in the classroom because
 - timing of the project
 - the project did not align with curriculum
 - the educator had not been considered at the project planning phase

Pre-Survey Findings

Project Leads

- All project leads and those that consider themselves both (project lead and educator) agree that students will typically benefit a citsci project and they are interested in facilitating the use of the project by instructors.
- Most project leads have communicated with educators through email, phone, by giving a presentation, by providing data and educational resources to educators.
 - Only one project lead responded that they had not communicated with educators.
- Project leads felt that the two main reasons to include students in a citizen science project are:
 - to bring awareness to the project
 - to connect students to their community, followed by help collecting data.

Key Comments from Participants

“Increasingly, we recommend exploring existing data before (or instead of) requiring student data contributions.”

“Most of the time we can get a lot of great data (from students)!...Students have great ideas and questions to investigate.”

“(Benefits of CitSci in the classroom are)...student discovery and observation; sense of belonging to something bigger.”

“(CitSci in the classroom)...demystifies science.”

“I find it challenging to market the (CitSci) project to the right people in the right way.”

Discussion Findings

Meeting 1: Tuesday, September 19, 2023

24 RSVP

6 reply YES to the calendar invite

6 attendees

Meeting 2: Thursday, September 21, 2023

41 RSVP

20 reply YES to the calendar invite

16 attendees

The disconnect between the perceived goals of project leads and the actual goals of project leads

- Educators were concerned with being able to deliver quality data, but it did not sound like that was the top priority for project leads. Not to say that data isn't important, but leads indicated that they were most interested in increasing awareness of their issue. Maybe this is because leads also indicated that they do not automatically consider the data collected or analyzed by students as reliable. Some project leads address this by sharing "sample" data sets for students to work on.

Defining who was responsible for managing student data

- The question was avoided, and we wonder if it wasn't discussed because it wasn't as large a concern as it appeared to be from the survey, if it is so contentious an issue that this setting was not the appropriate place to discuss, or for other reasons, like this was not an issue for the members of the small group that was convened.

Discussion Findings

Project timing

- Educators indicated that the poor timing of the project as well as issues with lack of technology for data gathering were the main barriers to participation. Projects were too long, data collection was required during times when classes were not in session, or educators were unsure how to best collect data.

Need for follow-up

- Educators believe that students needed to know that what they were doing was considered useful, but there were few feedback mechanisms for project leads to show students the impact of their work. One person commented that students are skeptical of the quality of other student's data collection and that can make it hard to feel they are making a difference.

Budget

- Leads usually do not put budget aside when planning the project to be used for student engagement or development of resources.

Centralized hub

- All indicated that a centralized place to find possible project would be of interest and using a regular platform like I-Naturalist could help standardize data collection.

Post-Survey Findings

9 participants answered the survey
6 people identified as an educator
3 as citizen science project lead
3 as both

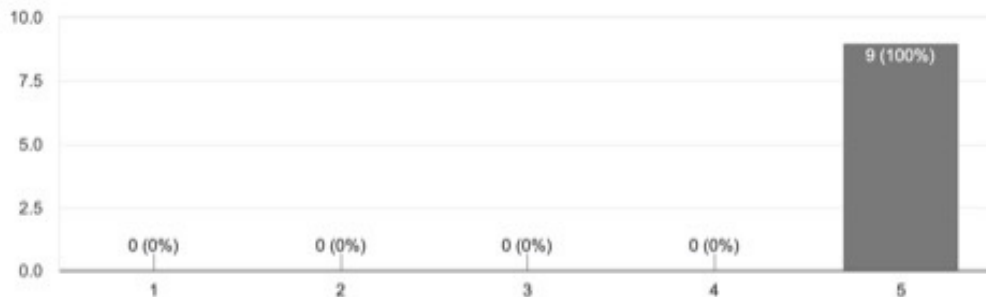
What is your role?

