



Conducting a Racial Equity Audit: Methods and Insights from a Resource Center

A report by the Center for Advancement of Informal
Science Education (CAISE)

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Introduction

The overall goal of the Center for Advancement of Informal Science Education (CAISE) Equity Audit has been to assess CAISE as an organization, and its operations and products through a racial equity lens. In this report, CAISE provides insights on how to better serve our audiences, identify potential resource gaps, and to expand the reach and value of our work to other communities and individuals.

As the resource center for the National Science Foundation's (NSF) Advancing Informal STEM Learning program (AISL), CAISE was charged with iterating initiatives and activities to help AISL and other NSF programs understand the Informal STEM Education (ISE) field and attend to important Diversity, Equity, Inclusion, and Accessibility (DEAI) needs in the field. NSF's Broadening Participation priority has historically and consistently recognized that all people belong in the STEM enterprise and that there are groups who have historically been and continue to be excluded, under-served, or underrepresented in STEM. CAISE's [Broadening Participation Task Force](#) focused on developing resources for those who design and study ISE experiences to take a critical perspective when thinking about, and discussing, barriers to broadening participation within their organizations or projects.

After launching and disseminating the toolkit that resulted from that effort (Bevan, et al 2018), the CAISE team felt it important to turn its attention internally, and undertook the equity audit to examine how our practices, activities, and communications could be more equitable. An equity audit involves the collection and systematic review of a range of data sources to leverage accountability in addressing and making progress toward equity (Capper et al., 2020, Skarla et al. 2009). We anticipated that the Equity Audit would serve to identify areas of strength to build on as well as gaps and opportunities to address equity in CAISE's practices and activities.

We chose racial equity as the specific focus of our audit because racial inequity underlies every domain of our society, as demonstrated by the events and public discourse around systemic racism in 2020. Race also has implications in the power dynamics between researchers and practitioners, a key area of past CAISE focus (Crowley, et al 2018).

We also recognized and discussed the myriad definitions of equity, and chose to apply the definition articulated by Equity in the Center (a non-profit organization which provides tools, frameworks, and workshops to advance racial equity):

The guarantee of fair treatment, access, opportunity, and advancement while at the same time striving to identify and eliminate barriers that have prevented the full participation of some groups. The principle of equity acknowledges that there are historically underserved and underrepresented populations, and that fairness regarding these unbalanced conditions is needed to assist equality in the provision of effective opportunities to all groups.

Approach and Process

Race Equity Framework

After a review of several evidence-based frameworks and tools publicly available (both free and fee-based), CAISE selected Equity in the Center's (EiC) [Awake to Woke to Work](#) framework (Equity in the Center, 2018) to ground the audit.

EiC's research suggests that organizations move through a cycle of change as they shift from a white dominant culture to a Race Equity Culture. The EiC framework maps these stages and also identifies seven levers that can help move organizations toward racial equity. The framework served to help CAISE conceptualize stages of an organization's development toward racial equity. We also used the seven areas to help focus and structure our inquiry. Additionally, the CAISE team referenced the framework to develop rubrics used for interrogating processes.

Figure 1. Equity in the Center Race Equity Framework



Key considerations in the decision to use this framework included: 1.) availability of training sessions on building racial equity and using the framework; 2.) a comprehensive description of progressive paths to equity, with indicators for each; 3.) levers or racial equity that largely aligned with the various elements of CAISE governance and operations; and, 4.) definitions and glossary of terms to ground shared understanding as we began the process.

Assembling the Team

CAISE co-Principal Investigators (co-PIs) Cecilia Garibay and Rabiah Mayas co-led the Equity Audit work, but the Principal Investigator (PI) Jamie Bell, all co-PIs, and CAISE staff were involved. Throughout the process, the CAISE team set time aside at weekly team meetings to check in on progress, share information, and reflect on issues and ideas as they emerged. Team members attended meetings with the Equity Audit Committee (see next section), and participated in the audit activities described in the Focal Areas and Methods section, although individuals' level of involvement varied depending on scheduling and availability to participate.

At the beginning of this work, the CAISE team oriented to the Equity in the Center framework, working together over several meetings to establish a shared understanding of key concepts. During sessions, for example, the team discussed and reflected on terms in the EiC glossary (e.g. "white supremacy culture") individually and as a group, noting, for example, where team members first encountered the term and where/how they wrestled with particular concepts. The team also mapped the levers of racial equity (e.g. senior managers) to the corresponding areas of CAISE. (PI Bell and co-PI Mayas also participated in the two-part Equity in the Center workshop "Building a Race Equity Culture" and shared key learnings with the team.)

In early 2022, CAISE also engaged an external contractor to support data organization and analysis as well some administrative tasks associated with the audit. They joined the remaining Equity Audit Committee meetings and several co-PI meetings to both get oriented to CAISE and the audit work and to share their analyses of data. We also reviewed select data from the 2021 AISL Awardee Meeting provided by our evaluator at Inverness Research.

Equity Audit Committee

We convened an external Committee of professionals to help inform our approach and provide ongoing feedback and insights during the equity audit process. The Equity Audit Committee was composed of 8 individuals, selected from a variety of sectors and who have diverse expertise as equity-oriented researchers and/or practitioners in ISE, SciComm, and networked organizations. We invited the Committee members to help us uncover, assess, challenge, and refine the ways in which CAISE might attend to equity, and advise on meaningful and sustainable next steps for the center.

Some specific areas assessed included the use of DEAI-relevant language, power sharing, and inclusion of diverse perspectives in CAISE decision-making; these were among the areas raised by NSF program directors during CAISE's reverse site visit in July 2021. Our intention was that the expertise and perspectives that the Committee brought to this work would help ensure that CAISE is accountable to the goals for the audit and our commitment to strengthening the resource center.

Criteria established for potential Committee members included demonstrated connections to science learning, experience leading or participating in strategic racial equity work, some familiarity with CAISE initiatives and work products (e.g. the InformalScience.org website, taskforce toolkits, etc.), and direct experience engaging racially diverse audiences and populations. In forming the Committee, the team sought diversity in the following areas: a.) sector of practice or research; b.) tenure in the field; c.) areas of core expertise in practice, research, or evaluation; d.) gender; race and ethnicity. e.) familiarity with CAISE. To select Committee members, a preliminary list of more than 25 individuals was developed and rated based on the criteria above, narrowing the list to eight individuals, all of whom accepted the invitation to participate.

Of note, Committee participation included an honorarium in an intentional effort to acknowledge and compensate for advisory work that is often requested on a pro bono basis, especially from BIPOC-identifying individuals. Compensation was also critical as Committee members ranged from a doctoral candidate through tenured faculty and senior nonprofit leader, and we recognized individuals would likely have heterogeneous ability and incentive to participate fully. (See Appendix A for a list of Committee members.)

The Committee's work began in September 2021 and concluded in March 2022. The Committee and CAISE team members met monthly via Zoom (excepting December). Committee members also attended the Awardee Meeting and participated in a post-meeting debrief. Committee members reviewed documents and materials asynchronously. The timeline of the Committee work was modified to account for difficulty scheduling meetings in December, and in recognition that the Awardee Meeting occupied much of the time originally planned for deeper assessment of CAISE's equity practices. Committee members were asked to extend their service through March, and seven of eight members were able to do so. Subsequent Committee meetings were adjusted to be shorter, feedback-focused sessions, providing more flexible opportunities to meet (two sessions were offered for each topic), and included prompts for asynchronous feedback before, and after, each session. Topics included discussions of the opportunities for equity that are available as an NSF resource center and the internal CAISE Pulse Check assessment score report (described in the next section).

Focal Areas and Methods

The CAISE Equity Audit involved three main focus areas: 1.) internal assessment of CAISE processes and policies; 2.) review of CAISE historical documents; and, 3.) assessment of the 2021 AISL Awardee Meeting.

