CAISE 2021
NSF AISL AWARDEE MEETING REPORT

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February 2022

INVERNESS
RESEARCH

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INTRODUCTION AND BACKGROUND

Inverness Research and Oregon State University, with support and input from CAISE, conducted an evaluation of the 2021 NSF AISL Awardee Meeting which was held virtually October 19-21, 2021. The evaluation effort included observing the meeting, participating in debriefing the meeting with CAISE co-PIs, the CAISE equity audit committee, and NSF Program Officers; developing and administering a post-event survey;[1] and analyzing data collected through both the survey[2] and Pathable, the virtual platform.

This report summarizes the key evaluation findings. It includes the following sections:

- Executive Summary of High-Level Key Findings and Lessons Learned
- Summary of Findings
- Appendices (chat analysis, open-ended comments summary, post-event survey data graphs)

The meeting specifically focused on inviting and including community partners, and on creating equitable partnerships as the major theme. Thus, our analysis and reporting is primarily focused on the difference in experience and ratings between community partner and AISL PIs/Co-PIs/staff, between those who see themselves as part of the AISL community and those who do not, and those who see themselves as researchers and those who see themselves as practitioners.

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[1] We received 168 surveys; most questions were answered by 140-150 of respondents. The survey was sent out to 438 registered participants, which gives us a response rate of 38%. With removing registered participants who told us they had registered but were unable to attend, or whose surveys bounced back, and those with no start/stop time in Pathable data, the number is reduced to 369, which puts our response rate at 45%.

[2] Post-event survey was disaggregated by the following subgroups: AISL PIs, CoPIs, project staff/community partners; respondents whose primary professional focus was ISE/SciComm/those that were not; researchers/practitioners; years in the field (less than five years, five to ten years, greater than ten years); gender; race/ethnicity (the majority of participants were white, and the remaining participants were grouped into a non-white category for sub-analysis purposes). Co-analysis of post-survey data and behavioral data from Pathable was not possible since the two data sources could not be linked.

HIGH-LEVEL KEY FINDINGS AND LESSONS LEARNED

The 2021 NSF AISL Awardee Meeting had the following key features that differentiate it from previous meetings. Our summary of key findings will focus on these three main features:

1) The inclusion of community partners (those organizations that are key partners in or primary target audiences of AISL project work) versus an awardee meeting that involves primarily just the PIs, co-PIs, and staff from AISL projects
2) A virtual meeting versus an in-person meeting
3) A focus on equity, diversity, inclusion and access that was central throughout the entire meeting

In addition, we'll briefly summarize the overall summary ratings on quality, value, strengths and areas for improvement.

Including Community Partners

The 2021 AISL Awardee Meeting successfully incorporated the involvement of community partners. The participation of community partners in the meeting was viewed as important and valuable by respondents. Meeting attendees responding to the survey noted that the community partners added an important perspective to the discussions at the Awardee meeting, and reinforced the equity themes, as more perspectives and practices from people historically excluded from field-leading conversations were heard. The percentage of community partners rating their satisfaction with specific elements of the meeting was higher than the percentage of AISL PIs, which would indicate that community partners were somewhat more satisfied with the meeting than AISL PIs were.

The inclusion of community partners also presented design challenges for CAISE in how to create a satisfying professional meeting for two connected but different audiences. There was consensus among respondents that the participation of the community partners could have been more optimal with some additional supports. These supports included the following:

- more information beforehand on the presentations so PIs and community partners could work together to decide what was most important and beneficial for the PIs and community partners to attend,
- more community partner representation in the plenary sessions,
- at least one session that was just for community partners to be able to talk together (this was considered by CAISE as they were planning the meeting and the decision was made not to have separate sessions for equity reasons), and
- arranging the smaller breakout groups such that individual community partners would not find themselves the sole person representing community groups and thereby carrying the weight of representing them in those discussions.

Focusing on Equity

The 2021 NSF AISL Awardee Meeting's focus on equity was viewed as useful, thought provoking and valuable, and was highly appreciated by participants. The sessions most explicitly focused on equity were some of the most highly rated. Survey respondents appreciated that the equity theme carried throughout the entire meeting, and that the meeting gave them the opportunity to gain new insights into current equity and diversity work in ISE and SciComm. Specifically, participants reported important outcomes of the meeting related to the following points:

- having their ideas around equity and social justice practices reinforced,
- gaining a better understanding of the importance the NSF AISL program is placing on equity and social justice work,
- being challenged in their thinking about addressing equity issues in research and practice work, and
- being committed to applying equity ideas from the meeting in their own work.

Meeting Virtually

The 2021 NSF AISL Awardee Meeting was the first-ever virtual AISL PI meeting. Importantly, the majority of participants responding to the post-event survey had attended a virtual meeting before. For the most part, the virtual meeting was successful – survey respondents were generally satisfied with the meeting, and said it met their expectations. Open-ended comments from survey respondents indicated that this was "better than most virtual meetings" and even "the most productive and interactive online workshop I've attended." The virtual platform was fairly easy for participants to navigate, and the poster sessions were more highly rated for this meeting than for past in-person meetings.

However, technical issues were a challenge. A few sessions started late, the breakout sessions ended abruptly, there were persistent sound issues where presenters' sound was cutting out, and some facilitators were unable to get into breakout rooms. In addition, some of the networking, connecting and finding of future collaborators, which are outcomes that have generally been highly rated in past in-person meetings, were more challenging and less successful in the virtual format.

We found the virtual meeting presented interesting trade-offs. The virtual meeting allowed for the participation of community partners and more participants beyond the PIs and co-PIs who are normally the sole attendees, where the costs of travel, housing and additional participants would be prohibitive. In addition, community partners working in organizations that have few staff, who likely could not find staff people to cover all their time to attend an in-person meeting, were able to pop in and take advantage of as much of the meeting as their schedules allowed for.

We also think the plenary sessions were inviting in the virtual format, in that presenters seemed to be talking with each other, as theirs were the only faces on the screen, versus

broadcasting to a ballroom full of people. We also wondered if the chat function facilitated questions being raised during the plenary sessions; for example, we wondered if people felt more comfortable asking questions; they did not have to stand in line, worry about the session time expiring before they asked their questions, and perhaps felt less vulnerable when asking more challenging questions.

On the other hand, the virtual meeting was less successful in fostering connections and networking, which have been important features and outcomes of past in-person meetings, even with affordances built into the platform to facilitate networking. Having many opportunities to engage in small group conversations with people you choose to was less successful in the virtual format, and the technical challenges (many of which were a result of problems on the participants' end vs. the meeting platform's) were problematic.

Overall Quality, Value, Strengths and Areas for Improvement

Sixty-three percent of all respondents rated the meeting as high or very high <u>quality</u>; 67% of all respondents rated the meeting as high or very high <u>value</u>. While it is difficult to compare the quality and value ratings for this meeting with past meetings, because this was a virtual meeting, we note that these ratings were slightly lower than the two most recent meetings, but are similar and slightly higher than those for the 2010 ISE Summit which also included more participants beyond AISL PIs and co-PIs. When we examine the disaggregated findings, we noted the following:

- More community partners rated the overall value of the meeting high or very high than AISL PIs.
- More ISE/SciComm professionals rated the overall value of the meeting high or very high than non-ISE/SciComm professionals.
- More non-white respondents rated the overall value of the meeting high or very high than white professionals.
- Open-ended comments indicated technical challenges as a primary factor that impacted the perception of the meeting's quality.

The *Plenary Sessions* on day one and day two were the most well-attended and were among the most highly rated sessions of the meeting. Ratings for the *Critical Conversations* sessions slightly improved from day one to day two, but overall were rated lower than other sessions. There was considerable spread in ratings among the *Concurrent Sessions*; as has been the case over the past years' PI meetings, the specific composition of presenters, attendees, and facilitators, and the degree to which there is ample time for small-group discussions, impacted the perceived quality and value of individual sessions.

The most valuable aspect of the meeting across all post-event survey respondents was learning about the diversity of work funded by AISL. For AISL PIs, the most valuable aspects were the focus on equity and inclusion, and the inclusion of community partners in the meeting. For

community partners, the most valuable aspect of the meeting was the opportunity to participate in small group sessions.

In terms of suggested areas for improvement, the following were the primary areas mentioned:

- minimizing the technical issues,
- limiting or better defining/contextualizing academic jargon, and
- encouraging even more small group conversation and engagement.

In addition, some AISL PIs mentioned in the open-ended comments that the poster session was "challenging", the Concurrent Sessions needed more time, and more facilitation was needed in the smaller breakout sessions.

For community partners, there were two suggestions related to power dynamics:

- Community partners felt there were challenging power dynamics when there was only one community partner in small breakout groups.
- They felt the broader power dynamics that sometimes make it difficult for community partners to even apply for AISL awards themselves (rather than partnering with another agency that is taking the lead) went unaddressed.

They also wanted more context and background information on the meeting prior to the meeting.

SUMMARY OF FINDINGS

This section of the report presents the detailed summary of findings and supporting evidence. For a comprehensive overview of the data collected, please see the appendices which contain a full set of graphs for the post-event survey questions, a summary of the open-ended comment questions from the survey, and an analysis of the chats from each of the three Plenary Sessions.

This Summary of Findings has the following major sections:

- Characterizing Respondents
- Meeting Participation
- Overall Quality and Value
- Satisfaction and Successful Meeting Elements
- The Virtual Platform
- Impacts and Benefits
- Strengths of the Meeting
- Areas for Improvement
- Findings on Types of Sessions

Characterizing Respondents

We received 168 surveys; most questions were answered by 140-150 of respondents. The survey was sent out to 438 registered participants, which gives us a response rate of 38%. With removing registered participants who told us they had registered but were unable to attend, or whose surveys bounced back, and those with no start/stop time in Pathable data, the number of likely active participants is reduced to 369, which puts our response rate at 45%. (Response rates for past AISL PI Meeting surveys have ranged from 50-54%.) Since demographic data were not collected of registrants, we cannot estimate the representativeness of respondents to participants. Results should therefore be interpreted with caution as possibly biased towards positive and strongly negative perspectives.

The majority of respondents (84%) were AISL PIs/co-PIs or project staff; 19% were representatives or staff members of community organizations partnering on an AISL project.[3] The remaining were invited presenters or "other." (n=143)

The majority of respondents (75%) see their primary professional role to be in informal science education or SciComm. (n=142)

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[3] This was a "check all that apply" question; there were five respondents who identified as both a PI and a community partner. Based on their background and history of involvement in ISE projects, for the purposes of this analysis, based on our knowledge of the individuals and their organizations, we placed four of the five in the PI category, and one in the community partner category.

There were slightly more researchers in the pool of respondents than practitioners. Forty-five percent identified on the researcher side of the continuum (researcher or both, but more as a researcher than a practitioner); 41% identified on the practitioner side of the continuum (as a practitioner, or both, but more practitioner than researcher). Thirteen percent identified as both equally (n=141). The balance of researchers to practitioners responding to the survey was slightly more even than the respondent pool to the 2019 PI Meeting survey which was higher in researchers.

The majority of respondents have worked in their professional field for ten years or more (72%); 25% have worked in the field from 5-10 years, while the remaining three percent have worked in the field for four years or less.[4] Interestingly, 63% of respondents indicated that they had never attended an NSF AISL PI meeting before (n=138). For comparison, in 2019, there was a higher percentage of AISL PI Meeting survey respondents who had worked in the field for less than five years (12%) and a slightly lower percentage of survey respondents who had worked in the field for ten years or more (65%), and a similar percentage of respondents who had not attended a PI meeting before (61%).

The majority of respondents were female (66%). Twenty-six percent identified as male, while 1% identified as non-binary, 5% preferred not to answer, 1% preferred to self-describe (n=132).

The majority of respondents identified as white (74%), while 26% identified as "non-white" (all other ethnicities/races other than white only, including multi-racial (n=132).

Meeting Participation

The number of attendees were counted as those that had check in and check out times in the virtual platform data. Partial attendance was counted as 10 minutes to 29 minutes; 30 minutes or more was counted as full attendance. Most attendees spent 30 minutes or more in each session: once they joined, they stayed. For example, the majority of attendees (88% to 100%) participated in sessions for 10 minutes or more; 65% or more participated in sessions for 30 minutes or more. The Plenary Sessions on Day 1 and Day 2 were the most well-attended of all the sessions.

Overall Quality and Value

The overall quality of the 2021 NSF AISL Awardee Meeting was rated as high or very high (4 or 5 on a 5-point scale, with 1 being *very low*, 3 being *mixed*, and 5 being *very high*) by 63% of all respondents (n=147). The overall value of the meeting was rated as high or very high by 67% of all respondents (n=145). Thirty percent of respondents rated the meeting quality as mixed, while 27% rated the meeting value as mixed. Six percent rated the quality as low, with 5% rating the value as low, and 1% rated the overall quality and value as very low.

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[4] PIs were encouraged to bring early career professionals to the meeting if no community partners were available.

Respondents were also asked to rate on a scale of 0-10 the likelihood of them attending a meeting like this in the future and recommending a future meeting of this kind to a colleague. For the question on the likelihood of them attending another meeting like this, the net promoter score for this item was 26. For the question on the likelihood they would recommend the meeting to a colleague, the net promoter score was 18. While both scores are mildly positive (any scores above zero are considered promising, and over 50 is excellent), they also indicate that more than a quarter of attendees did not perceive the meeting as positive.

Figure 13: Likelihood of Attending Another Meeting

Detractors (% 0-6)	Passives (% 7-8)	Promoters (% 9-10)
26%	22%	52%

Figure 14: Likelihood of Recommending the Meeting to a Colleague

Detractors (% 0-6)	Passives (% 7-8)	Promoters (% 9-10)
27%	27%	45%

The questions on overall quality and value have been asked about in all previous PI meetings from 2010 on. It is difficult to compare the ratings for this meeting with other meetings because of the meeting being virtual; however, the 2010 ISE Summit involved a broader group of participants beyond AISL PIs, and so it might be the most comparable meeting, and the ratings for the 2020 meeting are slightly higher than they were for the 2010 Summit. Responses to open-ended comments point to the technical difficulties with the virtual format being the likely reason for the lower ratings for this one compared to the last few years' meetings. Please see the appendix for a breakout of the full range of ratings for quality and value for the 2010-2020 meetings.