9 responses



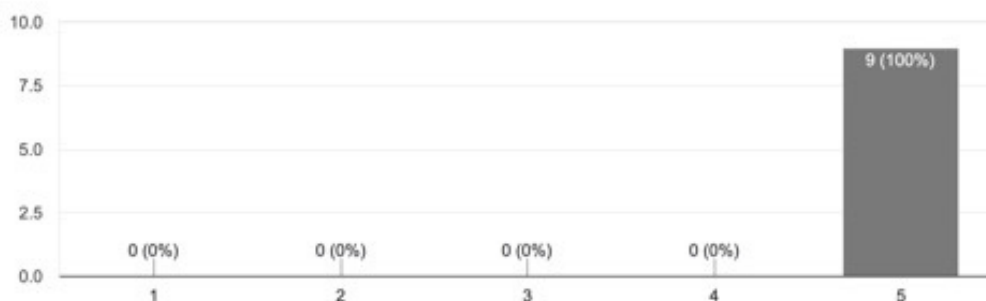
Please rate your level of agreement with the following statement: Engaging college students in citizen science projects is a worthwhile goal for educators

9 responses



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9 responses

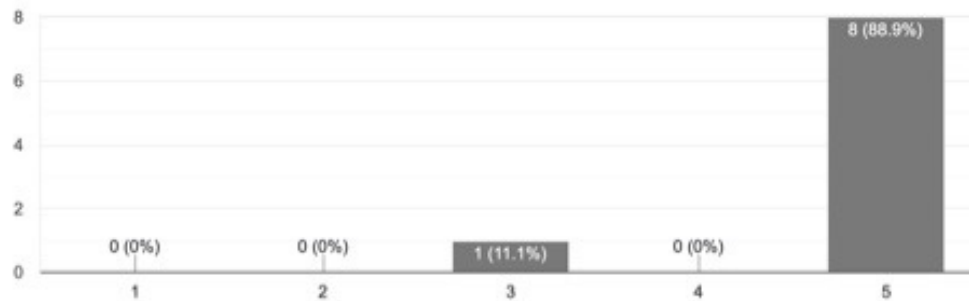


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Post-Survey Findings

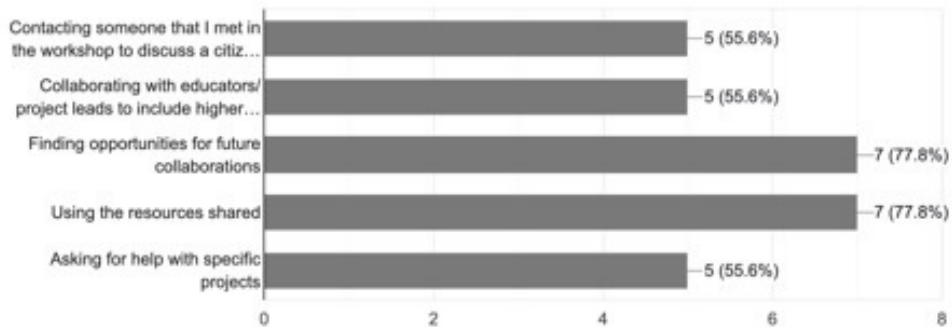
How likely are you to engage in future efforts to connect educators and citizen science project leads?

9 responses



After participating in the workshop I feel more comfortable: (choose all that apply)

9 responses



Post-Survey Findings

What was your biggest takeaway from the workshop?

- I was already using a citizen science curriculum with students
- That some of the challenges (and benefits) that I've experienced are shared by others!
- That conversations like that are very helpful and we should have more!
- That project leads want to be contacted
- That both educators and citizen science leaders want to communicate with each other so that the projects are accessible and beneficial for both groups, but both feel awkward reaching out to each other, having this platform was fantastic for doing so.
- Diversity of Citizen Science with both cultural and social issues.
- Seeing how open the project leads were to work with educators. That is huge.
- I learned a lot about how educators currently incorporate cit sci projects into their classrooms.
- There are resources to help us start new and exciting projects. I hope to learn from the experience of others on the call and will be reaching out.

What could we improve in future workshops?

- It would be great to focus on a main takeaway for each group of attendees. I found the resources page was helpful but not a major focus of the meeting. I would be glad to be paired with cit sci researchers that are more aligned with my field and would find that time very productive even if no project came from it.
- I think this is a topic that is worth considering regular workshops on- maybe more best practices and practical examples of what people are doing
- Longer discussion times, shared contact lists, more folks in the convo.
- Maybe have some folks provide examples of ways they've included CS projects in their classes
- I'm not sure at the moment - I really enjoyed it.
- More discussion on actual citizen science project.
- No suggestions.
- I'd like to have access to contacts more easily than trying to write contacts down for post meeting connections.
- Maybe send handouts after the workshop?