Internal Assessment of CAISE processes and practices

The overarching questions for the assessment were:

1. To what extent and in what ways have CAISE internal processes, practices, and systems attended to racial equity?

2. How might we build/maintain/expand the internal CAISE team culture around interrogating and discussing issues of racial equity in our work?
3. What are current CAISE team members' perspectives on, and experience with, racial equity at the organizational level?

The internal assessment conducted by CAISE team members used existing equity assessments and the Equity in the Center [Pulse Check](#). The goal of this thread was to examine CAISE internal processes, practices, and systems, and the ways in which they have attended to, advanced, and/or constrained a focus on and advancement of equity, and racial equity specifically. CAISE was among a set of organizations which had the opportunity to use the tool in its beta version and provide feedback about it to Equity in the Center.

The Pulse Check is specifically designed as a team-based assessment and CAISE conducted it together over Zoom, in two separate sessions on the same day. EiC recommended allocating an hour for the assessment; however, we found that orienting to the tool and determining a process for generating consensus answers for large, multiple choice questions took a significant amount of time. In total, the process took approximately three hours, and upon submission of our responses, a score report was automatically generated and emailed to the team.

Historical Document Review

The Equity Audit document review and analysis was focused on an assessment of historical and current CAISE documents, practices, and resources. The goal of this activity was to understand how deeply CAISE has centered equity over its 15-year existence.

The overarching questions for this thread of the audit were:

1. To what extent and in what ways has CAISE focused on equity broadly, and racial equity more specifically?
2. To what extent and in what ways, if at all, has CAISE been a leader for the ISE field in advocating for, advancing, and centering racial equity? Has it primarily taken a leadership role in this area, or a supportive role?
3. What are opportunities for future work in taking a leadership role in ISE to advocate for, and advance, racial equity?

This work involved analyzing a range of documents and products produced over the course of CAISE's three award periods to obtain a more holistic understanding of the organization's activities historically in terms of equity, and racial equity specifically over time. Historical documents reviewed, and in some cases, synthesized, for the Equity Audit process, included: 1.) a historical summary of CAISE produced by Inverness Research, our external evaluator; 2.) annual reports for all three award cycles; 3.) summaries of inquiry groups/convenings goals, work, and products; and, 4.) invitees to CAISE inquiry groups, convenings, and task forces.

Document analysis involved two strategies. Two CAISE team members reviewed the documents using a combination of content and thematic analysis (Bowen, 2009) to determine the presence of references to equity-related content (e.g., mentions of broadening participation, DEAI, etc.) and identifying themes as they emerged. Also important in this process were frequent discussions among the CAISE team, particularly with the longest-tenured co-PIs, to provide context and fill in information gaps found in the documentation. The Equity Audit Committee reviewed the historical summary from Inverness Research, and a synthesis document we developed from our analysis of annual reports and documents from inquiry groups, and convenings, and task forces and then provided feedback. Additionally, the two longest-tenured co-PIs attended Committee meetings to provide context and answer questions, particularly in terms of specific decisions made in the past. Committee meetings were recorded and transcripts were generated for analysis via a text transcription software. Transcripts were reviewed and coded using thematic analysis.

CAISE was also interested in understanding more about who had participated in activities which produced white papers and reports for the ISE field. Specifically, we were interested in the extent to which groups were representative of the field in terms of demographics, sectors, and tenure, to increase our understanding of if/how CAISE had de-centered White, dominant perspectives in these activities. To do this, the CAISE team collated participant lists from convenings, inquiry groups, and task forces to create a database, and better understand who CAISE has worked with, and engaged, over time.

The database developed included information already in-hand e.g., dates of participation, position title, and organizational affiliation at the time of the work with CAISE. We then filled in participants' primary area of focus (research, evaluation, practice, or other), the ISE sector/setting where their work was based at the time, and the field-identification of their work (ISE, SciComm, or both). Basic descriptive statistics were used to analyze the data and are summarized in tables or charts in this report.

Historically, CAISE did not prioritize collecting participant demographic data for any of these activities when they occurred. We attempted to fill in race/ethnicity, gender, and tenure in-the-field to the extent possible. For example, the team relied on interpersonal experience and knowledge of race/ethnicity, being mindful to only add information for individuals with whom at least one CAISE team member had personally engaged with and knew first-hand how they self-identified. We attempted the same for gender and tenure. This left many gaps in the data and we ultimately concluded that it was not possible to provide precise quantitative information. However, the two longest tenured co-PIs reviewed the tenure category from the list, and provided historical context and reflections on how individuals were selected.

2021 NSF AISL Awardee Meeting

As the Equity Audit work was being launched, CAISE also began planning efforts for the 2021 NSF AISL Awardee Meeting with a theme of "Building and Sustaining Equitable Partnerships and Collaborations." The CAISE team's goals were to center equity, and the team proposed including community partners from AISL projects at the meeting instead of only project PIs, as

was traditionally the practice.

Given its focus, this effort provided a unique opportunity for the CAISE team to intentionally plan and design the Awardee Meeting to prioritize equity as its central goal, while simultaneously engaging in on-going reflection and self-assessment of that process as part of the audit.

The overarching questions for this thread of the audit were:

1. How can we more intentionally design for equity in the Awardee Meeting? What have been our past practices and what could we do differently?
2. To what extent and in what ways was CAISE successful in meeting its equity-based goals?
3. What are lessons learned and opportunities for planning future meetings that can center and advance racial equity?

We developed several checks and feedback tools to support an on-going equity focus during the Awardee Meeting planning, which also served as assessment tools for the Equity Audit. These can be found in the Appendices and included:

1. A Commitments and Standards rubric which set numeric goals for diverse representation at plenaries and sessions (see Appendix L for specific percentage goals set).
2. A Racial Equity Rubric to help the team identify where/how issues of inequity had (and could in the future) show up at the Awardee Meeting, as well as potential steps to prevent or address these issues (see Appendix M). We drew on the terms and concepts defined in the EiC framework to develop the tool and the team used this rubric to check-in during planning and during post-meeting debriefs.
3. An Equity Criteria Checklist (Appendix J), which comprised seven questions and an articulated rationale and equity commitment for each. We used it for internal reflection throughout the planning process (this is described in more detail in the Internal Process Results section.)
4. An Awardee Meeting Observation Tool (Appendix N) for CAISE team members and the Equity Audit Committee to gather perspectives on whether, and how, issues of equity were addressed during various Awardee Meeting sessions. A total of 11 observations were completed (5 concurrent sessions; 5 critical conversations; 1 plenary).

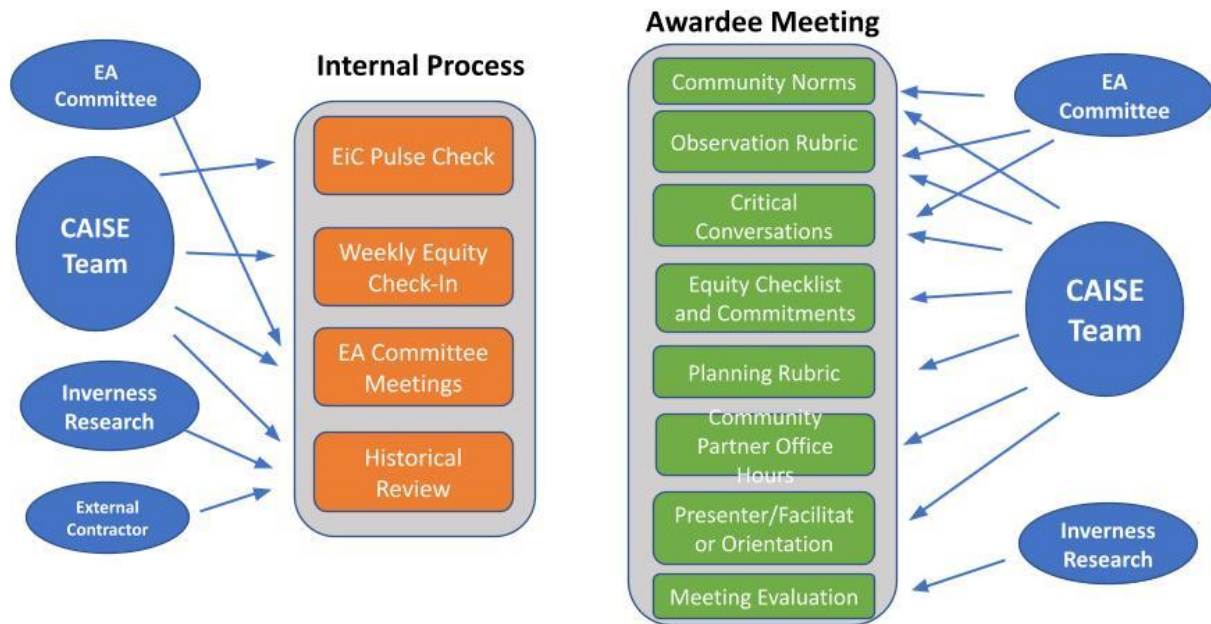
Additionally, the CAISE team met with the Committee to reflect on the Awardee Meeting and gather feedback. Meetings were recorded and transcripts were generated for analysis via a text transcription software. Transcripts were reviewed and coded using thematic analysis.