Figure 1: Overall Quality and Value Over Time

OVERALL MEETING QUALITY and VALUE over time: % of respondents who gave high ratings
(%4s & 5s, where 1= very low, 3= mixed, 5= very high)
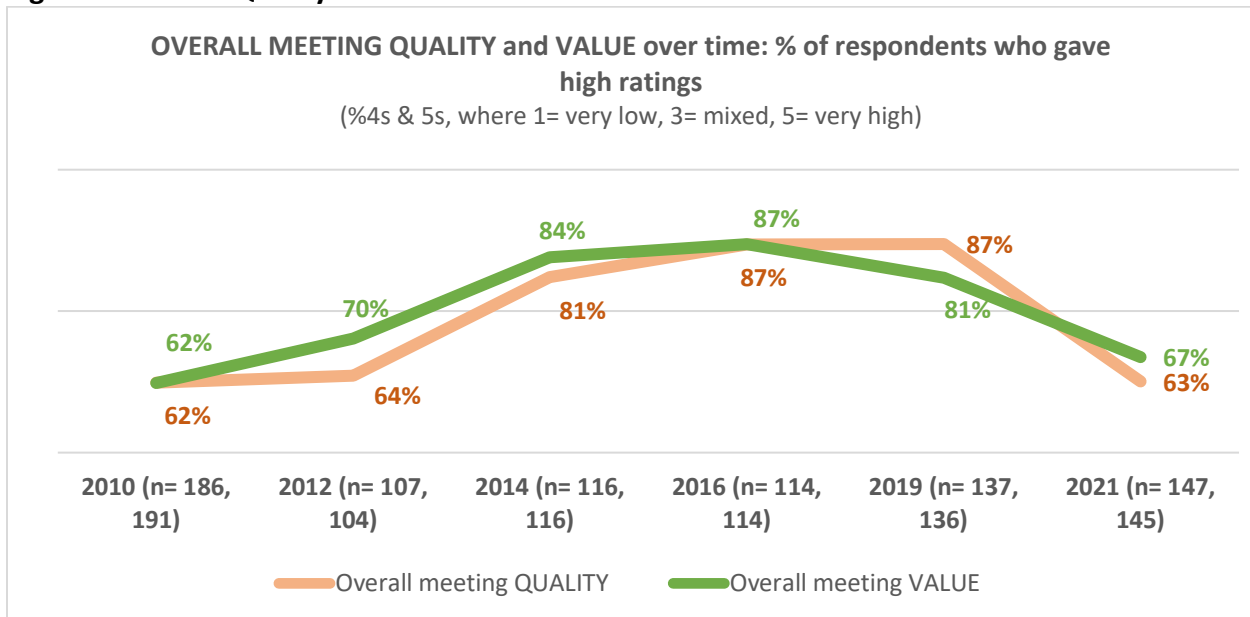
Consistent with data reported in other areas of this report, 77% of community partners (n=22) rated the value of the meeting as high or very high, compared with 65% of AISL PIs, co-PIs, and project staff. In addition, 72% of those who identified themselves as engaged in work that focused on ISE and SciComm (n=102) rated the value of the meeting as high or very high, compared with 56% of those who identified themselves as not engaged in work that focuses on ISE and SciComm. And lastly, 81% of non-white respondents (n=32) rated the value of the meeting as high or very high, compared with 67% of white respondents (n=93).

Satisfaction and Successful Meeting Elements

Attendees were asked to rate their overall satisfaction with the meeting, and the degree to which the meeting met their expectations. For the most part, respondents were satisfied with the meeting overall, and felt the meeting met their expectations. For example, 58% of all respondents (n=146) rated their overall satisfaction as high or very high (4 or 5 on a five-point scale, with 1 being *very low*, 3 being *mixed*, and 5 being *very high*).

Attendees were also asked to rate their satisfaction with specific aspects of the AISL Awardee Meeting (on a scale of 1 to 5, with 1 being *not satisfied at all*, 3 being *somewhat satisfied*, and 5 being *very satisfied*). The majority of respondents were satisfied with the content of the meeting – from the focus on equity, to the clarity and relevance of the content, and to content that challenged their thinking or way of doing things. Specifically, the "focus on equity content and topics" was the most highly rated item on the list, with 88% of respondents (n=140) rating themselves as satisfied or very satisfied with this aspect of the meeting (a 4 or 5 on the scale). This is not surprising since this was the focus topic of the meeting and participants interested in this topic likely self-selected to attend.

Specific elements of the meeting that were less highly rated, particularly when compared with past, in-person meetings, included networking, making connections, and finding collaborators for future work. "Opportunities for networking" was one of the lowest rated items on the list, with 49% of respondents (n=131) rating themselves as satisfied or highly satisfied with this item. Figure 2 and particularly Figure 3 show that community partners rated most items more highly than AISL PIs did.

Figure 2: Overall Satisfaction with Aspects of the Meeting: Community Partner and AISL PI Ratings

OVERALL SATISFACTION - % of AISL Staff compared to Community Partners
who gave high ratings on the following meeting aspects:
(%4s & 5s, where 1= not at all satisfied, 3= somewhat satisfied, 5= extremely satisfied)

Aspect	AISL PI, co-PI, project staff, evaluator	Community Partner	n (AISL)	n (Community)
- Focus on equity content/topics	88%	86%	(n= 112)	(n= 21)
- Clarity of content/inclusivity of language	81%	81%	(n= 110)	(n= 21)
- Relevance of content to my work	75%	86%	(n= 112)	(n= 21)
- The variety of session formats (e.g., plenaries, critical…	75%	90%	(n= 112)	(n= 21)
- Ability to challenge my thinking/perspective	72%	91%	(n= 113)	(n= 22)
- Opportunities for small group conversations	67%	67%	(n= 105)	(n= 18)
- Content that challenged my thinking/way of doing things	64%	76%	(n= 112)	(n= 21)

■ AISL PI, co-PI, project staff, evaluator   ■ Community Partner

Figure 3: Overall Satisfaction with Aspects of the Meeting: Community Partner and AISL PI Ratings

OVERALL SATISFACTION - % of AISL Staff compared to Community Partners
who gave high ratings on the following meeting aspects:
(%4s & 5s, where 1= not at all satisfied, 3= somewhat satisfied, 5= extremely satisfied)

Aspect	AISL PI, co-PI, project staff, evaluator	Community Partner	n (AISL)	n (Community)
- The length of the meeting	64%	79%	(n= 111)	(n= 19)
- Facilitation of activities	62%	75%	(n= 101)	(n= 20)
- Pre-meeting supports	63%	63%	(n= 84)	(n= 16)
- Pre-recorded sessions	59%	71%	(n= 32)	(n= 7)
- The structure of the meeting	58%	64%	(n= 112)	(n= 22)
- Opportunities for rich, meaningful dialogue	54%	74%	(n= 110)	(n= 19)
- Opportunities for networking	46%	63%	(n= 106)	(n= 16)

■ AISL PI, co-PI, project staff, evaluator   ■ Community Partner

Attendees were also asked to rate how successful they felt the AISL Awardee Meeting was in achieving a range of outcomes (on a scale of 1 to 5, with 1 being *not at all successful*, 3 being *somewhat successful*, and 5 being *extremely successful*). "Identifying specific challenges and opportunities regarding equity in informal STEM education" was the most highly rated, with 72% of respondents (n=145) rating this item a 4 or a 5) and this item was rated highly across all

subgroups. "Finding potential collaborators for future work" was the least highly rated, with 56% of respondents (n=143) rating this item as a 4 or 5. This item was rated the lowest by respondents across all the subgroups. Figure 4 below illustrates the data.

Figure 4: Successfulness of Meeting Components

SUCCESSFUL MEETING COMPONENTS: % of respondents who said the following components were highly successful:
(%4s & 5s, where 1= not at all successful, 3= somewhat successful, 5= extremely successful)

Component	%	n
- Identifying specific challenges and opportunities regarding equity in STEM education	72%	(n= 145)
- Giving me opportunities to learn about the work of others	70%	(n= 145)
- Creating a welcoming and inclusive meeting	69%	(n= 147)
- Creating opportunities for a wide range of voices to be heard	65%	(n= 145)
- Sparking new ideas for how I can continue to improve my work	64%	(n= 143)
- Challenging me to reconsider or expand my perspectives about my work, particularly with regard to equity	62%	(n= 145)
- Creating a meeting that encouraged the engagement of all participants	61%	(n= 145)
- Helping me learn about creating strong, equitable partnerships	59%	(n= 143)
- Helping me feel empowered to challenge current practices and work towards change	58%	(n= 144)
- Providing space for me to comfortably and actively participate in discussions	57%	(n= 141)
- Giving me opportunities to share the work of the AISL project I am involved with	56%	(n= 143)
- Creating connections among participants	38%	(n= 144)
- Finding potential collaborators for future work	30%	(n= 142)

For a few of the sub-groups, "Giving me opportunities to learn about the work of others" was their most highly-rated item (for those in the sub-group where ISE and SciComm were not their primary professional focus, those who placed themselves in the "both equally" part of the practitioner-researcher spectrum, those who have spent 10 years or more in their primary professional field, those who had not attended a PI meeting before, and White respondents). "Creating a welcoming and inclusive meeting" was the top-rated item for those respondents who have been in their primary professional field for less than five years. Those newest to the field likely have fewer connections, and a welcoming and inclusive meeting might matter more.
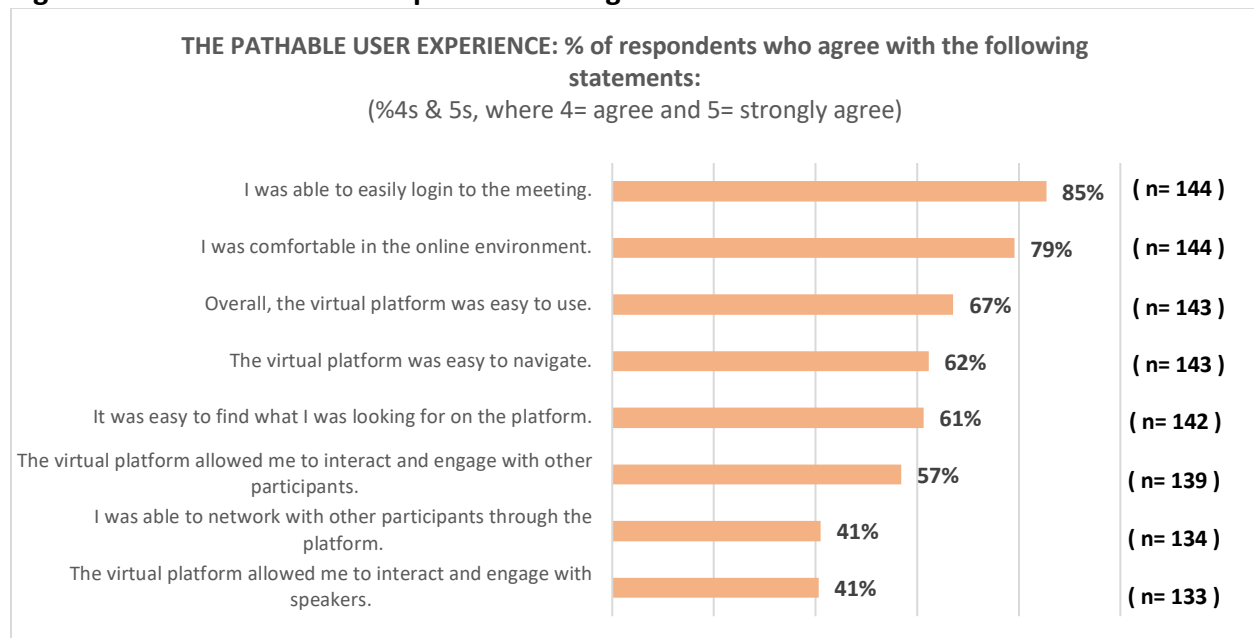
Some of the items that in-person AISL Awardee meetings have been more rated highly on in the past, including finding collaborators for future work and providing networking opportunities are almost certainly due to the meeting being virtual this year.

The Virtual Platform

As this was the first virtual AISL Awardee Meeting, attendees were asked to rate the extent to which they agreed or disagreed (on a 5-point scale, with 1 being *strongly disagree*, 3 being *neither agree nor disagree*, and 5 being *strongly agree*) with a series of statements about the affordances and ease of use of Pathable, the virtual platform. We also asked if attendees had participated in virtual meetings before which 92% had (n=132).

The majority of respondents were able to log in to the meeting and were comfortable in the online environment. Fewer than half of respondents, however, felt the online platform allowed them to network with, interact with, or engage with other participants to the extent they would have liked.

Figure 5: The Pathable User Experience Ratings

THE PATHABLE USER EXPERIENCE: % of respondents who agree with the following statements:
(%4s & 5s, where 4= agree and 5= strongly agree)

Statement	%	n
I was able to easily login to the meeting.	85%	(n= 144)
I was comfortable in the online environment.	79%	(n= 144)
Overall, the virtual platform was easy to use.	67%	(n= 143)
The virtual platform was easy to navigate.	62%	(n= 143)
It was easy to find what I was looking for on the platform.	61%	(n= 142)
The virtual platform allowed me to interact and engage with other participants.	57%	(n= 139)
I was able to network with other participants through the platform.	41%	(n= 134)
The virtual platform allowed me to interact and engage with speakers.	41%	(n= 133)

Open-ended comments highlight the degree to which the technical issues with the virtual format influenced people's ratings on the overall quality of the meeting. For example:

> *The virtual format was terrible. It is not possible to network (the value of a real meeting) and it was not even possible to carve out time to focus on this content. I will not attend virtual meetings anymore.*

> *Eighteen months into the pandemic this stuff should not still be going wrong: Speaker audio not working, hanging around for someone to start the Zoom breakout rooms, delays. Honestly, this was so frustrating I almost just left and didn't come back. And, this is not an impossible problem.*

Even beyond the first day, the problems with the conference platform technology was rather distracting and didn't allow as much information exchange or interaction as I had hoped for.
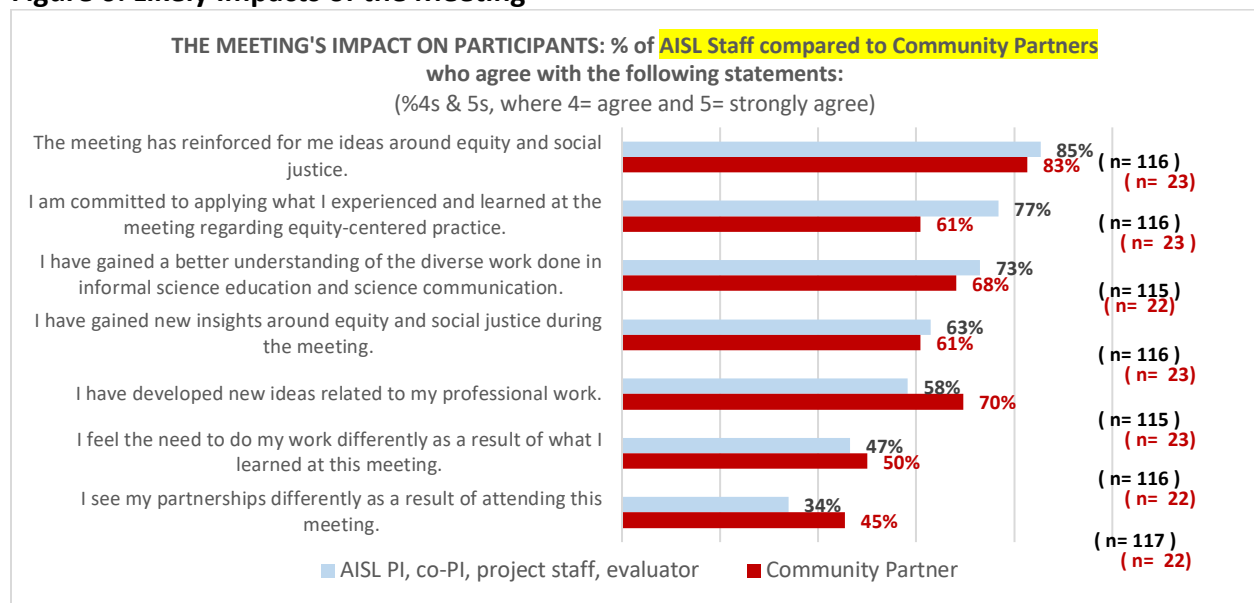
Impacts and Benefits

Attendees were asked to rate the extent to which they agreed or disagreed with a series of statements about potential impacts of participating in the meeting (on a 5-point scale, with 1 being *strongly disagree*, 3 being *neither agree nor disagree*, and 5 being *strongly agree*). Constructs included:

- the degree to which the meeting reinforced their existing ideas around equity,
- whether they gained a better understanding of equity work in informal STEM education,
- their commitment to applying what they learned at the meeting regarding equity-centered practice, and
- the impact the meeting might have on their partnerships.