Post-Survey Findings

What would make you want to participate in future workshops?

- Knowing I would be able to speak with a Cit Sci researcher in a field that connects to one of my courses
- Knowing it could benefit my teaching practice by increasing student engagement
- Longer discussion times, shared contact lists, more folks in the convo.
- Opportunity to connect with CS folks; opportunity to share some of my projects
- More opportunities to collaborate and learn from each other!
- Stipend as amazon gift cards.
- Just email me. :)
- It would be great to have a walk through/interactive workshop of how a citsci project could use the website resources
- More information about how to support assessment of citizen science work and research.

What are some workshop topics that would interest you?

- learning about the citsci projects that have most been used by higher ed profs, beyond or in addition to iNat which is what I primarily have used with students. Also- discussion of privacy/ security concerns, have any universities raised issues about the use of these tools in classrooms?
- Scaffolding CS projects in higher ed courses, Connecting students to the community through citizen science
- Getting together to create some sort of best practices guideline for creating citizen science activities for the classroom - what would be the best format? Google slides? Canva? pdf? What do we need to make sure to include? I try to use the science standards when making activities, but they are still pretty broad and hard to navigate. Knowing what format and what sorts of sections to include when creating guidance on how to help educators participate would be phenomenal.
- Creation of space to integrate citizen activities in the course.
- Website/ resources tutorial Funding opportunities Best practices
- Assessment, science communication

Recommendations

- Focused meetings and place for interested parties to network
- Shared teaching plans and ways to incorporate curriculum
- Introducing current and future CitSci projects leads to possible data collection digital platform
- Supporting project leads and educators learn apps for standardized data collection
- Help project leads address the constraints of developing their own app - to include budget constraints - by introducing them to existing customizable platforms
- Facilitating a place (maybe in the website) for educators to share availability to participate of certain projects the have specific characteristics (timing, type of data collection or analysis, geographic area, etc) could facilitate the matching of projects with educators.

Contact



www.resolveconservation.com

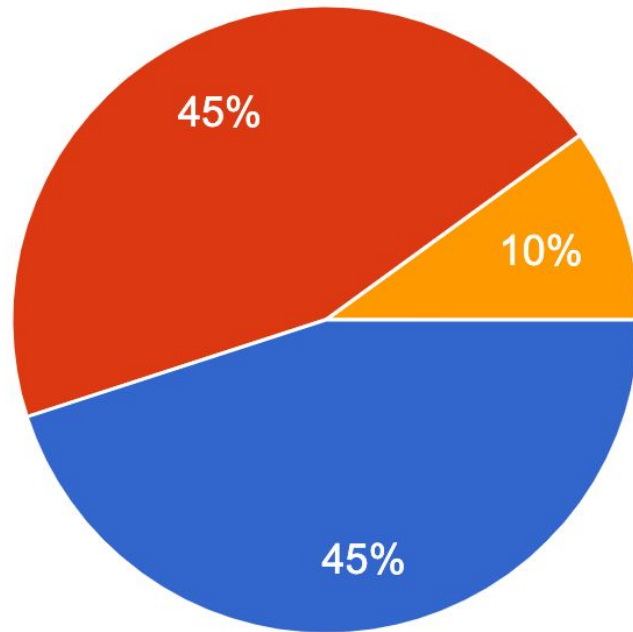
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Pre-survey Responses

What is your role?