Data from the formal Awardee Meeting evaluation conducted by Inverness Research, in collaboration with the STEM Research Center at Oregon State University, were also mined as

part of the Equity Audit to answer our core questions. Post-meeting survey responses regarding community partner perspectives and experiences were of particular interest; these data were reviewed as part of our audit.

A summary of the interrelated processes that informed, and were generated through the audit process, is described in Figure 2 below.

Figure 2. Equity Audit Contributors and Process



Results

Internal CAISE Process and Pulse Check

Early steps to incorporate the *Awake to Woke to Work* framework into the audit process included a series of discussions—with and without the Equity Audit Committee—to understand how to operationalize the framework within the CAISE context. Meetings of the CAISE team highlighted a heterogeneity of understanding, experience, and comfort with racial equity terms defined in the framework glossary. For example, “decolonization” and “white supremacy” were the two most frequently-cited terms with which CAISE members felt unsettled or unclear. Other terms, such as “microaggressions” or “white privilege”, were noted by some as being challenging or confusing in the past but not persistently so.

The Pulse Check online group survey tool generated two complementary sets of outputs: the score report auto-generated by the tool and the team discussions during the survey completion session (which were recorded and transcribed). The report generated an overall rating for CAISE as being in the **low range of the Woke stage**; the rating comments included:

- *At this stage, organizational focus has shifted from representation and diversity, to equity and inclusion within organizational culture.*
- *There is more acknowledgement of differing staff experiences between BIPOC and white people in the organization.*
- *Leaders and staff have begun identifying policies and practices to focus on, and identifying and dedicating resources to support rac[ial] equity work.*
- *White dominant structures are still in place, although leaders are beginning to acknowledge them as such.*
- *Organization’s leadership and staff may continue to place the burden of rac[ial] equity work on BIPOC staff and partners.*

While the Pulse Check is intended as a tool to assess overall organizational practices and readiness for racial equity work—rather than provide organization-specific insights—internal discussions and a debrief with the Committee showed alignment with several of the ratings, including the overall score. Notably, the team was challenged during the assessment to self-assign an overall rating of Awake, Woke, or Work, with resulting near-consensus that CAISE was likely between the Awake and Woke stages. There was agreement during the team debrief that the Pulse Check overall score did indeed reflect the team’s perspective.

The report also provided ratings for each lever of racial equity using the same scale; these are below in Figure 3 and the full report can be found in the Appendix K. The report also includes recommendations for moving to the next level of racial equity for each lever.

Figure 3. Organizational Ratings from Pulse Check Score Report



As noted elsewhere in this report, a hallmark of the Equity Audit process was a commitment to testing and implementing equity-oriented approaches in real time. One such approach was the development of an Equity Check-In, placed on the meeting agendas and reviewed at the start of virtually each weekly meeting of co-PIs and staff. The check-in was adapted from the Equity Checklist created for Awardee Meeting (see Appendix M) and provided an intentional pause for individual and group reflection around a set of questions (see below) on the extent to which attention was paid to equity during the preceding week.

- | |
|--|
| 1. Who or what is being centered in this process or decision? |
| 2. Are we defaulting to what we've typically done? |
| 3. Are we defaulting to who we know? |
| 4. How is our language aligned with an equity focus? |
| 5. How are we ensuring that we are not overburdening BIPOC CAISE team members on equity-focused tasks and efforts? |

Though there was variability week-to-week on the type and volume of conversations, the check-in was notably used consistently at each meeting and led by CAISE staff. Equity check-ins were also part of weekly CAISE staff (only) meetings, and at all of these meetings, in addition to questions and observations about internal practices, incidents in the national news and other events were sometimes raised as examples of societal or systemic inequities. One lesson learned from this practice was that by making time and space to surface and discuss equity-related issues, the team had more opportunity to develop shared understandings and vocabulary.

Notably, the weekly Equity Check-Ins were facilitated by a CAISE staff member who does not identify as BIPOC and whose core role includes facilitating meetings of the co-PIs and others. This was important, as the staff member held the group, including the audit co-leads, accountable to the process as part of the standing agenda. Even on days when comments on equity were minimal, the intentional pause for reflection and discussion was seen as valuable by the team. The various other checklists and rubrics developed for the Equity Audit process also helped to systematize individual and collective decision-making; however, with the exception of the weekly check-in, we did not always remember to reference and apply the rubrics outside of the initial process for which they were created. As such, CAISE decision-making and discussions during the equity audit did not always bring equity to the forefront as planned. A process for systematic use of and accountability to the rubrics may have fostered more nuanced and ongoing discussions within the team.

Historical Document Review and Analysis

Our analysis found that, historically, CAISE work has focused on diversity and access, but not explicitly on racial equity. Committee members noted that this pattern has also been true in the

ISE field broadly. Additionally, as a cooperative agreement, CAISE's focus and scope has been collaboratively determined with the NSF AISL program.

Early in its work, CAISE focused largely on ISE field building efforts and if/how projects were broadening access to a diversity of audiences. There was a particular focus on supporting NSF-funded projects in centering the needs of the public and other specific audiences. This manifested in efforts, for example, to highlight the importance of front-end evaluation and existing evaluative frameworks such as NSF's Framework for Evaluating Impacts of Informal Science Education Projects. CAISE also engaged in various activities to support and disseminate findings from the Online Project Monitory System (OPMS) that AISL-funded projects participated in between 2008-2016.

One specific effort toward diversifying the field was the CAISE Leadership and Diversity Fellows Program which aimed to support professionals of color in leadership development. Two cohorts of 15 emerging leaders participated from 2008-2010. The Equity Audit Committee singled this effort out as an example of ways CAISE had attended to supporting and developing BIPOC professionals. The program was sunsetted after two years; NSF indicated that while it was beneficial for the Fellows who had participated, the program had insufficient justification for the broad use of CAISE resources that could be distributed to support activities for larger numbers of people.

In iteration with the AISL program, CAISE endeavored to take an intentionally "bottoms-up" approach to serving the field by identifying new work in broadening participation and highlighting AISL-funded projects (and the associated investigators) as exemplars. This was reflected in CAISE's use of the four C's—characterize, communicate, convene, and catalyze—to frame and organize its work.

We found that throughout its history, CAISE's thinking around DEAI has closely mirrored the language and thinking of the ISE field writ large. The Equity Audit Committee, for example, pointed out that looking back over the last couple of decades, the field has focused mainly on diversity and access and "broadening participation," with equity and social justice discourse being a more recent framing. In other words, racial equity was not a central overall focus for the ISE field, nor NSF, during this timeframe (although specific groups and/or programs were working on those efforts and had been before this time period). Stronger themes of equity work in ISE over this time period centered on issues of gender, disability, and class. Access and participation in STEM were primary frames. One Committee member offered this reflection, "As I read about the history of CAISE, I can see the momentum that has built around systemic change with a focus on partnerships, broader impacts, and evaluation...I may not be astute but I don't see 'racial equity' called out directly, even though I know from experience and I know the individuals involved have held that commitment. Addressing racial equity requires that organizations hold themselves accountable."