Eight-five percent of all respondents (n=142) agreed or strongly agreed with the statement, "The meeting has reinforced ideas for me around equity and social justice." Other items with a high percentage of respondents agreeing or strongly agreeing included, "I am committed to applying what I experienced and learned at the meeting regarding equity-centered practice," (74% agreed or strongly agreed) and "I have gained a better understanding of the diverse work done in informal science education and science communication" (72% agreed or strongly agreed). In comparison, 35% agreed or strongly agreed with the statement, "I see my partnerships differently as a result of attending this meeting." These higher and lower-rated items were consistent across subgroups.

Figure 6: Likely Impacts of the Meeting

THE MEETING'S IMPACT ON PARTICIPANTS: % of AISL Staff compared to Community Partners who agree with the following statements:
(%4s & 5s, where 4= agree and 5= strongly agree)

Statement	AISL PI, co-PI, project staff, evaluator	Community Partner	n (AISL)	n (Partner)
The meeting has reinforced for me ideas around equity and social justice.	85%	83%	(n= 116)	(n= 23)
I am committed to applying what I experienced and learned at the meeting regarding equity-centered practice.	77%	61%	(n= 116)	(n= 23)
I have gained a better understanding of the diverse work done in informal science education and science communication.	73%	68%	(n= 115)	(n= 22)
I have gained new insights around equity and social justice during the meeting.	63%	61%	(n= 116)	(n= 23)
I have developed new ideas related to my professional work.	58%	70%	(n= 115)	(n= 23)
I feel the need to do my work differently as a result of what I learned at this meeting.	47%	50%	(n= 116)	(n= 22)
I see my partnerships differently as a result of attending this meeting.	34%	45%	(n= 117)	(n= 22)

AISL PI, co-PI, project staff, evaluator   Community Partner

Respondents were asked to reply to an open-ended question about what the most valuable aspects of the meeting were. For AISL PIs, co-PIs, project staff, and evaluators responses to this question included:

- Hearing about and learning from the diversity of work funded by AISL
- The inclusion of community partners
- The focus on equity and inclusion and maintaining that thread
- Hearing from all sides of partnerships
- The keynote and plenary speakers and the content of the presentations
- Poster sessions and informal conversations
- Networking and hearing about NSF funding opportunities

Sample comments from AISL PIs included:

For me it was knowing that I'm not alone with all these ideals around equity and justice in the NSF world. Reviewers often question the things this group was promoting. Knowing they're just behind the times, and not necessarily representing the views of NSF is frustrating but heartening as well.

Hearing perspectives, successes and challenges people were facing across such a diverse array of projects. Final session with discussion around future directions of AISL.

Fantastic plenary speakers! Loved the poster room software.

The plenaries on the first two days – excellent speakers, important and relevant topics, and thought-provoking presentations. Very well planned!

The most valuable aspect of attending this meeting for me was hearing what others in the ISL community are thinking about in terms of forming and nurturing partnerships, equity, and course correcting.

I appreciated the inclusion of community partners. It asked me to think about my own presentation differently as well as my comments in sessions, which seems very appropriate to the work we do. It surprised me to find myself working so differently with community partners in the room.

Understanding NSF AISL commitment to equity and inclusion and its ramifications for our work and how we think.

Hearing the perspectives and practices of folks with identities that have been historically excluded from field-leading conversations like this.

The small-group discussions were probably the most valuable, especially those that were focused with specific prompts/questions/or topics.

<u>For community organization representatives</u> the responses included:

- Learning about the different projects in ISE
- Small group sessions and opportunities for networking
- The Rethinking Rigor session (mentioned by two out of 12 respondents)

Sample comments included:

Seeing the work that is being done.

The Rethinking Rigor session was one of the best conference discussions I have ever attended. So many important ideas and varied voices.

To learn about other projects being implemented across America. To learn about the challenges, what worked and what did not work.

The critical conversations were very thought provoking.

Comments from people whose primary role is not science communication or ISE did not differ appreciably from comments from those whose primary role is in ISE or science communication. People who identify on the practitioner end of a continuum commented on the value of seeing the diversity of projects being supported by AISL, the equity focus framing the work in the field, hearing perspective from speakers they don't often encounter, and the opportunity to hear from community partners. People who identify on the researcher end of the continuum appreciated the inclusion of community partners, learning about the range of projects, hearing from NSF program officers, and the panel speakers and discussions, particularly the equity leaders in the field.

Strengths of the Meeting

Respondents were asked to identify what they saw as the strengths of the AISL Awardee Meeting. The strengths mentioned echoed responses to what people valued about the meeting: great speakers and participants, commitment to DEI issues, clear effort made to make the virtual format work, meeting new people and hearing about the AISL projects, the inclusion of community partners, and the diversity of formats (especially the small group sessions). Only 8 of 22 who identified as a community-based participant commented on this question, and their answers did not differ from the AISL PIs.

Sample comments included:

> *This was the most productive and interactive online workshop I've attended. Really well done in terms of having different formats and lots of opportunities to build connection and get to know other people and their work!*

> *The number of break-out sessions and opportunities to work in small groups. Great job in pulling this together virtually. Despite my suggestions below, the general flow and structure of the virtual program were well planned and well implemented with a good balance of listening and participating.*

> *Getting a chance to network with others and see some of the common challenges we are facing. Honestly, I somewhat dreaded the meeting this year because it was virtual, but the format was well designed, I enjoyed it, and I felt that I walked away with information and a more positive attitude.*

> *I was particularly pleased to see Indigenous voices amplified and co-production of knowledge with communities placed in the center of the meeting. The keynotes and the concurrent session were generally great.*

> *Creating an engaging and interactive conference that is completely remote is challenging. This conference is by far the best that I have participated in during the pandemic.*

Areas for Improvement

The overwhelming problems that people had with the meeting were technology-related, for all sessions. Following that, participants commented on the difficulty of having more informal conversations, the need for more/better small-group facilitation and timing, and challenges navigating the poster session (although that session was relatively highly-rated and some people really enjoyed it).

Researchers, practitioners, AISL PIs and community members commented that some of the language used in the plenary sessions (and some others) contained academic jargon that was off-putting and wondered about the extent to which community members were authentically included.

Respondents offered the following areas for improvement:

- Too many technical issues – people getting cut off, late starts, sound issues, etc. (discussed in the previous section of the report on the Virtual Platform)
- More time was needed for the concurrent sessions

- Facilitation in small-group breakouts could be provided, lack of instruction/prompts, and no report-outs
- Better descriptions of the sessions and more background/context on the meeting
- Poster sessions were challenging for some participants; see the previous section on the Poster Sessions.
- Networking, conversation and engagement were difficult, even with a good technology; hard to identify other PIs working on similar projects, and there was a lack of time during the meeting to continue discussions
- Inclusivity: too much academic jargon, more could have been done to be inclusive for community partners
- Too focused on the conceptual, and not enough on the practical/application for projects
- Equity content while important and valued could have been balanced with other themes

We include here a sample of comments organized by theme.

More Time for Small-Group Conversations/Facilitation

Overall, it feels like too much time and emphasis was placed on people talking, even though we know that lecture style presentations really aren't that useful. I don't know what the time breakdown is, but it seemed schedule wise to be about 70/30 of lecture/presentation to small group + posters. In terms of usefulness, we might want to see the opposite balance (70% small group and poster mixing).

It was difficult to find people to chat. Also, the break-out sessions often cut people off mid-sentence and there was no easy way to contact everyone in that group to finish the discussion.

Some of the small-group discussions were not that satisfying or useful. Better prompts or closer ties between the facilitation of small-group discussions and a presentation or poster would perhaps have been better.

The Inclusion of Community Partners

I was a community member and had little context or background information provided to me about what this experience would entail. While this is not necessarily a negative point, I did not feel equipped to participate in the ways I would like.

As a community partner it was really hard to follow along with everything. There were times that I had no idea what people were talking about. I think if you are wanting more community partners to join this, I think you need to rethink who you have presenting and also about the types of audiences you may have. This was my first time attending this and it left me feeling very intimidated and uncomfortable in some of the breakout rooms.

I wasn't able to attend very much of the meeting because of other obligations. That said, the sessions I did participate in didn't live up to the goal of including community partners as much as I'd hoped. I really appreciate that you intended to design it this way, but I think it would be helpful to have more of those community partner perspectives represented in the plenaries.

Although I appreciate the invitation to expand the meeting to many partner organizations, I'm not sure it was productive to have all of us together in all aspects of the meeting. There were times when I felt like there was more harm than good in these interactions when it became clear that we are operating in different contexts, with different norms, resources, privileges, or constraints.

Expectations for PIs and community partners, and how they should plan to engage in the meeting activities together or separately, were unclear. More direction on this front in advance would have been very helpful, if the expectation is that this representation will continue in the future.

We'd do better by having a meeting where community partners run a lot more of the show (i.e., sessions like a "problem fair" where people show their current priority issues and trends in what's worked / failed in their community). This would need to be not just existing community partners but bringing in strong community partners who *don't* have much research going on.

For several months as this meeting was being planned, it wasn't clear what the role of our community partner was meant to be. One thing I noticed was that there was an assumption that they were co-investigators on the grant. This is not often the case. There needs to be a more gentle introduction for our community partners. Coming into a meeting with professors and researchers can be intimidating. Also, it wasn't clear what the expectations were for her nor what sessions she could target and I was somewhat embarrassed to ask her to just come and see what happens. My community partner has a busy, full-time job. She would need to know the schedule a few months in advance, not just two weeks in advance. Finally, could there be special meetings specifically for community partners? I wasn't aware of any.

Equity Content

While I appreciated the strong theme, I do wish there had been more variety of topics across the 3 days. It began feeling repetitive.

I would have liked to see a diversity of conversations around different themes, not just on DEI issues.

For one participant, the inclusion of community partners, the session on Rethinking Rigor, and the conversations about co-design and co-creation of both education and research efforts hit a nerve, but also highlights the need to be careful in how framing issues in certain ways can be understood as exclusionary rather than expanding the conversation:

> *This whole meeting, in particular, was all about virtue signaling and using as much woke jargon as possible. I didn't find much of this insightful (I study these topics and did not need hours of this), and, as someone who has decades of experience proposing traditional research, I didn't really appreciate being told over and over again that I am the main part of the problem, even when my own research is cited! One mediator literally told me that my approach to traditional research should simply go away. Yes, community activists belong in the conversation, but not to the exclusion of those of us that have been recipients and reviewers for NSF for decades. My main takeaway from this meeting was that, in the eyes of the leaders of most of the conversations, I should simply no longer be part of the process or community. I'm sure you realize how you could have been sending that message to people like me, right? Consider how inclusivity can also come across as simply being an argument for excluding whole classes of research that has been at the heart of the NSF. If NSF doesn't want to fund people like me anymore or my kind of research (e.g., the stuff that academics publish on consistently, driven by research questions, not just community empowerment), then at least have the courtesy to not invite us to the meeting in which our exclusion is discussed for hour after hour.*

Jargon/Focus on the Theoretical

> *Not inclusive, academic jargon*

> *Too much technical references for grassroots participants, not enough options. Did not feel my contributions were valued.*

> *There was A LOT of jargon and inaccessible language in some of the sessions. I saw in the chat some frustration about this. If we're inviting community partners and practitioners to these meetings, then we need to ensure that accessible language is being used.*

> *I felt like this meeting was very much pitched at individuals who were comfortable or firmly entrenched within informal science education. Many of the plenaries and discussions were at a high technical or theoretical level and were hard to translate to the on-the-ground work that I've been focusing on in our project. Transcending these levels was very difficult for me. The co-creation and authentic partnership discussions were useful, but they are difficult to implement in the middle of a project. They seemed more appropriate for individuals considering future projects and applications. The technical challenges made it difficult for me to fully engage with the content that was being provided.*

As a practitioner (not a researcher or evaluator), I found much of the content was not especially connected to the core focus of my own work. The equity lens was largely directed at researchers and how they engage with the communities they study. This makes sense given NSF's mandate, but personally I would like to see more balance between research and practice in the plenaries and conversations.

I'd like more analysis of how impactful project findings across the portfolio are on the field at large (e.g., outside of the PIs who work at academic institutions and read journal articles).

Networking

It is difficult to network during plenaries or when there are dozens of virtual posters. Instead of relying on the same formats, re-evaluate goals and design a format that meets the goals.

If there is a way to flag the communication/learning spaces that each person identifies with that would be great. For example, if someone is working in documentary film, it would be good to know where to find them. While I got a lot out of the meeting, I did not find sessions or other attendees who were the most directly related to the space I work in who I would have liked to engage with.

Not Addressing Key Issues

It did not feel possible to speak frankly about some of the biggest equity/inclusion barriers for projects funded by NSF/universities: the amount of time and resources required to apply for grants, administer grants, and report on grant activities. Such requirements set up an automatic power dynamic between university researchers and community partners that is very, very difficult to shift even using all the best practices in university-community research partnerships. As a result of not being able to speak frankly about this, much of the conversation touched on well-known challenges in university-community partnerships at the person-to-person level, as opposed to really getting into an analysis of structural / systemic difficulties.

There should probably be discussions and ideas about how NSF itself could be structuring its programs and practices for better impact. Especially as we consider equity as more central, there's structural issues about how to bring in more voices and how to have community stakeholders help set the agenda for research, rather than having researchers come with a hammer and discussing if this community has issues with nails. Because of NSF's commitment to generalizable research, I think projects can gravitate toward "searching for the keys under the lamppost" (solutions with good underpinnings, but potentially not for a community's highest-priority problem). I'd like to see a good balance of making sure we're also getting a pull for the highest priority problems in

communities and then ways to match-make getting the best research teams paired up to address them.
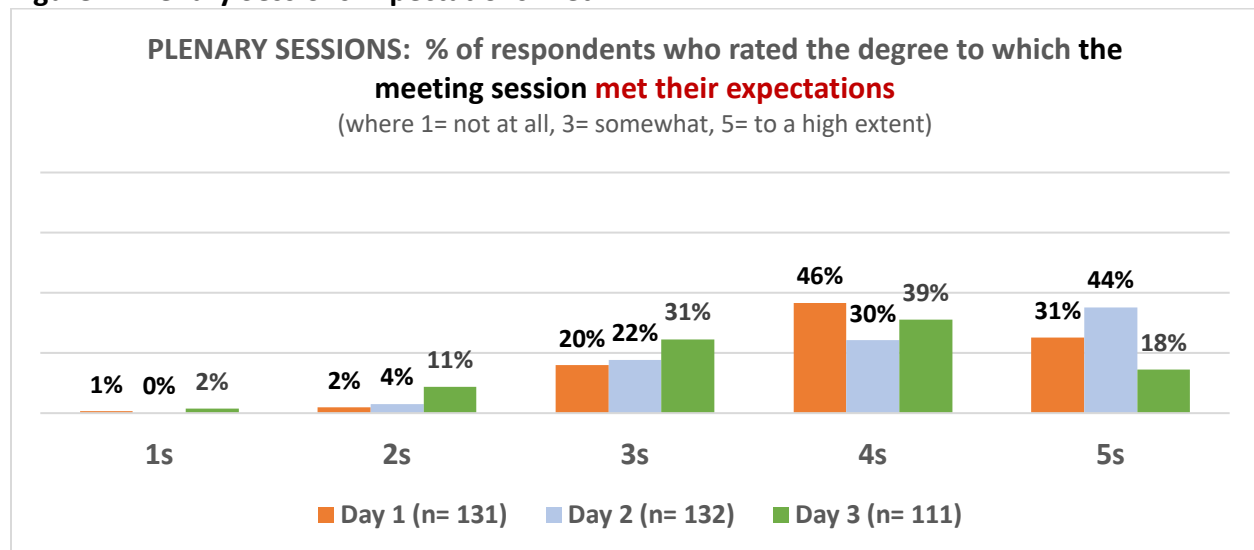
Findings on Types of Sessions

In this section, we summarize findings on the different types of sessions offered during the meeting, including the Plenary Sessions, Critical Conversations sessions, Concurrent Sessions, and Poster Sessions. We present data from the virtual platform, the post-event survey, and the plenary chats. Additionally, for the day one and two Plenary Sessions, we present data on the video views from YouTube where those sessions are available for those who did not attend the meeting.[5]

Plenary Sessions

All three of the Plenary Sessions were well attended, and the day one and two plenaries were some of the most highly rated sessions of the meeting. The Plenary sessions fostered interaction with key ideas and questions raised, and dialogue among participants in the chat. For the most part, the ratings for these sessions among subgroups were not widely different; we highlight those differences where they were notable. The day three plenary had more technical difficulties than were encountered on day one and two. Figures 7 and 8 below show the ratings for the percentage of respondents who rated the three plenary sessions as having met their expectations and having been valuable to them.