20 responses

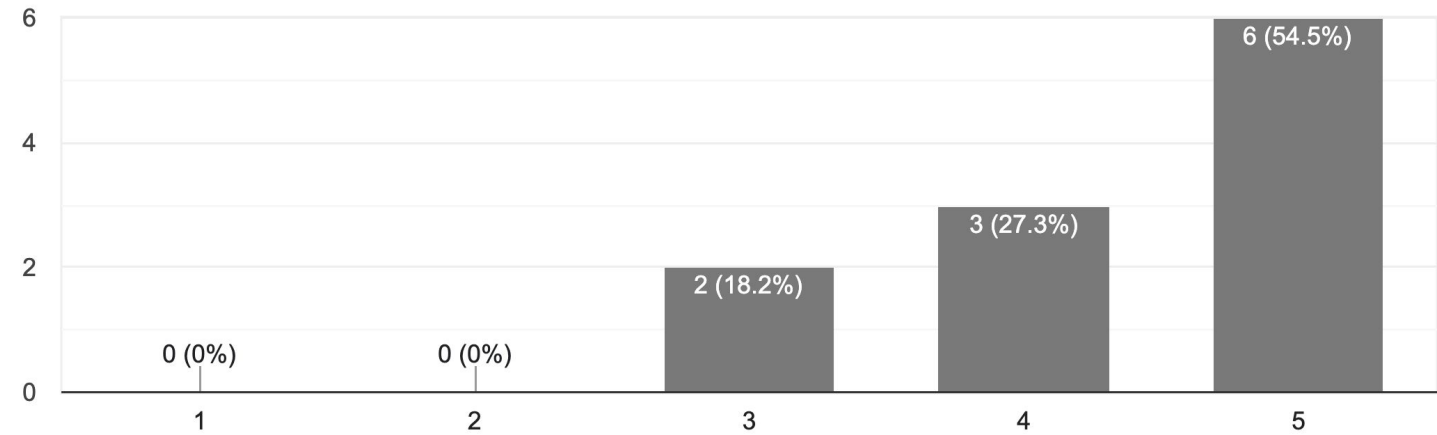


- Educator in higher education
- Citizen science project lead
- Both

Project leads

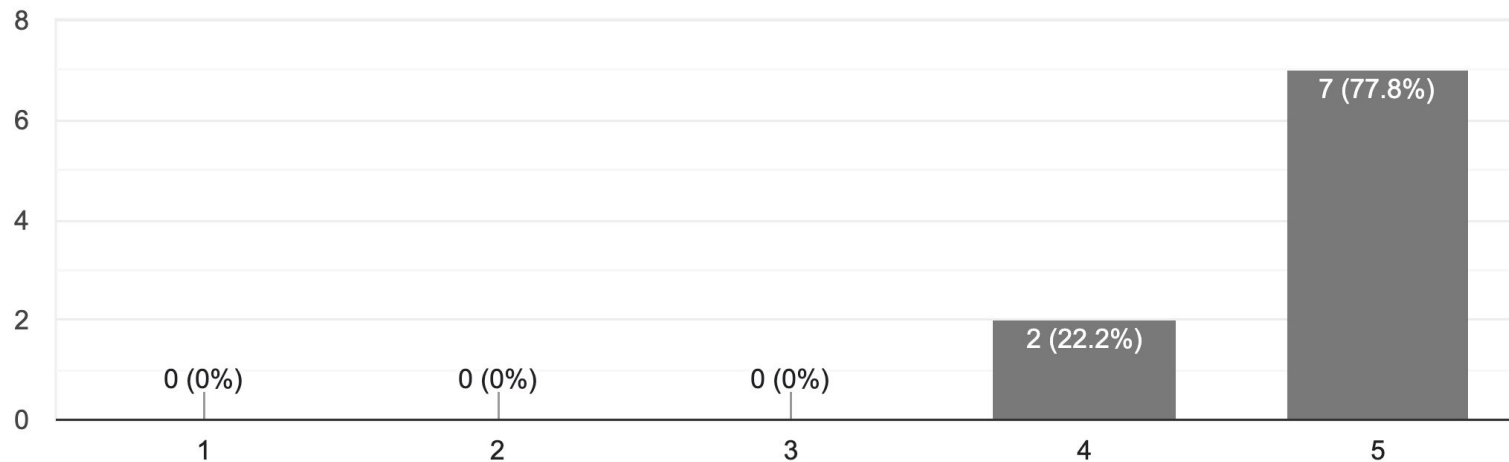
Please rate your level of agreement with the following statement: Engaging college students in citizen science projects will typically benefit the CS project goals

11 responses



Please rate your level of agreement with the following statement: Engaging college students in citizen science projects is a worthwhile goal for educators