Over its 15-year history, CAISE has formed inquiry groups, convenings, initiatives, and task forces to foster discussion among ISE practitioners, researchers, and evaluators to identify and

develop whitepapers/reports for the field that characterize trends, challenges, needs, and opportunities. CAISE, in cooperation with NSF, identified the focus and charge of these working groups. Focal areas emerged from what the CAISE PI and co-PIs learned or observed through their work interacting with the field. Additionally, because CAISE is a cooperative agreement with NSF, the charge for an inquiry group, initiative, or taskforce, and other proposed project work, was iterated with, and approved, by NSF which, at times, also suggested foci for new initiatives or topics.

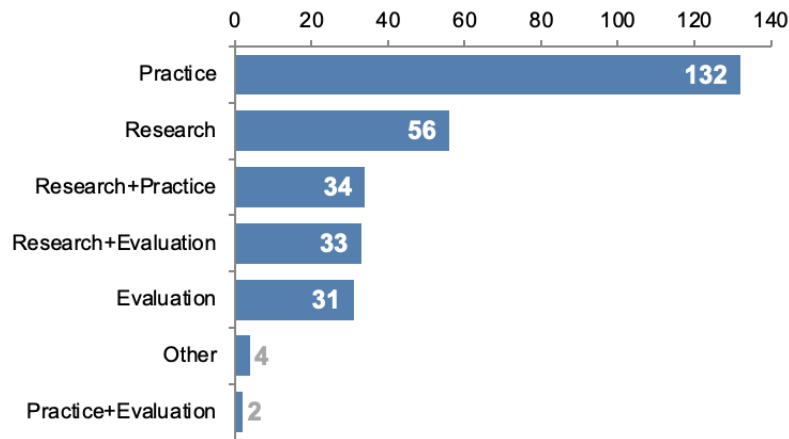
Evaluation findings from Inverness Research showed that individuals who participated in these meetings and initiatives found them valuable and often noted the importance of bringing together people to drill down on important issues that professionals don't have time, in their daily routines, to examine and consider ways to address them. They also reported that being involved in this work fostered professional connections among group members.

By bringing together and supporting professionals from the field to address shared problems of practice, CAISE strove to lift up a large group of people and projects, and position them to share the work widely. These meetings and initiatives produced white papers and resources for the field. Committee members noted that the way that CAISE provided access to reports, studies, and resources through the InformalScience.org repository (e.g. no requirement to be AISL-funded to access its products) was intentionally inclusive. Some members of the Equity Audit Committee also noted, however, that although access to resources for anyone who wants access is important, it is also critical to consider who is involved in shaping the focus areas, goals, and decisions. As one Committee member put it, "There's a difference between who has access to resources and who has a voice at the table."

In all cases, CAISE strove to involve researchers, practitioners, and evaluators from a wide range of ISE sectors (e.g., museums, media, youth development, citizen science) in inquiry groups, initiatives, and convenings. This was done with review and input from NSF ISE and AISL program directors, as part of the cooperative agreement working dynamics. We found, however, that the selection process for those invited to participate in these groups and events was not transparent; no documentation exists about the selection criteria or process. (An exception was the Broadening Participation Taskforce; CAISE co-PIs who led that effort developed selection criteria to ensure diversity along a range of sectors, career stage, and demographics.) In all, a broad range of ISE professionals participated in inquiry groups, convenings, initiatives, and task forces.

In terms of focus area, aggregate data for all three event types show that practitioners were the most represented group, including those who were primarily practitioners (n=132) as well as an additional group who combined practice with research or evaluation (N=36). Researchers were the next largest represented group and included those who were primarily researchers (N=56) and those who combined research with practice or evaluation (N=67). (See Figure 4.) This trend held when data were disaggregated by event type (see Appendix T).

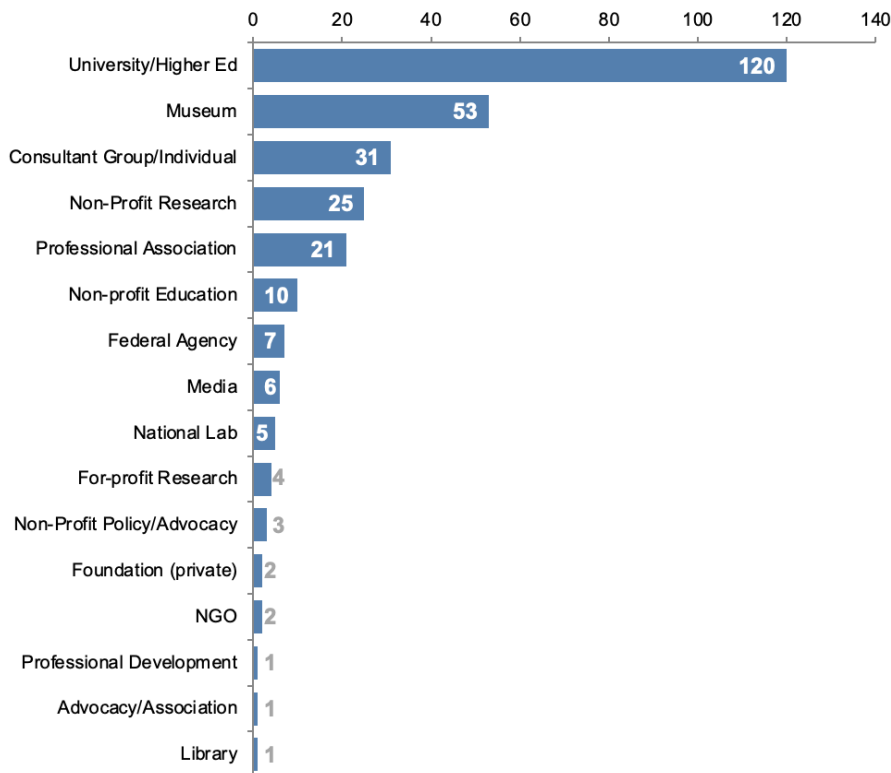
Figure 4. Participants by Area of Focus: All Events (2008-2022)



N = 292

Analysis of participants for the type of organization at which they worked showed that a significant portion were from universities/higher education (see Figure 5).. This trend held when data were disaggregated by event type (see Appendix T).

Figure 5. Participants by Organization Type: All Events (2008-2022)



N = 292

The nature of these groups, however, meant that those invited were, for the most part, individuals considered to be leaders in a specific area and were seasoned professionals in the field. The groups were a central part of the characterization work of CAISE, meaning that informed and experienced professionals were considered assets who could spot new trends and challenges, coordinate practice and theory, and help to connect conversations across professional subcommunities in the field. Many were, or had been, AISL-funded PIs who CAISE deemed would be able to uniquely contribute to the goals or intended products of their respective inquiry groups, convenings, or initiatives.

Another main charge for CAISE has been to support NSF AISL/ISE principal investigators through PI meetings. While meetings were broadened over different funding cycles to include people in ISE outside of NSF-funded PIs, the majority of those participating were researchers and practitioners from NSF-funded projects. The 2021 Awardee Meeting sought to broaden reach by including individuals from community-based partners on active NSF grants. (See the Awardee Meeting section of this report.)