Figure 7. Plenary Sessions Expectations Met

PLENARY SESSIONS: % of respondents who rated the degree to which **the meeting session met their expectations**
(where 1= not at all, 3= somewhat, 5= to a high extent)

Day 1 (n= 131)   Day 2 (n= 132)   Day 3 (n= 111)

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[5] We also have data collected from YouTube about the number of post-meeting views of the Pre-recorded NSF Videos on Grant and Fiscal Management for AISL (15 views) and NSF Funding Updates and Opportunities (49 views).

Figure 8: Plenary Sessions Value
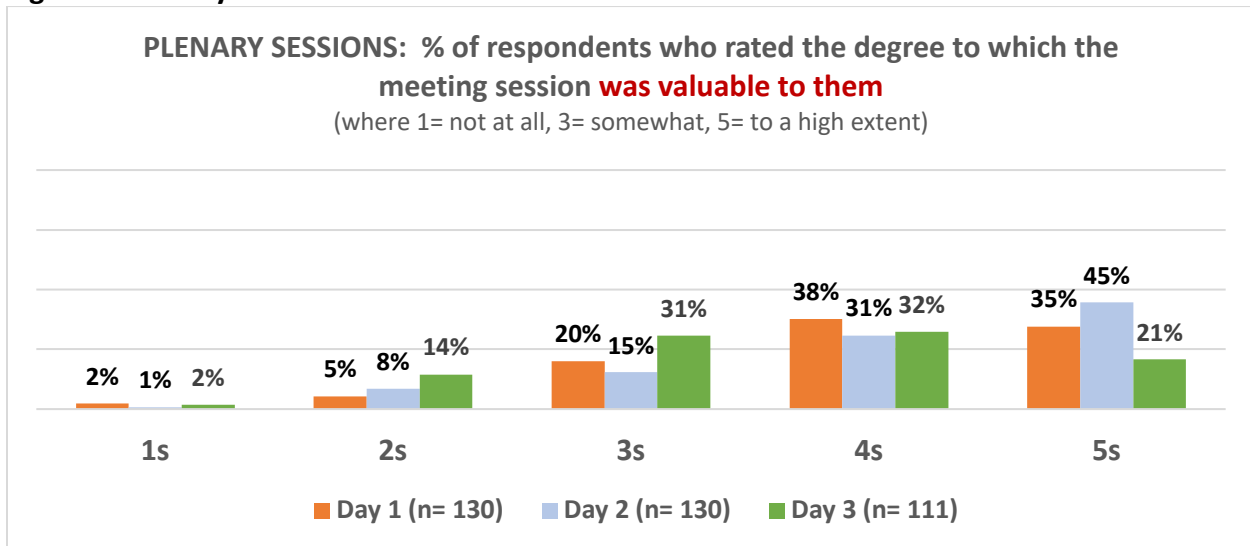
> ➢ *Day 1 Plenary: Engaged Community Partnerships*

The day one Plenary was called: Engaged Community Partnerships: Opportunities and Challenges in Urban, Rural and Virtual Contexts. This session was one of the most highly rated sessions of the meeting: 77% of all 130 respondents responding to this question rated this a 4 or 5 for meeting expectations (where 5 = *to a high extent*), while 72% rated it a 4 or 5 for value (where 5 = *to a high extent*). This was also the most highly attended session of the entire meeting. Data collected from YouTube shows 17 views after the meeting of the recorded session.

There were differences in the value ratings for this session amongst some of the sub-groups. For example:

- a higher percentage of community partners (86%, n=14) rated this session a 4 or 5 than AISL PIs (71%, n=98).
- 77% (n=87) of respondents who identified themselves as focusing on ISE and SciComm rated this session a 4 or 5, compared with 61% (n=23) of those who said they don't identify as focusing on ISE and SciComm.
- 88% (n=26) of those who identified themselves as working in their primary field for 5-10 years rated this session a 4 or a 5, while 70% (n=81) of those working in their field 10 years or more rated this session a 4 or 5.

An analysis of the virtual platform chat from this Plenary highlighted the following important themes that resonated with participants:[6]

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[6] A full summary of the chat analysis for the three plenary sessions can be found in the Appendices to this report.

- Focusing on partnership-specific outcomes first, with the acknowledgement that other specific outcomes might fluctuate and change as partnerships evolve
- A need for focusing on outcomes of partner knowledge and institutional change (not just individual learner-focused outcomes)
- The role of funding agencies, RFPs and reviewers relative to the acceptance of emergent outcomes – the need for greater acceptance of emergent outcomes throughout the whole grant process
- Reciprocity as a key construct
- The importance of co-creation and co-design in community partnership work
- Revisiting listening and language often throughout the process of community partnership work
- Appreciation for the ideas of "allyship" and "value holders" as important constructs in community partner dynamics
- Being aware of power dynamics in every phase of the work and the role they play in the accomplishments and challenges in community partnerships
- The idea of creating shared resilience

➢ *Day 2 Plenary: Rethinking Rigor*

The day two Plenary was called: Rethinking Rigor: Considering Racism and Colonialism in ISE Research and Evaluation. This session was also well-attended and highly rated. Nearly three-quarters of all survey respondents (74%) rated this session a 4 or 5 for meeting their expectations (where 5 = *to a high extent*), while 75% rated this a 4 or 5 for value. Data collected from YouTube shows 23 views of this recorded session.
The differences of note in the ratings amongst sub-groups included the following:

- More community partners rated this session a 4 or 5 for meeting their expectations (78%) and value to them (89%) than AISL PIs (73% rated this session a 4 or 5 for meeting their expectations; 74% rated this a 4 or 5 for value to them.
- More professionals whose work focuses on ISE/SciComm rated this session a 4 or 5 for meeting their expectations (77%) and value to them (81%), than professionals whose work does NOT focus on ISE/Sci Comm (61% rated this session a 4 or 5 for meeting their expectations; 61% rated this a 4 or 5 for value).
- There were similar ratings for expectation and value for both researchers and practitioners, for subgroups representing different years in the field, for those who had attended a PI meeting before and those that hadn't, and for white and non-white participants.

An analysis of the virtual platform chat from this Plenary highlighted the following important themes that resonated with participants:

- The importance of unpacking the "uniqueness and purpose of each word" in the DEIB (diversity, equity, inclusion, and belonging) acronym

- Appreciation for the framing of "epistemic supremacy" and questions about how to overcome it
- Evaluation
    - Ways to evaluate the validity, credibility and reliability of research and practice work in ways that move beyond the current epistemically supreme methods
    - Relational validity and accountability
    - Using Photovoice as a method in evaluation and research
- The importance (and challenges) of co-design/co-creation as strategies
- Power dynamics (engaging with communities authentically vs. "doing stuff in or to the community;" "which economies are we watering;" "let marginalized communities be in the driver's seat")
- Questions and implications for NSF
    - Recommendations for NSF to overcome epistemic supremacy
    - The Racial Equity in STEM Ed program call, and its emphasis on expanding the array of epistemologies, perspectives and experiences in STEM, and how this might influence the funding and priorities of other RFPs
- Frustration with the panel/hard to follow academic jargon (discussed in more detail in the areas for improvement section)

Additionally, there were multiple thanks and kudos to the panelists for the thought-provoking discussion, the references and resources that were shared, and NSF for being willing to host the discussion.

Open-ended comments in the section on both the strengths and areas for improvement cited this particular plenary. For some respondents, this plenary was one of the most important of the meeting for the key ideas it was highlighting. For others, the amount of technical language that was shared was off-putting. For example:

> *The Rethinking Rigor session was one of the best conference discussions I have ever attended. So many important ideas and varied voices.*

> *The second plenary panel, all academics, used SO much jargon (e.g., axiology). I was able to follow it, but I was concerned for the many community partners and collaborators at the meeting.*

> *There was A LOT of jargon and inaccessible language in some of the sessions. I saw in the chat some frustration about this. If we're inviting community partners and practitioners to these meetings, then we need to ensure that accessible language is being used.*

➤ **Day Three Plenary: Catching Up with the Future**

This plenary session was one of the sessions most plagued by technical difficulty. It was late to start, and the primary speaker's sound was cutting in and out. This may have affected the attendance and ratings for this session: this plenary was attended by fewer participants than the day one and two plenaries and was also rated somewhat lower than those. Of all respondents, 57% rated this session a 4 or 5 (with 5 = *to a high extent*) of meeting their expectations, while 53% rated this session a 4 or 5 for value to them.

The differences of note in ratings among subgroups included the following:

- More community partners rated this session a 4 or 5 for meeting expectations (69%) and value to them (62%) than AISL PIs (55% for both expectations and value).
- More respondents whose focus of their work is NOT ISE/SciComm rated this session a 4 or 5 for expectations (72%) and value to them (61%) than professionals whose focus of their work IS ISE/SciComm (54% for expectations and 56% for value).
- There were only small differences in the ratings for these items between researchers and practitioners, and between white and non-white respondents.
- Fewer respondents who have been in their field for five years or less rated the meeting a 4 or 5 for value (40%) compared with those who have been in the field five to ten years (65%) and greater than 10 years (54%).
- More respondents who had never attended a PI meeting before rated this meeting a 4 or 5 for meeting their expectations (63%) and value to them (59%) compared to respondents who had attended a PI meeting before (48% for expectations and 50% for value).

Because of the nature of this plenary was more question-and-answer focused throughout, the chat analysis showed more questions and included more back-and-forth among NSF Program Officers and participants, with CAISE staff sharing links to specific resources as topics and questions arose. There was exchange around the following topics:

- Interest in specific programs, particularly the Polar STEAM Program
- Interest in and questions around becoming an NSF Program Officer and/or a proposal reviewer; of note was interest on the part of community partners/members in participating in the review process
- Questions about what NSF is doing to address issues of equity in STEM education, particularly around innovations in RFPs to better address issues of equity, and emphasis on research and evaluation methodologies that align with shifts discussed during this meeting
- Questions about the structural constraints of doing community partnerships, including around proposal development, processes, evaluation and outcomes
- What counts as "technology"
- Questions about informalscience.org and a desire for more information on evaluation partners in projects.

<u>Critical Conversations</u>

Critical Conversations Roundtable sessions were small-group discussions immediately following the plenary sessions. The ratings for the Critical Conversations sessions improved from day one to day two, but overall were rated lower than other sessions. The day one Critical Conversations session had some technical difficulties with getting participants and facilitators into breakout rooms which likely affected the ratings for this session.

For all respondents, 56% rated the day one session a 4 or 5 for meeting their expectations (with 5 = *to a high extent*), while 59% rated the day one session a 4 or 5 for value to them. For the day two session, for all respondents, 60% rated the session a 4 or 5 for meeting their expectations, while 67% rated it a 4 or 5 for value. Figures 9 and 10 below show the ratings for expectations and value for the two Critical Conversations Roundtable sessions.

Figure 9: Critical Conversations Roundtables Expectations Met

CRITICAL CONVERSATION ROUNDTABLES: % of respondents who rated the degree to which the meeting session **met their expectations**
(where 1= not at all, 3= somewhat, 5= to a high extent)

	1s	2s	3s	4s	5s
Day 1 (n= 108)	3%	11%	31%	38%	18%
Day 2 (n= 96)	2%	8%	29%	35%	25%
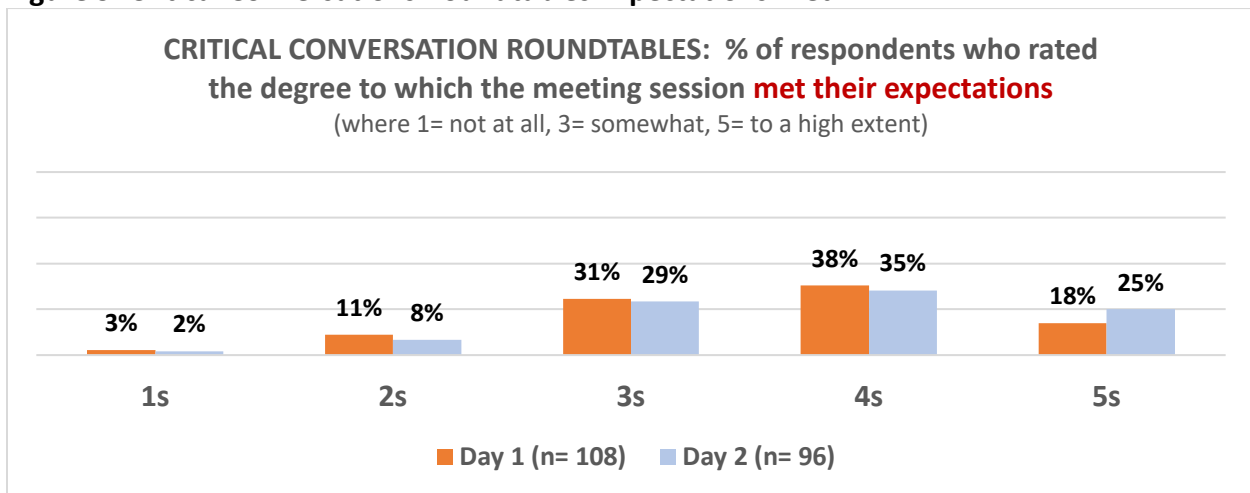
Figure 10: Critical Conversations Roundtables Value

CRITICAL CONVERSATION ROUNDTABLES: % of respondents who rated the degree to which the meeting session **was valuable to them**
(where 1= not at all, 3= somewhat, 5= to a high extent)

	1s	2s	3s	4s	5s
Day 1 (n= 108)	5%	10%	26%	41%	19%
Day 2 (n= 96)	3%	5%	25%	43%	24%
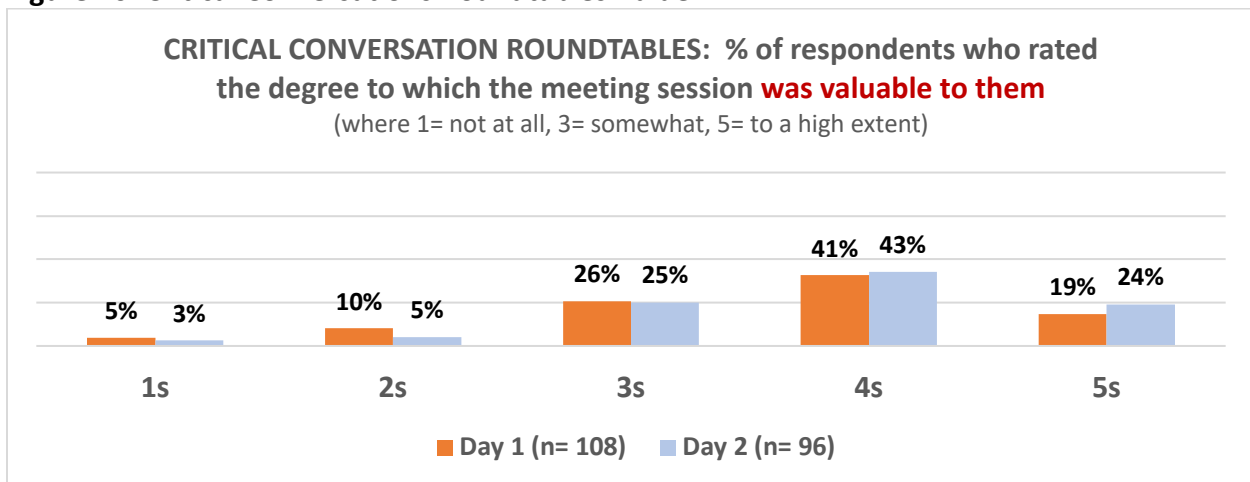
Specific comments related to the Critical Conversations sessions included the following:

The critical conversations were very thought provoking.