9 responses

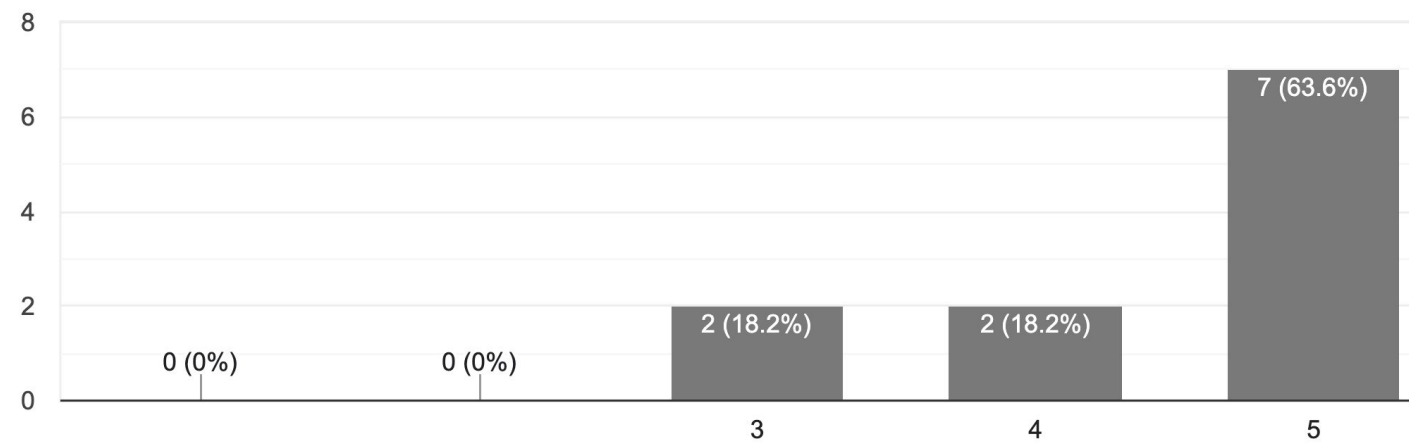


Educators

Project leads

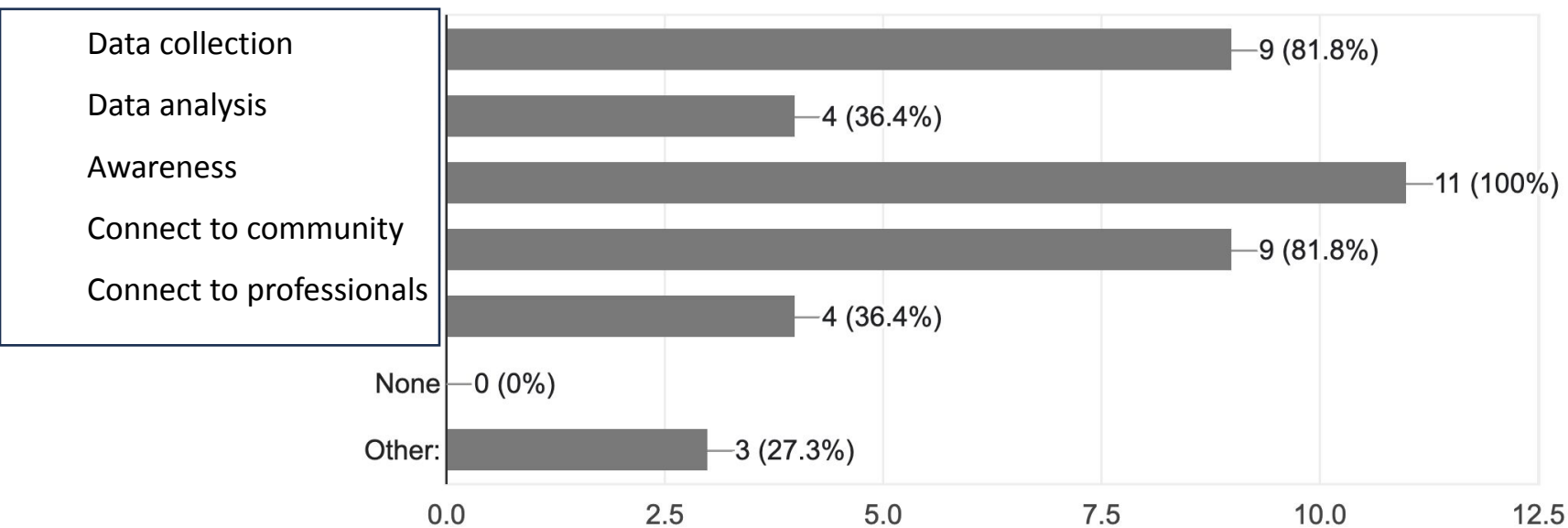
Please rate your level of agreement with the following statement: I am interested in facilitating the use of my project by instructors in higher education