Overall, findings indicated that CAISE reflected the ISE field's thinking and work related to DEAI but was not on the leading edge of pushing the boundaries in terms of equity work. This is in part due to the "bottoms-up" approach, mentioned above, and navigating the evolving priorities of the NSF AISL/ISE program. We also found that: a) CAISE tended to rely mostly on the knowledge and networks of the PI, co-PIs, and NSF Program Directors to identify potential participants; and b) because CAISE serves the AISL-funded community, it typically drew from the portfolio, thereby sampling from a relatively narrow subset of ISE projects and sectors. This latter point in particular meant CAISE primarily included people and organizations historically overrepresented in the field due to structural inequities and other factors.

2021 NSF AISL Awardee Meeting

CAISE included a number of activities to more intentionally attend to equity, such as the new Critical Conversations session format, intended to create space and opportunities for participants to share immediate reactions on plenary topics and engage with each other. Despite these efforts, team reflective sessions showed the compressed timeline between when CAISE received the supplement award for the Awardee Meeting and the set meeting dates was a significant challenge for an equity-oriented approach. First, the short timeline meant CAISE was unable to communicate directly with community partners, PIs, and potential plenary speakers until the supplemental award was finalized, two months prior to the meeting. Plenary panels weren't confirmed in enough time for the level of preparation envisioned. Additionally, the invitation for the proposed keynote speaker for the third meeting day (which required the additional step of Federal inter-agency communication), was significantly delayed for reasons beyond CAISE control. The team also noted in its reflective discussions that more support for community partners would have been developed with sufficient time (e.g., ISE lexicon, essential ISE readings for context, additional orientation to the virtual platforms). The Equity Audit

Committee also commented, both during planning and in post-meeting debriefs, that intentional attention to equity requires significant planning time.

CAISE set numeric goals for diverse representation at plenaries and sessions. Specific commitments were that: 50% or more of speakers on each panel self-identified as BIPOC; 75% or more of individual/keynote speakers self-identified as BIPOC; 50% of Critical Conversation session facilitators self-identified as BIPOC; and, 50% of all speakers self-identified as women or non-binary.

BIPOC speaker percentages in sessions

- 81% of plenary speakers were identified as BIPOC (9 out of 11 speakers, including a last-minute replacement of a BIPOC plenary speaker on Day 3)
- 43% of concurrent session speakers were identified as BIPOC (on Days 1 and 2, the 50% threshold was met but it was only 26% on Day 3)
- 50% of Critical Conversations facilitators were identified as BIPOC

We exceeded our commitment to have at least 75% BIPOC speakers in plenary sessions. Concurrent sessions met our commitment on Days 1 and 2 but Day 3 fell below expectations, in part due to last-minute scheduling changes. We also met our goal for Critical Conversation facilitators. We did not ask individuals about their gender and, therefore, are unable to report on whether that goal was met.

The post-Awardee Meeting survey included 27 respondents identified as community partners. Of these, a majority (n=17) rated the meeting as successful in identifying specific challenges and opportunities regarding equity in STEM education and in giving them opportunities to learn about the work of others (n=16). A slightly lower number of respondents (n=15) agreed or strongly agreed with the statement, "I have gained a better understanding of the diverse work done in informal science education and science communication."

Nonetheless, some critical issues emerged in open-ended answers regarding the use of expert language and the need for more support for community partners to orient themselves to the meeting. For community partners, there were also two suggestions related to power dynamics:

- Community partners felt there were challenging power dynamics when only one community partner was present in small breakout groups.
- Community partners noted that the broader power dynamics and structures that can make it difficult for their organizations to apply for AISL awards as the lead institution (vs. partnering with an ISE entity) went unaddressed.

Some comments by community partners indicated that the meeting was not fully successful at supporting their inclusion and participation:

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.

Data from the sessions that Equity Audit Committee members observed, Critical Conversations facilitator debrief forms, and post-meeting feedback from the Committee showed that:

- Reminders of community agreements (see Appendix O) for inclusive conversation were mentioned consistently by facilitators in the sessions observed. Committee members who observed sessions noted that the norms and guidelines documents (and intentional thinking, iterating beforehand to develop them) helped with level setting so everyone understood the intention.
- In most sessions, nearly all participants were able to contribute and voice their perspectives. With respect to Critical Conversations, in particular, Committee members offered that the structure created space for meaningful dialogue and the conversations seemed to successfully move the key points from the plenaries forward. Some noted that the Critical Conversations seemed to be more dialogic than traditional sessions, which they felt was positive. It was noted during meeting planning that facilitating these kinds of conversations was different from traditional sessions and required more preparation with facilitators (e.g., orientation sessions and norm-setting). (CAISE held orientation sessions in advance of the meeting with Critical Conversations facilitators.) Finally, the question of who chose to participate in the Critical Conversations was raised, with one Committee member commenting that most of the participants in the sessions which they facilitated were already well-steeped in work that centers equity.
- While discussions addressed equity issues, there was great variation in sessions from fairly general, or vague, to some that engaged at a deeper level (e.g., interrogation of systems or practices). Some Committee members observed that the concurrent sessions, in particular, were more traditional in that they presented overviews of specific programs and that the extent to which they highlighted equity innovations was mixed with some explicitly doing so while others did not at all. The breakout component, however, appeared to give participants an opportunity to contribute their ideas and share about their work, although they sometimes felt they got cut short.
- Committee members also observed that there still seemed to be some disconnect between researchers and practitioners. In particular, the **language and academic jargon used meant practitioners or community partners couldn't relate, leaving them feeling like outsiders, indicating power dynamics were still at play.**

Overall, Committee members were supportive and positive about the intentionality and effort of the CAISE team to center equity and experiment with more participatory formats:

I am impressed by the amount and level of work that went into responding to committee feedback on documents/plans.

I would say that the documents, the guiding principles, and all the work that went into [the Awardee Meeting] ahead of time, actually allowed us to be able—[to see it] I think, in this meeting. I was actually pretty impressed. And I think it's because of the amount of work that went into it ahead of time, there was a lot of intentional thought that went into trying to make that happen. And to see it actually happen in a way that I've never seen it before [at these meetings].

In our review of planning session meetings it was clear that there were some issues raised by the Committee that we were unable to fully address. One was how to plan and conduct the meeting in ways that supported the whole-self presence of participants, and how to measure our effectiveness in this regard. One interesting and very non-academic approach offered by the Committee was to attend to mindfulness as a way to engage full human-ness and participation in the meeting. For example:

Some of those mindful things...[could be]--if they're sitting there, like having some colored pencils, so they can doodle, while they're meeting. If they're feeling stressed, maybe they can shut off and draw something. Maybe if we had, like, a list of five things you could do, if you're feeling overwhelmed...[or] psychological related resources that [might] say, if you're feeling particularly distressed, then you can contact this one. But maybe just the five things, like, go for a walk outside for five minutes, or, you know, pet your animal or something like that.

Ultimately, it was unclear whether this is an area where we fell short or that these types of meetings are not equipped to center an individual's whole-self. **The Committee also offered perspectives from specific cultural worldviews to consider during the meeting planning process, but there was not enough time to process these ideas or integrate them into the meeting.**

Discussion and Implications

The process of the equity audit was designed to be iterative; we recognized from the outset that the Equity Audit would likely generate emergent questions and themes in real time that would warrant deeper investigation and even a shift of focused priorities for the audit. As such, the audit evolved from the initial plan and also highlighted an overarching takeaway: the critical need to appropriately resource the process with dedicated people, time, and budget.

Having CAISE co-PIs lead the equity audit grounded the work with the leadership team and provided direct, consistent access to CAISE personnel and resources. This included the full engagement of the CAISE team at key stages in the process, the dedication of weekly meeting time to discuss the audit, and the allocation of staff time to directly support the audit on a regular basis. We relied heavily on the Equity Audit co-leads to execute the audit, and while all team members played important roles for many of the audit activities, we did not adequately define explicit roles for other team members at the outset. It should be noted that this contributed to the

disproportionately higher level of BIPOC team member workload with the audit compared to White team members; this is a pattern often seen in equity work and was discussed within the team (as well as noted in our equity rubrics/checklists). Importantly, CAISE was challenged by a key staff vacancy mid-project year, so the capacity of both staff and co-PIs were significantly reduced overall.