The discussions during critical conversations were good but not long or meaty enough.

Concurrent Sessions

There was considerable spread in ratings among the Concurrent Sessions; the specific composition of presenters, facilitators, size of breakout groups, and facilitation impact the ratings. Figures 11, 12, and 13 show the ratings for quality and value for the Concurrent Sessions.

Figure 11: Day 1 Concurrent Session Ratings

Figure 12: Day 2 Concurrent Session Ratings

DAY 2 CONCURRENT SESSIONS: % of respondents who gave high ratings
(%4s & 5s, where 1= not at all, 3= somewhat, 5= to a high extent)

Session	met my expectations	(n)	was valuable to me	(n)
Approaches to equitable, community-based empirical research: Challenging dominant science education and science communication paradigms (Bang, Dansctep, Carlson, Fraser,…	68%	(n= 65)	67%	(n= 66)
Keeping trust: Communicating findings and future work to communities (Bustamante, Cheatom, Crowley, He, Ochoa, Padilla, Ramirez-Andreotta, Upadhyay, Wilson)	65%	(n= 34)	58%	(n= 36)
Learning from failure: Authentic reflection on critical missteps, oversights and surprises that can undermine projects and partnerships (Anderson, Johnston, Keshwani, Lewis, Lyons,…	56%	(n= 45)	58%	(n= 45)
What have ISE settings learned about designing and measuring for impact as a result of moving in-person experiences to online? (Cross, Gray, Jant, Jubran, Lozano, Massari, Mayas, Spangenberg,…	60%	(n= 40)	49%	(n= 39)

■ The meeting session met my expectations   ■ The meeting session was valuable to me

Figure 13: Day 3 Concurrent Session Ratings

DAY 3 CONCURRENT SESSIONS: % of respondents who gave high ratings
(%4s & 5s, where 1= not at all, 3= somewhat, 5= to a high extent)

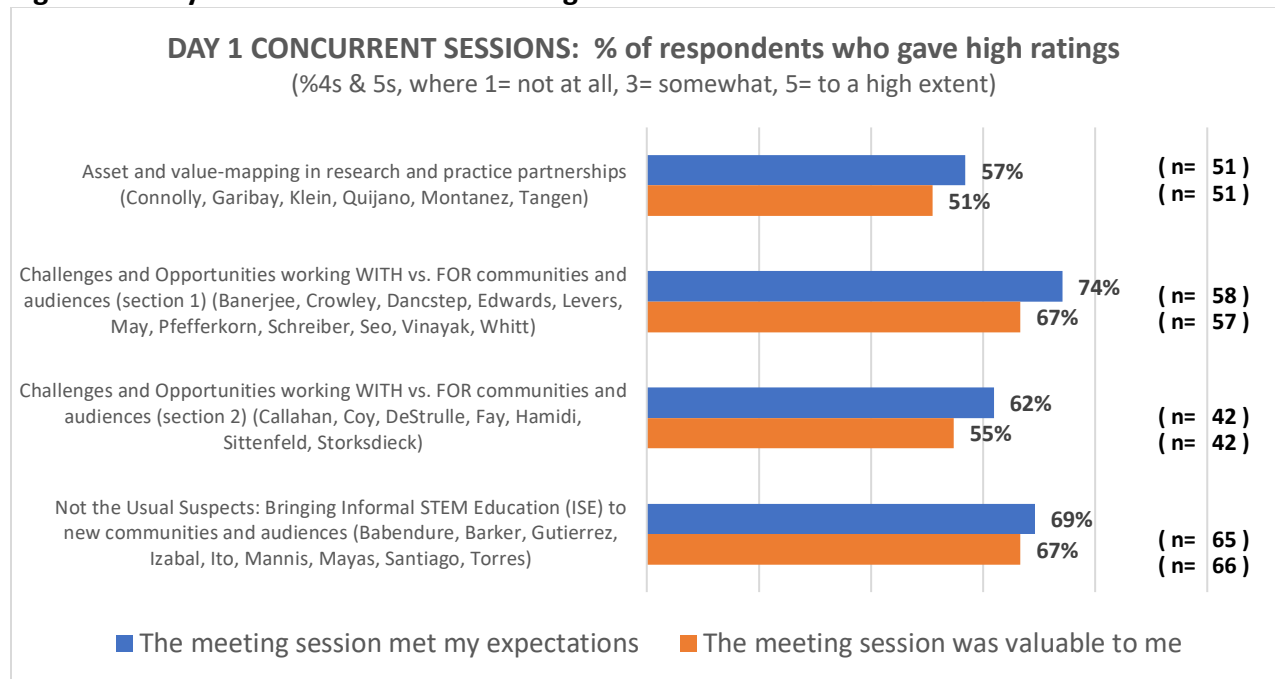| Session	met my expectations	(n)	was valuable to me	(n)
Never going back to normal: Re-imagining priorities, expectations and the work within a pandemic-informed context (Arancibia, Garibay, Gillespie-Lynch, Gupta, Johnson, Lundh, Rosenberg)	66%	(n= 38)	63%	(n= 38)
What is place-based anyway? Lessons learned about technology, location, connection, and community in the pandemic (and what we are going to do about it) (Anderson, Colston, Crowley, Haden, Hull, Koin, Lyons, Pinckney)	64%	(n= 45)	64%	(n= 44)
Working towards change: Transforming ourselves, our institutions, and our field (section 1) (Collins, DeHass, Giarratani, Gillen, Mayas, McCallie, Russell, Shaw, Swift)	69%	(n= 29)	70%	(n= 30)
Working towards change: Transforming ourselves, our institutions, and our field (section 2) (Bell, Cohn, Garlick, Grant, Groffman, Welch)	57%	(n= 28)	59%	(n= 27)

■ The meeting session met my expectations   ■ The meeting session was valuable to me

In general, those new to PI meetings (which tended to be community partners, those who had not attended a meeting before, those who had been in the field for 10 years or less) tended to value the Concurrent Sessions more highly.

In general, respondents commenting to open-ended questions about the value of, strengths and areas for improvement related to the meeting liked the Concurrent Sessions in that they

provided them opportunities to learn about the diversity of work in the AISL portfolio, and provided them with opportunities to have smaller-group discussions. Sample comments included:

> *(The most valuable aspects of this meeting were) hearing perspectives, successes and challenges people were facing across such a diverse array of projects.*

> *The small-group discussions were probably the most valuable, especially those that were focused with specific prompts/questions/or topics.*

> *To learn about other projects being implemented across America. To learn about the challenges, what worked and what did not work.*

In the open-ended comments on areas for improvement, some respondents raised concerns about these breakout sessions ending abruptly, and about the need for better prompts and facilitation (we'll discuss this more in the Areas for Improvement section of this report). For example, one respondent said,

> *Some of the small-group discussions were not that satisfying or useful. Better prompts or closer ties between the facilitation of small-group discussions and a presentation or poster would perhaps have been better.*

Poster Sessions

The Poster Sessions were rated more highly than ratings for poster sessions in past meetings. For example, 66% of all respondents rated the 2021 NSF AISL Awardee Meeting Day 1 Poster Sessions as valuable or very valuable, while 70% of all respondents rated the Day 2 Poster Sessions as valuable or very valuable. For comparison, the 2019 meeting poster sessions were rated as high or very high value by 55% of respondents.

Figures 14 and 15 show the ratings for expectations met and value for the Poster Sessions.
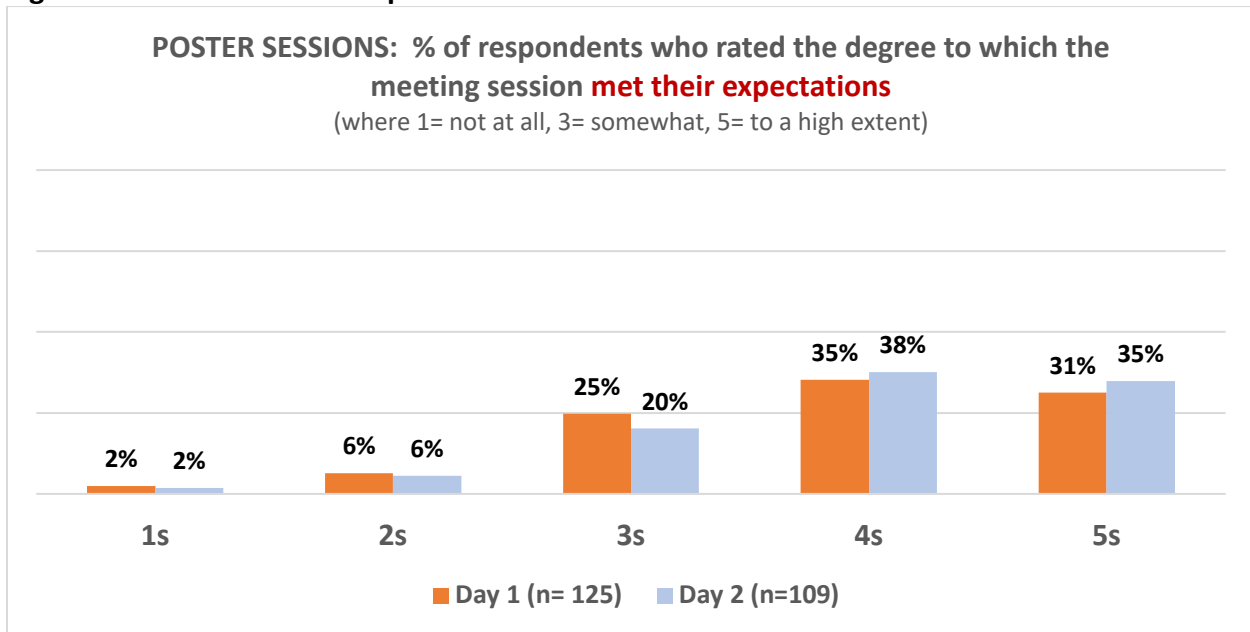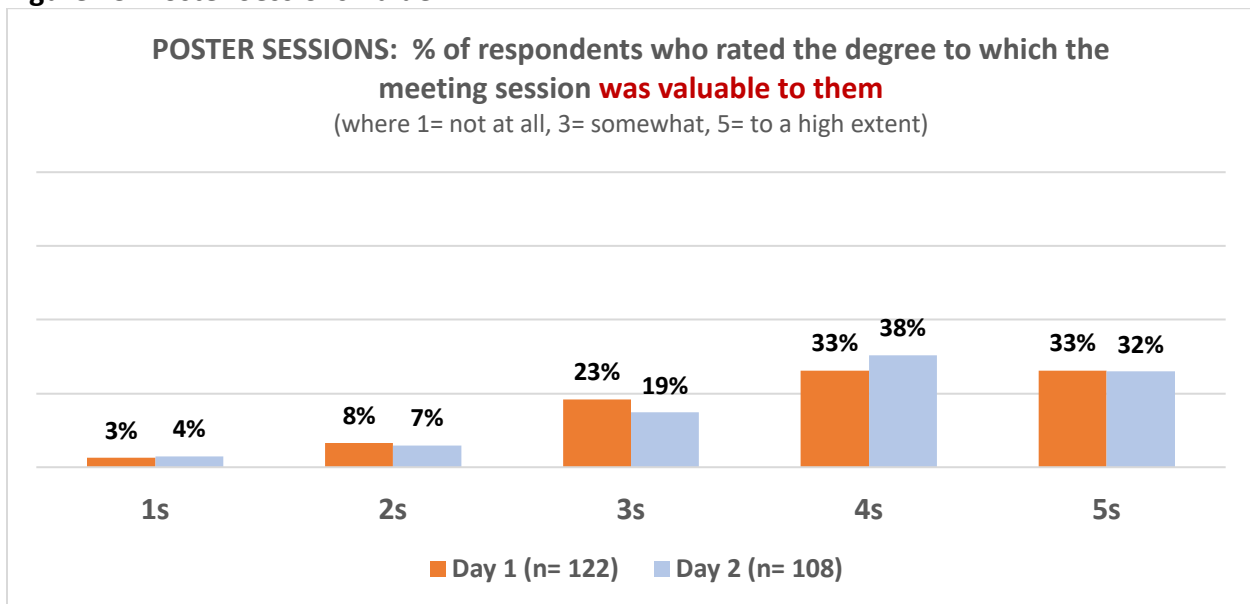
Figure 14: Poster Sessions Expectations Met

POSTER SESSIONS: % of respondents who rated the degree to which the meeting session **met their expectations**
(where 1= not at all, 3= somewhat, 5= to a high extent)

	1s	2s	3s	4s	5s
Day 1 (n= 125)	2%	6%	25%	35%	31%
Day 2 (n=109)	2%	6%	20%	38%	35%

Figure 15: Poster Sessions Value

POSTER SESSIONS: % of respondents who rated the degree to which the meeting session **was valuable to them**
(where 1= not at all, 3= somewhat, 5= to a high extent)

	1s	2s	3s	4s	5s
Day 1 (n= 122)	3%	8%	23%	33%	33%
Day 2 (n= 108)	4%	7%	19%	38%	32%

For both the Day 1 and Day 2 Poster sessions, the ratings amongst the subgroups were quite similar. There were two categories of subgroups (community partners and AISL PIs and those who had never attended a PI meeting and those who had) that had similar breakouts of differences in ratings for both the Day 1 and Day Poster Sessions. For example, 87% of community partners rated the Day 1 Poster Session and 92% rated the Day 2 Poster Session a 4 or a 5 for value (with 5 = *to a high extent*), while 61% of AISL PIs rated the Day 1 Poster Session and 69% rated the Day 2 Poster Session a 4 or a 5 for value. Similarly, more respondents who had never attended a PI meeting before rated the poster sessions on both days a 4 or a 5 for

value to them, compared with respondents who had attended a meeting previously. For the Day 1 session, 72% of the never-attended group rated the value a 4 or a 5, and 76% rated the Day 2 session a 4 or a 5, compared with 51% for Day 1 for those who had attended previously, and 66% for Day 2. We think these ratings likely reflect not having previous, in-person poster sessions to compare this virtual poster session with, and a value among those less familiar with the AISL portfolio in learning about the AISL projects.

In responding to the open-ended comments questions on the survey, respondents offered some thoughts on what they liked about the poster sessions, and what they found challenging or felt could be improved.