11 responses



What do you view as the benefits to having students participate in your project?

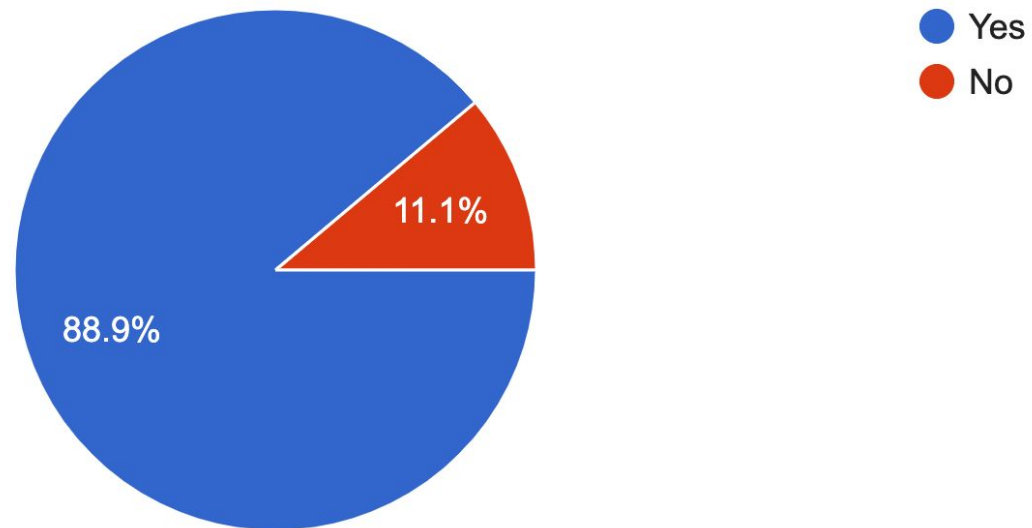
11 responses



Educators

Have you used a citizen science project in the classroom in the last 12 months?