We acknowledge that bringing on the external contractor earlier in the process would have shifted some significant administrative responsibilities (e.g., Committee meeting coordination, document preparation) from the co-leads, allowing for them to spend more time and focus on the conceptual and strategic elements of planning and executing the audit. We also conducted the majority of data analysis in the final months of the audit; having external support earlier on would have supported ongoing data analysis throughout and might have generated new understandings or questions in near-real time for the audit to address.

The external input from the Equity Audit Committee proved extremely valuable, both in thoughtful reflections and recommendations for long-term future work, and in actionable feedback on documents, plans and processes (e.g. the observation rubric for the Awardee Meeting). Both the CAISE team and Committee indicated a desire for in-person Committee meetings, due to the rich nature of conversation and connection within the group. However, the virtual format proved valuable for documentation purposes, as we used the Zoom recordings and transcriptions to reflect on and draw insights from those stakeholder conversations. **One observation gleaned from the meeting transcripts and recordings is that the Committee spent significantly less time speaking than CAISE team members; this was largely due to time needed to frame discussion topics, ask questions, and present data. However, this may suggest the interactions between CAISE and the Committee may have unintentionally reinforced existing, inequitable power dynamics during the process.**

The development of **tailored checklists and rubrics** (see Appendices) provided important structure and accountability for the team and integrated elements of the EiC framework to support equity moves during the project period. For example, this was particularly valuable during the planning of the Awardee Meeting because the documents were utilized frequently during discussions and decision-making.

Another key learning is that successful planning and hosting of a meeting that centers equity takes a significant amount of time, indeed, far more time than was available to CAISE given the timing of supplemental funding, which we were dependent on because it also effectively extended the project in order to host the meeting. Several processes that took place concurrently would have warranted a more sequential timing; for example, the development of tools and rubrics for meeting planning happened during the active recruitment and invitation process. As such, there was insufficient time to practice with, and iterate on, our tools, review them in-depth with the Committee, or seek input from organizers of similar meetings. While Committee meetings and community partner office hours provided some important insights on session structure and ways to shift meeting focus to more diverse perspectives, the planning

timeline left little room for more generative and iterative discussions, development, and review with an equity lens.

Overall we found that having an equity focus often seemed in competition, or incompatible, with the urgency with which decisions needed to be made; this was exacerbated by the complexity of planning a virtual meeting and the time needed to do so. Because of this dynamic, the team often defaulted to prior ways of doing and the Equity Audit co-leads often needed to push and raise the issue. One example was the selection of session speakers; while we had developed numeric goals for racial and gender diversity, the subgroup pulling together concurrent sessions had not identified a way to reach those potential speakers or established checks to meet these goals. This ultimately led to the generation of a tracking document at the urging of the Equity Audit co-leads which included demographic, field-tenure, and organization data as part of the vetting process for speakers.

Our findings indicate that the invitation of community partners to the Awardee Meeting for the first time was in many ways a successful change to the meeting. However, the power dynamics between AISL PIs and community partners remained throughout the process, from having PIs select the community partner invitees, to the pre-meeting community partners office hours which provided a cursory overview of expectations for the few individuals who attended. The new Critical Conversations sessions were a significant change to the meeting format, designed to create space for more diverse voices to raise and wrestle with issues facing our field. However, our team noticed—as was validated by both participant feedback and Equity Audit Committee debriefs—the baseline power dynamics between researchers and practitioners, and between PIs and community partners, were present (for example, in terms of speaking time and terminology used in discussions). It's possible that additional meeting planning time would have allowed us to more effectively mitigate these dynamics, but the systemic inequitable distribution of power within the ISE community lies outside the scope of CAISE control. Similarly, this work poses questions about whether this type of meeting can fully attend to the kinds of equity issues regarding power and culturally-grounded approaches raised during the audit and, in particular, by the Committee.

We found strong alignment of the Pulse Check score report with CAISE team conversations and Committee feedback, especially regarding CAISE's shift from being historically focused on broadening participation and diversity, to more inclusion and equity (as an area of active growth and opportunity). With an overall score of the Low Range of Woke, the assessment validated CAISE's intentional efforts to consider and attend to equity in several areas such as more internal communications about equity and inclusion. The report also suggested the need to attend to the internal policies and structures to create explicit standards and accountability processes toward increasing racial equity in the organizational culture lever. Notably, the Community lever score (Awake) also challenged CAISE to more deeply invite and include perspectives of the broader ISE/SciComm community in both CAISE initiatives and key decision-making.

The internal assessment would have been better positioned earlier in the audit process and with more allocated time to complete. (The Pulse Check was in its beta stage and our participation was limited by delays in EiC's release of the tool.) In particular, the tool required coming to consensus ratings on each question and provided a valuable opportunity for the team to hear and understand each others' perspectives on CAISE equity practices. The tool is also grounded in the concepts and terminology of the EiC framework, so completing the Pulse Check near the start of the Equity Audit work likely would have served to more deeply orient the team to the framework, provide space to identify and challenge team assumptions and views on equity, and align on report-identified areas of development to investigate more deeply. Further, there may have been opportunity to apply Pulse Check recommendations for levers in which CAISE scored low (Awake), such as community and organizational culture.

We recognize the importance of building a culture and set of practices within the team to support execution of the Equity Audit, including building trust, holding space for vulnerable conversations about equity, aligning on concepts and common language, and acknowledging the diverse lived experiences related to equity that exist within the team. An early internal meeting in which team members shared their first learnings/experiences with certain equity concepts and where difficulty and/or confusion persisted was valuable in level-setting across the team and mapping context for individual team members. A series of regular conversations (ideally, facilitated by an external party), trainings, and reflections to fully orient the team and set explicit norms for the equity audit would have been beneficial at the outset before formally starting external activities, as well as throughout the process.

In reviewing the historical document and participant database, we were challenged by the lack of demographic data collected for convenings, inquiry groups, and taskforce processes. (We should also note that demographic data were not collected for PI meetings.) While attention was paid to diversity in the invitations to various groups, the Equity Audit process highlighted a persistent gap in self-identified demographic data. Such data are critical for both tracking overall participation and for accountability to inviting diverse participation in equitable ways. We have discussed (and note here) that not systematically collecting demographic data, particularly as a majority-White-led organization, may reinforce White dominant culture and necessitates an evidence-based and iterative approach.

References

- Bevan, C., Calabrese Barton, A., and Garibay, C. (2018). *Broadening Perspectives on Broadening Participation in STEM: Critical Perspectives on the Role of Science Engagement*. Washington, DC: Center for Advancement of Informal Science Education.
- Bowen, G., (2009). Document Analysis as a Qualitative Research Method. *Qualitative Research Journal*. 9. 27-40.
- Capper, C. A., Young, M. D., & Frattura, E. (2020). The Equity Audit as the Core of Leading. In *Leadership for Increasingly Diverse Schools* (pp. 259-272). Routledge.
- Crowley, K., Bell, J., and Bevan, B. (2018). CAISE Research & Practice Task Force. Retrieved from <https://www.informalscience.org/rp-task-force>.
- Equity in the Center, (2018). *Awake to woke to work: Building a race equity culture*. Equity in the Center. Retrieved from: <https://equityinthecenter.org/resources/>.
- Skrla, L., McKenzie, K. B., and Scheurich, J. J. (2009). *Using equity audits to create equitable and excellent schools*. Thousand Oaks, CA: Corwin Press.