> *The poster sessions and small-group discussions [were the most valuable aspects of attending this meeting].*

> *Loved the poster sessions, great format.*

> *...wonderful virtual poster platform.*

> *Loved the poster room software.*

> *I liked the diversity of formats (plenaries, critical conversations, and the poster room in particular). This helped keep the pace interesting and allowed for us to engage at the virtual meeting in more than one way. Bravo!*

> *I think the team did a great job considering the virtual format. I would definitely consider this virtual poster format again, even if we can meet in person in the future! Normal poster sessions can be such a drag.*

For some, the Poster Sessions were challenging. They were placed at the end of the day which meant some people did not or could not participate. Presenters needed more support and practice. Some respondents felt the Poster Sessions could have used more curation. And for some participants, they were hard to navigate.

> *I found the format for the posters quite useful but, given that I was presenting a poster, I had limited time to visit other posters while the presenters were there. If a virtual format were needed again, it might be useful to have more poster palooza sessions, each with fewer presenters to enable those of us who are presenting to visit more posters while the presenter is present.*

> *The poster session might be rethought. I felt like people spent a lot of time creating their posters but it wasn't clear how much they were really able to share with others.*

> *Navigating the poster areas needs much more explanation and when you click on a different room it should put you into the neutral center, then you can choose which of*

the 4 sections to go to. I always either landed right in the middle of an ongoing conversation with voices asking if I had questions before the server updated fully the visual of where I was, or directly on top of a poster icon, again having to make apologies to navigate to where I was trying to go. Would have used contact info after poster sessions as asking for an email during the session was difficult with time, other people talking, etc.

SUMMARY

The NSF 2021 AISL Awardee Meeting successfully incorporated community partners with AISL PIs around a theme of equity and sustainable, equitable partnerships that resonated with participants. The majority of respondents valued the inclusion of community partners in the meeting and appreciated that the meeting emphasized hearing from diverse voices and perspectives. While more supports could have been provided to foster an optimal meeting for community partners, the vast majority of all the different subgroups of post-survey respondents found sessions and discussions that had value for them. And while a few respondents did not find the meeting valuable — either because of the virtual format, and/or the inclusion of community partners or the emphasis on equity that felt threatening to them — the majority gained important new insights. They had their ideas around equity and social justice practices reinforced, gained a better understanding of the importance the NSF AISL program is placing on equity and social justice work, and were challenged in their thinking about how to address and apply what they had heard at the meeting relative to equity in their own research and practice work.

CAISE 2021
NSF AISL AWARDEE MEETING REPORT

APPENDICES:

Post-Event Survey Data Graphs
Plenary Chat Analysis/Summary
Open-Ended Survey Questions Summary

February 2022

INVERNESS
RESEARCH

APPENDIX: POST-EVENT SURVEY DATA GRAPHS

PLENARY SESSIONS: % of respondents who rated the degree to which the meeting session met their expectations
(where 1= not at all, 3= somewhat, 5= to a high extent)

PLENARY SESSIONS: % of respondents who rated the degree to which the meeting session was valuable to them
(where 1= not at all, 3= somewhat, 5= to a high extent)

CRITICAL CONVERSATION ROUNDTABLES: % of respondents who rated the degree to which the meeting session met their expectations

(where 1= not at all, 3= somewhat, 5= to a high extent)

	1s	2s	3s	4s	5s
Day 1 (n= 108)	3%	11%	31%	38%	18%
Day 2 (n= 96)	2%	8%	29%	35%	25%

■ Day 1 (n= 108)   ■ Day 2 (n= 96)

CRITICAL CONVERSATION ROUNDTABLES: % of respondents who rated the degree to which the meeting session was valuable to them

(where 1= not at all, 3= somewhat, 5= to a high extent)

	1s	2s	3s	4s	5s
Day 1 (n= 108)	5%	10%	26%	41%	19%
Day 2 (n= 96)	3%	5%	25%	43%	24%

■ Day 1 (n= 108)   ■ Day 2 (n= 96)

DAY 1 CONCURRENT SESSIONS: % of respondents who gave high ratings
(%4s & 5s, where 1= not at all, 3= somewhat, 5= to a high extent)

Session		
Asset and value-mapping in research and practice partnerships (Connolly, Garibay, Klein, Quijano, Montanez, Tangen)	57%	(n= 51)
	51%	(n= 51)
Challenges and Opportunities working WITH vs. FOR communities and audiences (section 1) (Banerjee, Crowley, Dancstep, Edwards, Levers, May, Pfefferkorn, Schreiber, Seo, Vinayak, Whitt)	74%	(n= 58)
	67%	(n= 57)
Challenges and Opportunities working WITH vs. FOR communities and audiences (section 2) (Callahan, Coy, DeStrulle, Fay, Hamidi, Sittenfeld, Storksdieck)	62%	(n= 42)
	55%	(n= 42)
Not the Usual Suspects: Bringing Informal STEM Education (ISE) to new communities and audiences (Babendure, Barker, Gutierrez, Izabal, Ito, Mannis, Mayas, Santiago, Torres)	69%	(n= 65)
	67%	(n= 66)

■ The meeting session met my expectations   ■ The meeting session was valuable to me

DAY 2 CONCURRENT SESSIONS: % of respondents who gave high ratings
(%4s & 5s, where 1= not at all, 3= somewhat, 5= to a high extent)

Session		
Approaches to equitable, community-based empirical research: Challenging dominant science education and science communication paradigms (Bang, Dancstep, Carlson, Fraser,…	68%	(n= 65)
	67%	(n= 66)
Keeping trust: Communicating findings and future work to communities (Bustamante, Cheatom, Crowley, He, Ochoa, Padilla, Ramirez-Andreotta, Upadhyay, Wilson)	65%	(n= 34)
	58%	(n= 36)
Learning from failure: Authentic reflection on critical missteps, oversights and surprises that can undermine projects and partnerships (Anderson, Johnston, Keshwani, Lewis, Lyons,…	56%	(n= 45)
	58%	(n= 45)
What have ISE settings learned about designing and measuring for impact as a result of moving in-person experiences to online? (Cross, Gray, Jant, Jubran, Lozano, Massari, Mayas, Spangenberg,…	60%	(n= 40)
	49%	(n= 39)

■ The meeting session met my expectations   ■ The meeting session was valuable to me

DAY 3 CONCURRENT SESSIONS: % of respondents who gave high ratings
(%4s & 5s, where 1= not at all, 3= somewhat, 5= to a high extent)

Never going back to normal: Re-imagining priorities, expectations and the work within a pandemic-informed context (Arancibia, Garibay, Gillespie-Lynch, Gupta, Johnson, Lundh, Rosenberg)
- 66% (n= 38)
- 63% (n= 38)

What is place-based anyway? Lessons learned about technology, location, connection, and community in the pandemic (and what we are going to do about it) (Anderson, Colston, Crowley, Haden, Hull, Koin, Lyons, Pinckney)
- 64% (n= 45)
- 64% (n= 44)

Working towards change: Transforming ourselves, our institutions, and our field (section 1) (Collins, DeHass, Giarratani, Gillen, Mayas, McCallie, Russell, Shaw, Swift)
- 69% (n= 29)
- 70% (n= 30)

Working towards change: Transforming ourselves, our institutions, and our field (section 2) (Bell, Cohn, Garlick, Grant, Groffman, Welch)
- 57% (n= 28)
- 59% (n= 27)

■ The meeting session met my expectations   ■ The meeting session was valuable to me

POSTER SESSIONS: % of respondents who rated the degree to which the meeting session met their expectations
(where 1= not at all, 3= somewhat, 5= to a high extent)

	1s	2s	3s	4s	5s
Day 1 (n= 125)	2%	6%	25%	35%	31%
Day 2 (n=109)	2%	6%	20%	38%	35%

■ Day 1 (n= 125)   ■ Day 2 (n=109)

POSTER SESSIONS: % of respondents who rated the degree to which the meeting session was valuable to them
(where 1= not at all, 3= somewhat, 5= to a high extent)

	1s	2s	3s	4s	5s
Day 1 (n= 122)	3%	8%	23%	33%	33%
Day 2 (n= 108)	4%	7%	19%	38%	32%

■ Day 1 (n= 122)   ■ Day 2 (n= 108)

OVERALL SATISFACTION - % of AISL Staff compared to Community Partners
who gave high ratings on the following meeting aspects:
(%4s & 5s, where 1= not at all satisfied, 3= somewhat satisfied, 5= extremely satisfied)

Aspect	AISL PI, co-PI, project staff, evaluator	n	Community Partner	n
- Focus on equity content/topics	88%	(n= 112)	86%	(n= 21)
- Clarity of content/inclusivity of language	81%	(n= 110)	81%	(n= 21)
- Relevance of content to my work	75%	(n= 112)	86%	(n= 21)
- The variety of session formats (e.g., plenaries, critical…	75%	(n= 112)	90%	(n= 21)
- Ability to challenge my thinking/perspective	72%	(n= 113)	91%	(n= 22)
- Opportunities for small group conversations	67%	(n= 105)	67%	(n= 18)
- Content that challenged my thinking/way of doing…	64%	(n= 112)	76%	(n= 21)

■ AISL PI, co-PI, project staff, evaluator   ■ Community Partner

OVERALL SATISFACTION - % of AISL Staff compared to Community Partners
who gave high ratings on the following meeting aspects:
(%4s & 5s, where 1= not at all satisfied, 3= somewhat satisfied, 5= extremely satisfied)

Aspect	AISL PI, co-PI, project staff, evaluator	n	Community Partner	n
- The length of the meeting	64%	(n= 111)	79%	(n= 19)
- Facilitation of activities	62%	(n= 101)	75%	(n= 20)
- Pre-meeting supports	63%	(n= 84)	63%	(n= 16)
- Pre-recorded sessions	59%	(n= 32)	71%	(n= 7)
- The structure of the meeting	58%	(n= 112)	64%	(n= 22)
- Opportunities for rich, meaningful dialogue	54%	(n= 110)	74%	(n= 19)
- Opportunities for networking	46%	(n= 106)	63%	(n= 16)

■ AISL PI, co-PI, project staff, evaluator   ■ Community Partner

SUCCESSFUL MEETING COMPONENTS: % of respondents who said the following components were highly successful:

(%4s & 5s, where 1= not at all successful, 3= somewhat successful, 5= extremely successful)

Component	%	n
- Identifying specific challenges and opportunities regarding equity in STEM education	72%	(n= 145)
- Giving me opportunities to learn about the work of others	70%	(n= 145)
- Creating a welcoming and inclusive meeting	69%	(n= 147)
- Creating opportunities for a wide range of voices to be heard	65%	(n= 145)
- Sparking new ideas for how I can continue to improve my work	64%	(n= 143)
- Challenging me to reconsider or expand my perspectives about my work, particularly with regard to equity	62%	(n= 145)
- Creating a meeting that encouraged the engagement of all participants	61%	(n= 145)
- Helping me learn about creating strong, equitable partnerships	59%	(n= 143)
- Helping me feel empowered to challenge current practices and work towards change	58%	(n= 144)
- Providing space for me to comfortably and actively participate in discussions	57%	(n= 141)
- Giving me opportunities to share the work of the AISL project I am involved with	56%	(n= 143)
- Creating connections among participants	38%	(n= 144)
- Finding potential collaborators for future work	30%	(n= 142)

THE PATHABLE USER EXPERIENCE: % of respondents who agree with the following statements:

(%4s & 5s, where 4= agree and 5= strongly agree)

Statement	%	n
I was able to easily login to the meeting.	85%	(n= 144)
I was comfortable in the online environment.	79%	(n= 144)
Overall, the virtual platform was easy to use.	67%	(n= 143)
The virtual platform was easy to navigate.	62%	(n= 143)
It was easy to find what I was looking for on the platform.	61%	(n= 142)
The virtual platform allowed me to interact and engage with other participants.	57%	(n= 139)
I was able to network with other participants through the platform.	41%	(n= 134)
The virtual platform allowed me to interact and engage with speakers.	41%	(n= 133)

OVERALL MEETING QUALITY and VALUE over time: % of respondents who gave high ratings

(%4s & 5s, where 1= very low, 3= mixed, 5= very high)

| 2010 (n= 186, 191) | 2012 (n= 107, 104) | 2014 (n= 116, 116) | 2016 (n= 114, 114) | 2019 (n= 137, 136) | 2021 (n= 147, 145) |

─── Overall meeting QUALITY   ─── Overall meeting VALUE

THE MEETING'S IMPACT ON PARTICIPANTS: % of AISL Staff compared to Community Partners who agree with the following statements:

(%4s & 5s, where 4= agree and 5= strongly agree)

The meeting has reinforced for me ideas around equity and social justice. — 85% (n= 116) / 83% (n= 23)

I am committed to applying what I experienced and learned at the meeting regarding equity-centered practice. — 77% (n= 116) / 61% (n= 23)

I have gained a better understanding of the diverse work done in informal science education and science communication. — 73% (n= 115) / 68% (n= 22)

I have gained new insights around equity and social justice during the meeting. — 63% (n= 116) / 61% (n= 23)

I have developed new ideas related to my professional work. — 58% (n= 115) / 70% (n= 23)

I feel the need to do my work differently as a result of what I learned at this meeting. — 47% (n= 116) / 50% (n= 22)

I see my partnerships differently as a result of attending this meeting. — 34% (n= 117) / 45% (n= 22)

■ AISL PI, co-PI, project staff, evaluator   ■ Community Partner

APPENDIX: PLENARY CHAT ANALYSIS/SUMMARY

This summary organizes the comments in the chat during each of the plenary sessions around major themes.

Day 1 Plenary: Engaged Community Partnerships

Themes/Points that Resonated

Moving forward together without the outcome fixed, but instead the partnership

Patterns of participation are very revealing and it is not productive to plow ahead because of a fixed outcome view.

Yes to creating, sustaining and scaling patterns of participation

Going beyond outcomes focused on the individual learner

Importance of partnerships that push on knowledge and institutional change and not only change at the level of the individual learner

The role of funding agencies, RFPs and reviewers relative to emergent outcomes

Hope that reviewers are getting more savvy about recognizing authentic collaboration and co-creation, even when it isn't clear because it is emergent, and seeing the benefit over super-polished proposals where people haven't talked to communities

And the goals of funding agencies drive the proposal goals. What if funding agencies spoke to indigenous communities to set funding priorities?

Reciprocity

Keeping open the commitment to engage and ongoing conversation

Reciprocity, honor and respect

Being open to learn and change

Co-creating

Having a voice at the very, very beginning is important

Critical for success – provides mutual ownership in what is accomplished

Revisiting listening and language

We jump to "listen to understand" when we should first understand how to listen. Reflecting on the language we use with our partners is such an important part of listening. So often, unconsciously, we use language that is a part of the culture each of us works in. Recognizing that this is the case, and finding time and space to listen to each others' language and meaning, is so important – and an important ingredient for shared outcomes that are important to all partners.

Allyship, Value Holders and Original Promise

Appreciate the focus on the role of Allyship

Yes! So critical and hard to give up always owning everything

One of my favorite terms for an ally is "accomplice" – because we're often engaged in changing systems (two people loved this)

I love the term "value holders" so important in the constellation of partnerships

I like your phrase "the original promise" thank you for that

Power Dynamics

Power assessments are important, which partners have what power, assets, and resources, and what do we need from each other

We are doing this in a more informal way with some of our partners through conversation. Do you have a resource for a more formal power assessment? I can also do the work to find if you don't have one easily available to share.

Great point - power is not just about money!

What are equitable partnership infrastructures? (two plus ones)

Creating Shared Resilience: The importance of ice fishing (for example)

Nancy's ice fishing example resonated:
- Ice fishing feels like a good context to create shared resilience
- I wonder how people are building those personal experiences during covid? Would love examples of how to go "ice fishing" virtually
- Would love to hear others' ideas about this.
- We're doing a virtual happy hour with a group of our CBO partners

- I need more ideas too! But things I've done: Virtual happy hours; playing board games or Jackbox games online together

Successful partnerships need shared goals and trust but also time for informal engagement and ways to celebrate along the way

Thank yous

To speakers for sharing their insights and perspectives

Thank you for such a great panel!