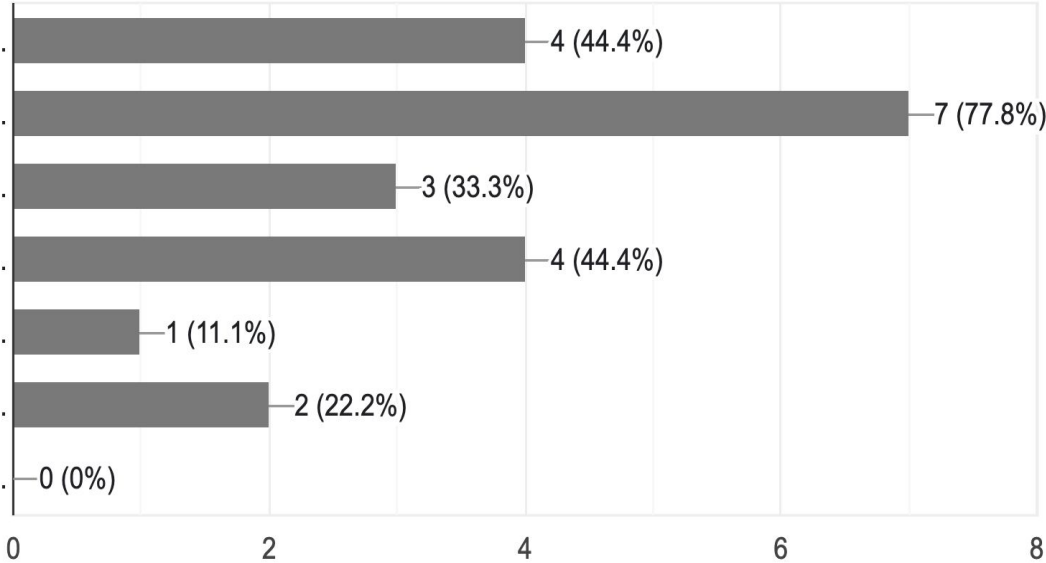
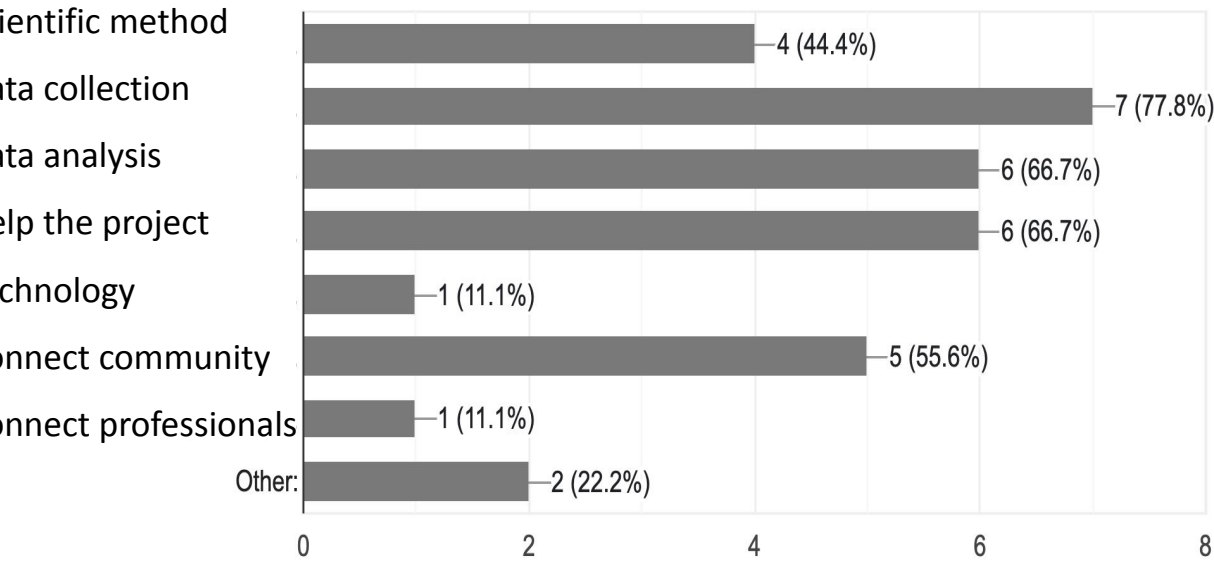
9 responses



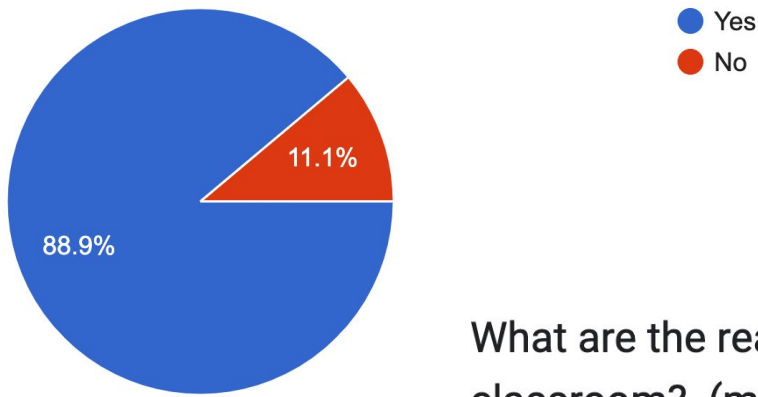
Educators

Focusing on your most recent experience, what was the purpose of using citizen science in the classroom? (mark all that apply)

9 responses



Have you ever considered a citizen science project for your class but then decided not to use it?
9 responses



What are the reasons you decided not to use that (or those) citizen science project(s) in the classroom? (mark all that apply)
9 responses