List of Appendices

The following documents are included as Appendices to this report:

- A. Equity Audit Committee Member Roster
- B. Equity Audit Committee MOU
- C. EA Committee Kickoff 9-1-21 slides
- D. Committee meeting 10-11-21 slides
- E. EA Committee meeting 11-19-21 slides
- F. 11-19-21 Awardee Meeting debrief with EA committee - CAISE team comments
- G. 11-19-21 Awardee Meeting debrief - EA committee comments
- H. EA Committee meeting 2-3-22 slides
- I. EA Committee feedback on July 2015 CAISE history document
- J. Internal Equity Checklist Questions and Commitments
- K. Pulse Check Score Report
- L. Awardee Meeting Equity Commitments & Standards
- M. Awardee Meeting - Racial Equity Rubric
- N. Awardee Meeting observation tool
- O. 2021 NSF AISL Awardee Meeting Community Norms
- P. Critical Conversations Facilitator Guide
- Q. Critical Conversations participant notes - Day 1
- R. Critical Conversations participant notes - Day 2
- S. CAISE Historical document - July 2015
- T. CAISE Participant Database Analysis

Appendix A - Equity Audit Committee Member Roster

1. Jennifer Adams, Associate Professor, Calgary University
2. Phillip Bell, Professor of Learning Sciences and Human Development, University of Washington
3. Dionne Champion, Research Assistant Professor, University of Florida, College of the Arts
4. Joanne Jones-Rizzi, Vice President of Science, Equity, and Education, Science Museum of Minnesota
5. Nancy Maryboy, President and Executive Director, Indigenous Education Institute
6. Andrew Plumley, Senior Director, Equity & Culture, American Alliance of Museums
7. Robert Ulrich, Scientist and Writer, University of California Los Angeles and co-founder of Reclaiming STEM
8. Tifferney White, Chief Learning Officer, Discovery Place

Appendix B - Equity Audit Committee MOU

This Memorandum of Understanding (“MOU”) is made between the Association of Science and Technology Centers (“ASTC”) and [NAME] (“Committeeperson”) who will participate in the Center for Advancement of Informal Science Education (CAISE) Equity Audit Committee (“Committee”) over a period of approximately six months, ending in early 2022. The Committee is composed of 8 individuals, selected from a variety of sectors with diverse expertise as equity-oriented researchers and/or practitioners in ISE, SciComm, and networked organizations. CAISE will work collaboratively with the Committee to identify, assess, challenge, and refine the ways in which the Center attends to equity. The Committee will advise CAISE on meaningful and sustainable next steps for the organization in 2022.

Committeeperson agrees to the following scope of work, which will be somewhat flexible to adapt to the needs of the Committee:

1. Participate in a Committee onboarding and orientation meeting with CAISE (approx. 2hrs)
2. Participate in initial Committee working session(s) with CAISE (approx. 2-4hrs)
3. Thereafter, participate in Committee meetings with CAISE (approx. 1-1.5hrs per month)
4. Attend CAISE’s AISL Awardee meeting (October 19-21 - approx. 6hrs)
5. Participate in a post-Awardee meeting debrief and reflection meeting (approx. 2hrs)
6. Participate in a meeting at the end of the 6-month Committee period with CAISE (approx. 2hrs)
7. Participate in an estimated additional 1-2 hours of work per month in between meetings which may include: document development, smaller working groups, or assessment of CAISE products (e.g. InformalScience.org website).

Committeeperson agrees to:

8. Grant permission to ASTC to photograph, videotape, and record the performance and make it available to the CAISE audience and the general public consistent with educational and promotional purposes, consistent with ASTC’s mission as a not-for-profit organization. No additional compensation will be made.
9. Acknowledge that no insurance coverage is being provided on your behalf by any entity associated with ASTC.

In accordance with this Memorandum of Understanding, ASTC agrees to:

1. Pay an honorarium of \$2,000 USD to the Committeeperson.

Terms & Conditions / Cancellation:

In the event that the Committeeperson is unable to, or for any reason, including professional responsibility, prevented from fulfilling the responsibilities outlined above, this MOU shall be considered terminated, and any fees or expenses paid by ASTC will be refunded by the Committeeperson.

In the event that ASTC or the Committeeperson is unable to meet the obligations outlined in this MOU due to acts of God, wars, strikes, terrorist activity or threats thereof, violent weather or similar events of force majeure, ASTC and Committeeperson shall not be responsible to any party for delay in the performance of its obligations pursuant to this MOU. Each party agrees to notify the others immediately upon receiving information as to the existence of a force majeure circumstance affecting this MOU. All parties agree that this clause shall serve to suspend, but not excuse, all parties from the performance of their obligations pursuant to this MOU, and that this shall occur as soon as practicable after the force majeure circumstance is no longer present.

ASTC

Committeeperson

By: Jamie Bell
Title: CAISE Project Director & Principal Investigator

Date

By: _____ Date

CAISE Equity Audit Committee

September 1, 2021

Agenda

12:00	Welcome	1:10	Overview of how CAISE has been using the Framework
12:05	Introductions	1:15	DISCUSSION
12:35	Background	1:20	Awardee meeting overview
12:50	Committee goals	1:25	Session discussion
12:55	BREAK	1:55	Next Steps, housekeeping, etc
1:00	Equity in the Center Framework		

CAISE Staff



Jamie Bell
Project Director &
Principal Investigator



Sasha Palmquist
Senior Manager of
Community



Aya Rothwell
Communications
Coordinator



Shannon Sullivan
Project Manager

CAISE Co-Principal Investigators



Kevin Crowley

University of
Pittsburgh



Cecilia Garibay

Garibay Group



Rabiah Mayas

Museum of Science
and Industry, Chicago



Martin Storksdieck

Oregon State
University

Committee Introductions

- + Name and pronouns
- + In what ways do you focus on equity in your work?
- + What brought you to the committee?

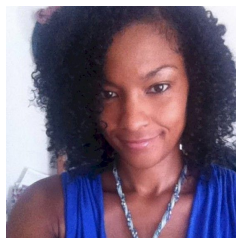
Equity Audit Committee



Jennifer Adams
Calgary University



Philip Bell
University of Washington



Dionne Champion
University of Florida



Joanne Jones-Rizzi
Science Museum of Minnesota



Nancy Maryboy
Indigenous Education Institute



Andrew Plumley
American Alliance of Museums



Rob Ulrich
University of California Los Angeles

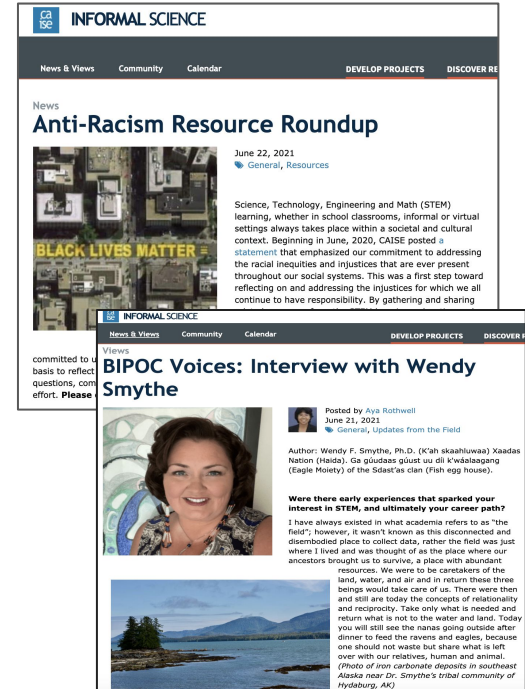
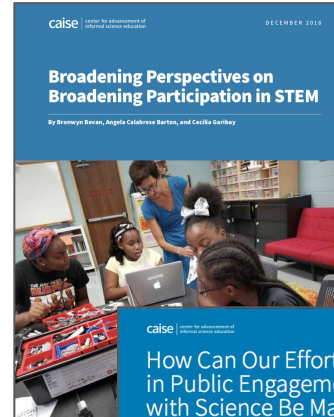