Thank you to all panelists and Raj for the moderation. Such an insightful discussion.

This was excellent, thank you! (plus four thank yous)

Day 2 Plenary: Rethinking Rigor

Themes/Points that Resonated

Thank you to Remy for sharing his personal experiences:

As a Venezuelan native in this field, I am grateful to hear you speaking.

Thank you for sharing that personal story, Remy. These conversations often take a level of vulnerability and I appreciate that from this panel.

Remy's storytelling is very powerful and effective – thank you!

Unpacking all of DEIB/Implications for Co-design and Co-creation/Implications for NSF

Thank you for zeroing in on the inadequacy of "access." Does this imply the need for a re-thinking of the NSF paradigm of "Broadening Participation"?

Great points to consider the uniqueness and purpose of each word in the DEIB acronym and not to group it all into one effort, but important to understand how you are making progress facilitating that related to each word.

We learned a big lesson about access in sending 18 undergrads from MSIs on an expedition to the high Arctic. We designed the hands-on research experience and activities. In hindsight, we clearly needed to "co-think" how the students would participate. This seems like such an obvious step now. Thank you to the panelists for your ideas and language. I hope to continue learning how to more effectively engage, interact with and learn from others.

I'm on a ScienceLearning+ grant as a Co-PI who is a practitioner! We've learned so much from each other in the co-design and co-creation. But it hasn't always been easy!

Epistemic Supremacy/Implications for NSF/implications for Evaluation

Love this term "epistemic supremacy." I work with a lot of researchers in the natural sciences and this is a big problem. Can't wait to discuss with them!

I really like this "epistemic supremacy" framing too! It can help us understand how some learners are advantaged at micro-level interactions in learning settings as well.

What recommendations would panelists make to NSF to overcome epistemic supremacy?

One opening that showed up in recent NSF work is in the Racial Equity in STEM Ed program call that included this goal: "expand the array of epistemologies, perspectives and experiences in STEM." I look forward to seeing how that opens up over time.

Yes, I'm encouraged by that RFP. Amazing! And I'm curious how it might influence the funding priorities and framing of (all) other RFPs!?

Plus one! I'd especially love to hear more from the panelists about how they and we (as a community) think about ways to evaluate the validity, credibility, and reliability of our work (research and practice) in ways that move beyond the current epistemically supreme methods of assessing these elements.

Cross-cultural validity... important but also hard!

Back to the last speaker with "multiple ways of knowing," being unnecessarily tied to an instrument gives you one way of knowing a specific set of info. Qualitative, iterative, emergent methods need to be more accepted!

There's some great work on rigor in qualitative research that may provide some framing for this. Cho and Trent (2006) talk about transactional and transformational validity, which can be useful to consider.

Yes, a very good place to start! I find a lot of Grounded Theory work coming out of nursing does a very good job of describing rigor in qualitative work as well.

Would love to hear more about validation efforts of non-traditional (non-dominant) methodologies.

Two contextual forms of validity worth exploring are relational validity (Tuck and McKenzie, 2015) and relational accountability (Wilson, 2008). These are from indigenous research methodologies and get opened up deeply in this volume: https://routledge.com/indigenous-

and-Decolonising-Studies-in-Education-Mapping-the-Long-View/Smith-Tuck-Yang/p/book/9781138585867

I'm a fan of relational forms of validity, although I think there is both a lot of work to do for reviewers and funding agencies to acknowledge these forms of validity, but also so much opportunity to think about how we pair these relational understandings with other forms of validity as well.

This shift is what excites me about this panel!

Thank you for that perspective, Remy – deeply reflecting on how I/we are reinforcing oppressive practices in ISE communities that have been created by white men (or others enacting white supremacy culture)

Which economies are we watering

The image of "which economy are we watering" is very generative for me. Thank you for that framing.

Can we unpack the idea "which economies are we watering?" (plus 1 from another participant)

Shirin's Drone Story

I have heard you tell that drone story, Shirin, and I have shared it with many different educators to convey the messages you are sharing. This aligns with the work of the YESTEM project led by Angie Baron and colleagues.

Different Approaches/Photovoice

I'm very excited about the PhotoVoice approach

PhotoVoice...so empowering for the participant and illuminating for the researchers. Do you find at all that when students use PhotoVoice they primarily show off positive experiences?

Great question! In my experience we say positive and "negative" pictures. I think it may depend upon the instructions given (not sure where to say this or where to respond to that comment). The instructions given were 'take pictures that show what it is like to be an undergraduate student in X major and participating in X NSF-funded program.' We got back pictures of students drinking coffee and staying up late to study, as well as pictures of a test that a student go a "C" on, that they almost failed. We also got other "positive" pictures as well.

Power Dynamics

I am surprised that power has not been a very prominent part of the discussion. It is implicit in the idea that the usual way of a majority institution is to "do stuff to the community."

Researchers often "extract" what data they think is relevant, kind of like going into a country and extract the diamonds or gold because that's "relevant," it is. But anyhow, how about just letting marginalized communities be in the driver's seat, not just sharing the power but recognizing that communities should have the power to decide what they want and need – and to have the resources to make that happen.

Agreed. I've been working more in CBR (Community Based Research) and it just makes it honestly feel dirty/wrong to do it any other way.

Thanks/Importance of Plenary

This panel discussion is exceptionally important. Will we be able to have access to a video that we can broadly share? (CAISE staff respond that yes, there will be a recoding available; this question is raised and answered again later in the chat.)

Thanks to all the panelists. This was a truly wonderful panel.

This was a fantastic panel and discussion.

Thank you, Remy, for your thoughtful contributions and the questions you raise.

Thank you so much for this session, gender equitable, culturally responsive and anti-racist teaching and learning practices need to be embedded into our work. Black SciGirls, a newly funded AISL will be tackling this issue through our national network and with the National Girls Collaborative. We hope our research findings can support this work throughout the field.

This has been an EXCELLENT panel. I've appreciated the content, but also the tone of generosity, "deep wonder" and love. This is a model of how we change both the work and the container for the work. Thank you!!!

Terrific panel. I'm recognizing the ways that I need to be more reflective on – and challenging of – what I consider to be rigorous research, and to find ways to encourage others to do the same work.

Thank you for your generous spirits and love in this work, panelists!

What a transformational panel! Everyone needs to hear it.

Thank you for being willing to educate us. Fantastic panel!

Amazing discussion! Thank you all! < 3

Many thanks to the panelists for sharing with us. I am grateful for you all.

Thank you panelists!

Great discussion! Thanks to all of the panelists!

Thanks for the interesting discussion and references.

Great discussion and topics...thank you all for your insights!

So grateful of the panelists and encouraged that NSF would host this discussion

Thank you, all. This was a wonderful session.

Such an insightful and meaningful session. Thank you all!

Thank you all for great discussion.

Frustrations with the Plenary

As a community organizer, this conversation has been deeply frustrating.

I'd love to hear more.

Me too.

But only if you have the energy to do so. No pressure. I am a practitioner and not a researcher so I found some of the jargon very hard to follow.

(The community organizer did not respond to these comments or say more)

Day 3 Plenary: Catching Up With The Future

Interest in Specific Programs

I am curious who I should contact if we wanted to collaborate with the stations down in Antarctica on a global community/citizen science project called the City Nature Challenge? Email Program Officer Val Kass: vkass@nsf.gov
CAISE staff post more information: The Polar STEAM Program deadline for the submission of proposals for a facilitator is February 25, 2022. This new initiative encompasses both the Antarctic Artists and Writers program and support for educators, both formal and informal, to

travel to the Antarctic and Arctic to work collaboratively with researchers. https://beta.nsf.gov/funding/opportunities/facilitator-polar-steam-polar-steam Is this open to Canadian-based researchers who work in the Arctic, specifically people who are of or work in Nunavut? Asking for a colleague, way too cold for me ;)

Questioners say thank you for all this information

Becoming a Program Officer or Reviewer

I can second how valuable it is personally and to the field to be an NSF program officer
Is NSF allowing for 100% remote Program Officers now? (plus one)
CAISE staff posts resources from ISDO about how to become a reviewer
Yes, send an email to DRLAISL@nsf.gov with your CV and the subject line "Interested in being a reviewer"
Please volunteer to become a reviewer! You can email drlaisl@nsf.gov. Include a little para about your interests/expertise & your CV!
Will there be possibilities for community partners to participate in the review process?
Program officers respond: Absolutely. Community members hold invaluable expertise that is needed on panels. Another Program officer: Reviewers are not limited to academics only. We need the perspectives of people in industry, non-profit and community work. First PO plus one: All aspects of expertise and experience. Questioner -- thank you, that's helpful.
CAISE staff respond to comment by Dr. Vanderputten about expertise of reviewers: Dr. Vanderputten was providing examples of the range of expertise that would be invited and valued in panel reviewers — for example, teachers would be particularly well positioned to serve on an ITEST review panel https://beta.nsf.gov/funding/opportunities/innovative-technology-experiences-students-and-teachers-itest

What would the timeline be for those new efforts (if they make it through the legislative process)?

Is there a way that NSF or CAISE can help support or formalize mentoring and coaching for new and existing PIs, like a buddies program to help each other?

NSF's actions to address issues of equity in STEM Education

The leading scholars on equity in our field have spoken during this meeting about shifting away from deficit language, rethinking traditional approaches to scale-up, and changing power dynamics between researchers and communities. Yet this language still seems to be baked into NSF's current goals and approaches. What is NSF doing to innovate in terms of the way it talks and thinks about addressing issues of equity in STEM education?
Adding to this question, the methodologies described in NSF solicitations don't reflect the kind of shift in methodologies that have been discussed on the panels.

What including community partners means in terms of proposal development, processes, evaluation and outcomes:

If projects are increasingly encouraged to genuinely share power and co-evolve with communities being served, how does that affect proposal elements like logic models with detailed descriptions of pre-established outcomes & measures of those? Three plus ones. Program officer responds: The process of developing ideas may need to be rethought. How would you consider engaging partners in the DEVELOPMENT of the proposal including all aspects of the proposal and R/R&D ideas? Another attendee responds in thread: Would there be a way to get funding for this development/relationship building work? Oftentimes these relationships take months/years to nurture, to get to the point of being able to put together a proposal. Program officer responds: Lila, you would be best served to seek local funding for this work and then come to NSF (or other national or larger funder) for the research proposal.

Program officer: Following on this idea of including community partners: prior to joining NSF, I was a PI of a multi-organization project including museums and CBOs. We worked with our partner reps on crafting the proposal including having them assist in the writing of sections. Yes, it took longer; it also helped them develop their capacity outside of the project. It does require a different approach to crafting proposals.
Related to community partners, we've had success getting funder from smaller, local foundations for pilot partnerships and partnership development, and then eventually scaling that up to the level of NSF funding.
So I assume that the requirement that PIs have to have advanced degrees is looser now?
Program officer responds: There is no requirement from AISL that a PI have an advanced degree. That is often the rule from the submitting institution. AISL requires that the PI/co-PIs have the necessary expertise to bring to the work. Questioner: thanks! That is extremely helpful! Former Program Officer: I did not have a PhD as a Program Officer.
How is the NSF currently thinking about and evaluating the sustainability of co-created projects that rely on relationships and trust with community members in the proposal review and evaluation of project outcomes? Panelists in this meeting have emphasized how critical these relationships can be and yet there are numerous ethical considerations when it comes to the potential divestment of those programs when funding is complete. How should considerations of sustainability be included program proposals? Program officer responds: One consideration is the degree to which an organization is vested in any type of relationship beyond any one project idea. We do ask people to consider this in writing proposals and we do see reviewers comment on it.

CAISE staff post links to the project planner and other resources on ISDO.

For projects that are collaborative and emergent, I am wondering if some kind of design-based research heuristic could be used instead of a logic model. Or action research heuristic?

I have always included a specific goal in the NSF-funded programs to plan for the post-NSF-funded program.

If you do STEAM programming, do you need an artist? Program officer responds: You should have the expertise necessary to conduct the R&D for the focus of your project. I guess my question would be "What arts-STEM integration is your focus? Why wouldn't you include an artist on the core team?" Questioner replies: I was speaking to the hiring of Project Officers or Reviewers. Yes we have the artists and scientists on our projects as needed. My apology if that was not clear. Program Officer responds: Ah, ok. We actually have a program officer now that is serving as a dual role at the Portrait Gallery. So depending on the program, a range of expertise may be needed in the programs at NSF.

What counts as "technology"
I found the following details on the proposed "Directorate for Technology, Innovation, and Partnerships" (TIP). I am hoping that "technologies" as used here is thought of in broad terms. Would a "high-quality curriculum" as part of an instructional guidance infrastructure be thought of as a "technology" to bring to scale within this new directorate? Or is the focus only on physical / digital technologies? https://www.aip.org/fyi/2021/fy22-budget-outlook-national-science-foundation Plus one

Questions about ISDO information about evaluation
I really like the informalscience.org website. However, the project descriptions never mention who the project evaluators are and the kinds of questions they looked at. Is there a way to get a look at organized data at the different evaluators who have worked on funded projects, the kinds of questions/methods they used and any shareable reports they created? As we think about evaluator partners, I am interested in the ways evaluators are innovating but have no way to find out. CAISE co-PI responds: You should be able to access summative evaluation reports for past projects. You'll also find some formative and process evaluation reports.

APPENDIX: CAISE AISL PI Meeting Open-Ended Survey Questions Summary

What was the most valuable aspect of attending this meeting?

Comments from people whose primary role is not science communication or ISE did not differ appreciably from comments from those whose primary role is in ISE or science communication.

People who identify on the <u>practitioner</u> end of a continuum commented on the value of seeing the diversity of projects being supported by AISL, the equity focus framing the work in the field, hearing perspective from speakers they don't often encounter, and the opportunity to hear from community partners.

People who identify on the <u>researcher</u> end of the continuum appreciated the inclusion of community partners, learning about the range of projects, hearing from NSF program officers, and the panel speakers and discussions, particularly equity leaders in the field.

For <u>AISL PIs, co-PIs, project staff, and evaluators</u> responses to this question include:

- Hearing about and learning from the diversity of work funded by AISL
- The focus on equity and inclusion and maintaining that thread
- Hearing from both/all sides of partnerships
- The keynote and plenary speakers and the content of the presentations
- Poster sessions and informal conversations
- Networking and hearing about NSF funding opportunities

Sample comments below:

For me it was knowing that I'm not alone with all these ideals around equity and justice in the NSF world. Reviewers often question the things this group was promoting. Knowing they're just behind the times, and not necessarily representing the views of NSF is frustrating but heartening as well.

Hearing perspectives, successes and challenges people were facing across such a diverse array of projects. Final session with discussion around future directions of AISL.

Fantastic plenary speakers! Loved the poster room software.

The plenaries on the first two days – excellent speakers, important and relevant topics, and thought-provoking presentations. Very well planned!

The most valuable aspect of attending this meeting for me was hearing what others in the ISL community are thinking about in terms of forming and nurturing partnerships, equity, and course correcting.

I appreciated the inclusion of community partners. It asked me to think about my own presentation differently as well as my comments in sessions, which seems very appropriate to the work we do. It surprised me to find myself working so differently with community partners in the room.

Understanding NSF AISL commitment to equity and inclusion and its ramifications for our work and how we think.

Hearing the perspectives and practices of folks with identities that have been historically excluded from field-leading conversations like this.

The small-group discussions were probably the most valuable, especially those that were focused with specific prompts/questions/or topics.

Listening to the work others are doing. Presenting our own work.

Hearing perspectives, successes and challenges people were facing across such a diverse array of projects. Final session with discussion around future directions of AISL.

For community organization representatives responses include:

- Learning about the different projects in ISE
- Small group sessions and opportunities for networking
- Rethinking Rigor session (mentioned by 2 out of 12 respondents)

Sample comments below:

Seeing the work that is being done.

The Rethinking Rigor session was one of the best conference discussions I have ever attended. So many important ideas and varies voices.

To learn about other projects being implemented across America. To learn about the challenges, what worked and what did not work.

The critical conversations were very thought provoking.

What were the main strengths of the AISL awardee meeting?

Strengths of the meeting echoed responses to what people valued about the meeting: Great speakers and participants, commitment to DEI issues, clear effort made to make the virtual work, meeting new people and hearing about the AISL projects, inclusion of community partners, diversity of formats (especially the small-group sessions). Only 8 of 22 who identified

as a community-based participant commented on this question, and their answers did not differ from the AISL PIs.

Sample comments include:

This was the most productive and interactive online workshop I've attended. Really well done in terms of having different formats and lots of opportunities to build connection and get to know other people and their work!

The number of break-out sessions and opportunities to work in small groups. Great job in pulling this together virtually. Despite my suggestions below, the general flow and structure of the virtual program were well planned and well implemented with a good balance of listening and participating.

Getting a chance to network with others and see some of the common challenges we are facing. Honestly, I somewhat dreaded the meeting this year because it was virtual, but the format was well designed, I enjoyed it, and I felt that I walked away with information and a more positive attitude.

I was particularly pleased to see Indigenous voices amplified and co-production of knowledge with communities placed in the center of the meeting. The keynotes and the concurrent session were generally great.

What would you say didn't work so well at the meeting?

The majority of problems that people had with the meeting were technology-related, for all sessions. Following that, participants commented on the difficulty having more informal conversations, the need for more/better small group facilitation and timing, and challenges navigating the poster session (although some people really enjoyed it).

Researchers, practitioners, PIs and community members commented that some of the language used in the plenary sessions (and some others) contained academic jargon that was off-putting, and they wondered about the extent to which community members were authentically included.

For AISL PIs, co-PIs, project staff, and evaluators responses to this question include:

- Technical issues – people getting cut off, late starts, ongoing time-wasting, etc.
- Time was short for the concurrent sessions – people seemed rushed
- Facilitation in small group break-outs, lack of instruction/prompts, no report-outs
- Poster sessions were challenging: end of the day (lost people), presenters needed more support/practice, not well curated, hard to navigate
- Conversation and engagement were hard, even with a good technology; hard to identify other PIs working on similar projects, time to continue discussions

- Not inclusive: Academic jargon, community members not well included/voices not valued
- Focused on the conceptual, less on the practical/application for projects
- Focus on DEI was mixed – was the best and worst part of the meeting; not enough diverse voices about it

Sample comments below:

This whole meeting, in particular, was all about virtue signaling and using as much woke jargon as possible. I didn't find much of this insightful (I study these topics and did not need hours of this), and, as someone who has decades of experience proposing traditional research, I didn't really appreciate being told over and over again that I am the main part of the problem, even when my own research is cited! One mediator literally told me that my approach to traditional research should simply go away. Yes, community activists belong in the conversation, but not to the exclusion of those of us that have been recipients and reviewers for NSF for decades. My main takeaway from this meeting was that, in the eyes of the leaders of most of the conversations, I should simply no longer be part of the process or community. I'm sure you realize how you could have been sending that message to people like me, right? Consider how inclusivity can also come across as simply being an argument for excluding whole classes of research that has been at the heart of the NSF. If NSF doesn't want to fund people like me anymore or my kind of research (e.g., the stuff that academics publish on consistently, driven by research questions, not just community empowerment), then at least have the courtesy to not invite us to the meeting in which our exclusion is discussed for hour after hour.

The way breakout discussions were closed down with a fixed time limit. To be frank, I thought the Place Based presentation session had very little value. It felt atheoretic and any insights seemed highly contextual to last year's COVID issues. By comparison, our breakout group started to really get rolling with some good ideas and great perspectives from a very experienced community partner. And then the meeting had a one-minute countdown and everyone got dispersed. :-\ Overall, it feels like too much time and emphasis was placed on people talking, even though we know that lecture style presentations really aren't that useful. I don't know what the time breakdown is, but it seemed schedule wise to be about 70/30 of lecture/presentation to small group + posters. In terms of usefulness, we might want to see the opposite balance (70% small group and poster mixing).

The tech was very bad. Eighteen months into the pandemic this stuff should not still be going wrong: Speaker audio not working, hanging around for someone to start the Zoom breakout rooms, delays. Honestly, this was so frustrating I almost just left and didn't come back. And, this is not an impossible problem [to prevent]. I have been to online conferences where this has worked excellently.

I wasn't able to attend very much of the meeting because of other obligations. That said, the sessions I did participate in didn't live up to the goal of including community partners as much

as I'd hoped. I really appreciate that you intended to design it this way, but I think it would be helpful to have more of those community partner perspectives represented in the plenaries.

It did not feel possible to speak frankly about some of the biggest equity / inclusion barriers for projects funded by NSF / universities: the amount of time and resources required to apply for grants, administer grants, and report on grant activities. Such requirements set up an automatic power dynamic between university researchers and community partners that is very, very difficult to shift even using all the best practices in university-community research partnerships. As a result of not being able to speak frankly about this, much of the conversation touched on well-known challenges in university-community partnerships at the person-to-person level, as opposed to really getting into an analysis of structural / systemic difficulties.

Lots of technical issues, but I realize that is not the fault of the CAISE team. I also heard some negative stories about assigned facilitators for the critical conversations. Just because some leaders in our field say they are working on equity doesn't mean they can set aside their egos to facilitate an open conversation. And I think the presentations during the concurrent sessions. Most felt like sales pitches for the projects, not conversation starters about the proposed topics.

Not inclusive, academic jargon, NSF feels exclusive in general, Phd's valued higher, focus on reaching underserved communities to do the work the work that NSF and others consider "valuable."

The poster sessions did not work well as they were not curated, and it was difficult to find people to chat. Also, the break-out session often cut people off mid-sentence and there was no easy way to contact everyone in that group to finish the discussion.

The second plenary panel, all academics, used SO much jargon (e.g., axiology). I was able to follow it, but I was concerned for the many community partners and collaborators at the meeting.

Some of the small-group discussions were not that satisfying or useful. Better prompts or closer ties between the facilitation of small-group discussions and a presentation or poster would perhaps have been better.

Even beyond the first day, the problems with the conference platform technology were rather distracting and didn't allow as much information exchange or interaction as I had hoped for. Although I appreciate the invitation to expand the meeting to many partner organizations, I'm not sure it was productive to have all of us together in all aspects of the meeting. There were times when I felt like there was more harm than good in these interactions when it became clear that we are operating in different contexts, with different norms, resources, privileges, or constraints.

There was A LOT of jargon and inaccessible language in some of the sessions. I saw in the chat some frustration about this. If we're inviting community partners and practitioners to these meetings then we need to ensure that accessible language is being used.

Creating an engaging and interactive conference that is completing remote is challenging. This conference is by far the best that I have participated in during the pandemic. It is still hard to start of conversations with people about overlapping interests. I found the format for the posters quite useful, but given that I was presenting a poster I had limited time to visit other posters while the presenters were there. If a virtual format were needed again, it might be useful to have more poster palooza sessions, each with fewer presenters to enable those of us who are presenting to visit more posters while the presenter is present.

I felt like this meeting was very much pitched at individuals who were comfortable or firmly entrenched within informal science education. Many of the plenaries and discussions were at a high technical or theoretical level and were hard to translate to the on-the-ground work that I've been focusing on in our project. Transcending these levels was very difficult for me. The co-creation and authentic partnership discussions were useful, but they are difficult to implement in the middle of a project – they seemed more appropriate for individuals considering future projects and applications. The technical challenges made it difficult for me to fully engage with the content that was being provided.

<u>For community organization representatives</u>, responses include:

- Power dynamics are hard to overcome
- Not enough context/background on the meeting
- Academic jargon/language barrier made it uncomfortable; not sure contributions of community members were valued
- Not enough engagement/interaction
- Technology issues
- Poster sessions were difficult to navigate leaving less time for discussion

Sample comments below:

It did not feel possible to speak frankly about some of the biggest equity/inclusion barriers for projects funded by NSF/universities: the amount of time and resources required to apply for grants, administer grants, and report on grant activities. Such requirements set up an automatic power dynamic between university researchers and community partners that is very, very difficult to shift even using all the best practices in university-community research partnerships. As a result of not being able to speak frankly about this, much of the conversation touched on well-known challenges in university-community partnerships at the person-to-person level, as opposed to really getting into an analysis of structural / systemic difficulties.

I was a community member and had little context or background information provided to me about what this experience would entail. While this is not necessarily a negative point, I did not feel equipped to participate in the ways I would like.

It was really hard to follow along with everything. There were times that I had no idea what people were talking about. If you are wanting more community partners to join this I think you need to rethink who you have presenting and also about the types of audiences you may have. This was my first time attending this and it left me feeling very intimidated and uncomfortable in some of the breakout rooms.

Too much technical references for grassroots participants – not enough options. Did not feel my contributions were valued.

The technical challenges were challenging (but understandable). The breakout sessions weren't always well titled, so I wasn't sure what the true topic of focus was.

What suggestions do you have for making future meetings more valuable to you?

Suggestions from all roles varied but improving the ability to network and engage with others was a strong theme. More and better support for how to participate (especially in the poster sessions), and more time for breakouts with better facilitation were also mentioned.

For AISL PIs, co-PIs, project staff, and evaluators, common responses to this question include:

- More/better description of the sessions
- More of a balance of DEI issues and other themes
- More support for poster sessions and more encouragement to attend them
- Better ways to engage/communicate/network
- More info about NSF programs
- Better facilitated breakouts, more time in breakouts
- Better ways to integrate the community partners
- Better ways to connect with people in similar communication/learning spaces
- Covered old ground, need new ideas/people/theories

Sample comments below:

While I appreciated the strong theme, I do wish there had been more variety of topics across the 3 days. It began feeling repetitive.

If grantees were part of the program development it wasn't clear to me. A more inclusive process to identify needs and desired outcomes could be helpful.

If networking was a goal, then support networking in a different way. It is difficult to network during plenaries or when there are dozens of virtual posters. Instead of relying on the same formats, re-evaluate goals and design a format that meets the goals.

I would have benefited from learning more about the current projects that are being funded and the challenges and successes of those teams.

Give each group a topic for breakout group discussion.

I'll celebrate the day when we can meet in-person again, but also recognize the real benefits of Zoom (e.g. climate impact and expense). I'd like to see additional work with community partners in meetings and working to be sure these are valuable for both community partners and researchers in equitable ways.

If there is a way to flag the communication/learning spaces that each person identifies with that would be great. For example, if someone is working in documentary film, it would be good to know where to find them. While I got a lot out of the meeting, I did not find sessions or other attendees who were the most directly related to the space I work in who I would have liked to engage with.

Make it more clear as to what the different types of sessions are and what will be required of the participants (listen, listen and engage, engage, etc.)

Perhaps more external facilitation to realign sessions that are off topic.

A little more advance notice of how to participate in a poster session and different between poster session and presentation would have been helpful.

As a practitioner, I found much of the content was not especially connected to the core focus of my own work. The equity lens was largely directed at researchers and how they engage with the communities they study. This makes sense given NSF's mandate – but personally I would like to see more balance between research and practice in the plenaries and conversations.

Expectations for PIs and community partners, and how they should plan to engage in the meeting activities together or separately, were unclear. More direction on this front in advance would have been very helpful, if the expectation is that this representation will continue in the future.

The poster session might be rethought. I felt like people spent a lot of time creating their posters but it wasn't clear how much they were really able to share with others. Also might want to reconsider how to involve community partners. Nice to involve them but a 3-day conference is a big ask so inviting them to a smaller piece of it may have worked better.

I think focusing everything around equitable partnerships actually excludes work that doesn't focus on this theme. I would have liked to see a diversity of conversations around different themes, not just on DEI issues.

I am an insider, and even for me this meeting still feels very elite and not especially inclusive of broad work being done in informal education contexts. I understand that it's the nature of it being an AISL PI meeting, but it's not a group of projects that really reflects the reality of most informal learning organizations who have limited time and funding. I'd like more analysis of how impactful project findings across the portfolio are on the field at large (e.g. outside of the PIs who work at academic institutions and read journal articles).

I realize there is usually a theme to meetings, but the complete focus of this one made it seem somewhat one-dimensional. Yes, partnerships and equity are critical but there are other common challenges facing the grantees as well.

There is a need for this meeting to present more summaries of theory from outside AISL to help the prime goals of the meeting have a basis in theory and literature. In this case, we were hearing ideas that are so well-trodden in civil rights and social equity research that it felt like I fell back to the 1980s.

First thing, and I find myself surprised mentioning it, would be a bit more theory/generalization. We had a whole session on place-based learning, without any notes about how this should be considered when the main "place" you're at is the home. The second item is that we'd do better by having a meeting where community partners run a lot more of the show (i.e., sessions like a "problem fair" where people show their current priority issues and trends in what's worked / failed in their community). This would need to be not just existing community partners but bringing in strong community partners who *don't* have much research going on. The third item is there should probably be discussions and ideas about how NSF itself could be structuring its programs and practices for better impact. Especially as we consider equity as more central, there's structural issues about how to bring in more voices and how to have community stakeholders help set the agenda for research, rather than having researchers come with a hammer and discussing if this community has issues with nails. Because of NSF's commitment to generalizable research, I think projects can gravitate toward "searching for the keys under the lamppost" (solutions with good underpinnings, but potentially not for a community's highest-priority problem). I'd like to see a good balance of making sure we're also getting a pull for the highest priority problems in communities and then ways to match-make getting the best research teams paired up to address them.

Community partners: For several months as this meeting was being planned, it wasn't clear what the role of our community partner was meant to be. One thing I noticed was that there was an assumption that they were co-investigators on the grant. This is not often the case. There needs to be a more gentle introduction for our community partners. Coming into a meeting with professors and researchers can be intimidating. Also, it wasn't clear what the expectations were for her nor what sessions she could target and I was somewhat embarrassed

to ask her to just come and see what happens. My community partner has a busy, full-time job. She would need to know the schedule a few months in advance, not just two weeks in advance. Finally, could there be special meetings specifically for community partners? I wasn't aware of any. (researcher)

For community organization representatives, responses include:

- more support/information about what to expect and do in the different sessions
- more instruction on how to navigate the different sessions, especially posters
- more time/opportunity for networking outside of sessions

Sample comments below:

Sessions that are more community partner friendly.

Despite some of the difficulties of virtual meetings, it was very useful to have this opportunity to participate from a distance.

Accountability and expectations of engagement for each session for attendees and presenters.

More instructions for the different formats for meetings, especially what type (zoom, poster presentation format, others) each will be. I had no idea what was going to happen next on my screen for each. One I thought I would be watching others only and was tossed into the primary 5 speakers. Navigating the poster areas needs much more explanation and when you click on a different room it should put you into the neutral center, then you can choose which of the 4 sections to go to. I always either landed right in the middle of an ongoing conversation with voices asking if I had questions before the server updated fully the visual of where I was, or directly on top of a poster icon, again having to make apologies to navigate to where I was trying to go. Would have used contact info after poster sessions as asking for an email during the session was difficult with time, other people talking, etc. More pre-info needed for new community partners and other new attendees.