Tifferney White
Discovery Place

Background: Equity Audit

Foundation laid by CAISE for Centering Equity

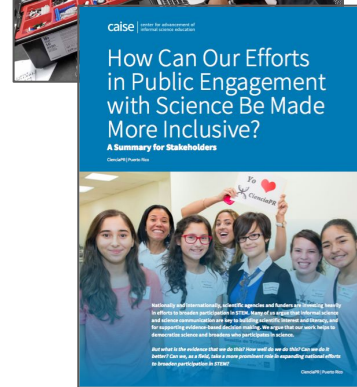
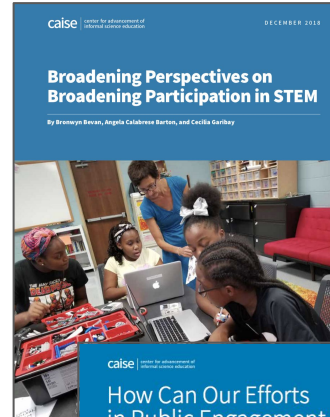
- + Broadening Participation Task Force work
- + 2019 PI Meeting
- + Anti-Racism Blog
- + Amplifying BIPOC voices



Broadening Participation Task Force

+ Broadening Participation Task Force work

- Toolkit
- Workshops & Presentations
- Evaluation Findings



What We Measured and Learned

- + Website engagement analytics indicated that Briefs from the BP toolkit are the top three **downloaded** resources from InformalScience.org
- + On the CAISE core community survey, the *Broadening Participation Toolkit* was one of the top three resources respondents were both **most familiar with** and rated as the **most useful**

Strategic Focus Areas for Centering Equity

- + Equity Audit
- + Awardee Meeting
- + Core Communications (website, newsletter, etc)
- + Future Planning

Equity Audit

Internal

GOALS

- Set foundation for long-term systemic work
- Identify opportunities for immediate and longer-term equity actions

ACTIONS

- Build foundation of readiness, shared understanding and trust among team
- Assess current practices, processes and norms using established framework(s)

CHANGES
Shifts to
practices and
activities

External

GOALS

- Establish transparent and collective approaches
- Validate internal assessments and provide new insights to inform ongoing work

ACTIONS

- Inform and gather direct perspectives from AISL Awardee meeting
- Develop broad recommendations for long-term CAISE work

Strategic Focus Areas for Centering Equity

CC

Core Communications

- Website redesign
- Newsletter design testing
- Leveraging synergies in communication

AM

Awardee Meeting

- Community partnership as meeting theme. Approach developed to invite and meaningfully engage AISL awardee community partners
- Meeting design and implementation done through equity lens

EA

Equity Audit

- Applying Equity in the Center framework.
- Examination of internal practices
- Advisory Committee as critical thought partners
- Immediate application in core CAISE functions

FP

Future Planning

- Work is expected to raise critical questions for the field, for example:
- What does equity mean for a resource center and repository?
- Where are the areas of most challenge, most impact?

Committee Goals

Committee Goals

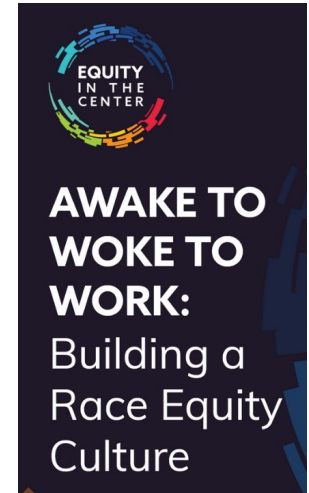
- + Review CAISE equity lens and practices and identify
 - Strengths
 - Weakness
 - Opportunities / Areas for Growth
- + Make a set of recommendations for CAISE on how to proceed in deepening equity lens and practices
- + Support accountability for CAISE throughout this process

Break

5 minutes

Equity in the Center Framework

- + Selected by CAISE, decision supported by NSF
- + Accessible terminology and tools to challenge ourselves
- + Practical application to internal and public CAISE areas





Reflections on the Framework

- + What thoughts came up for you in reading the framework?

- + How might CAISE apply the framework to this equity audit process?

Using the Framework

+ CAISE team review and discussion

- Glossary terms
- Overall framework and levers

+ Core levers to explore

- People
- Organizational Culture
- Community
- Data
- Learning Environment

Glossary Terms

- 1) Think about a time when you were first introduced to one of the terms and you experience discomfort, confusion or similar. How did you feel and how did you move (or are moving) through the experience? (write for yourself)
- 2) Consider your experiences now. What term(s) do you wrestle with or are unsettled for you and why? (write for yourself)

Challenging at First



Currently Unsettled



Racial Equity Concept/Term	How might this show up in the Meeting?	What goals do we have for equity?	What steps might we take to support progress/success?
Dominant Culture: The established language, religion, values, rituals, and social customs on which the society was built... An organization's dominant culture is heavily influenced by the leadership and management standards and preferences of those at the top of the hierarchy. In this paper, dominant culture refers specifically to the American context in which organizational culture is predominantly defined by white men and white women in positional power.	Meeting style and format modeled after academic conferences	That multiple cultures will pervade the ethos and vibe of the meeting	Attend to who is invited to inform, plan and implement various aspects of the meeting
	Who emcees, leads and/or facilitates sessions	broader representation	Review all communications in advance of sending out for evidence of inclusion of multiple cultures; select carefully who is "on stage"
	How contributions/ comments/ insights that emerge at the meeting are amplified or not	Intentional monitoring and plan/design for how to support equitable engagement/ recognition of attendee contributions	Make reflecting on manifestation of dominant culture norms part of every debriefing convo.
	Who feels comfortable speaking up and feeling valued in their contributions	Everyone feels equally empowered to contribute	Develop a code of conduct that explicitly encourages contributions; ensure that we establish mechanisms in each session (and make them explicit) to capture all voices.



2021 Awardee Meeting

THEME: Building and Sustaining Equitable Partnerships and Collaborations

- + Inviting community partners
- + Challenges of decision making & power sharing, i.e. equity in research and practice
- + Asset-informed engagement



Meeting Design

- + Keynotes and plenaries designed with community partners
 - (NEW) Community partner questionnaire and FAQ sessions
 - Inclusive session structure and facilitation models
- + Concurrent sessions exploring relevant themes
 - Goal: Framed as Problems/Topics of Practice
- + Poster session choices and process
 - Time for virtual networking

Equity Checklist

Equity Criteria/Check Questions	Details
1. Who or what is being centered in this process or decision?	Identify the needs, concerns, contributions of stakeholders and how a decision is honoring those equitably (esp. for non-academics; BIPOC, CPs). Are we considering all needs or are we centering academia, whiteness, Western perspective or similar? An equity focus requires that we decenter those and make the efforts to center BIPOCs, CPs and other perspectives.
2. Are we defaulting to what we've typically done?	It's common when timelines are tight and/or when we are stressed to default to doing things they way they've been done in past. An equity focus requires different strategies, formats, approaches to ensure we are making decisions intentionally and not simply because it's what's we know and are comfortable with.
3. Are we defaulting to who we know?	Ensure we are not primarily inviting and populating sessions with those in our immediate network. Should expand beyond the typical circle, including for input and decision-making processes. An equity focus requires that we acknowledge that much expertise exists outside of what's familiar, may "show up" differently, and will take effort to find and engage.
4. How is our language aligned with an equity focus?	Need to examine our language to ensure we are not inadvertently using coded or deficit model thinking, jargon, exclusive frameworks/reference points, or centering academic ways of knowing. An equity focus requires that we describe individuals, communities, organizations and areas of work in respectful, affirming, and culturally appropriate ways.
5. How are we ensuring we are not overburdening/asking BIPOC participants to do all the heavy lifting in presentations/sessions?	BIPOC often bear the emotional labor in racial equity/racism convos. We need to attend to what we are asking of individuals and how we are supporting their participation and distributing this "work." An equity focus requires that we consistently ask ourselves and each other: Who benefits? Who is burdened? What effort is needed to reduce potential harm? And then respond and adjust accordingly.
6. How are we ensuring that we are not overburdening BIPOC CAISE team members on equity-focused tasks and efforts?	Beyond the clearly-defined roles on the EA and Anti-racism roundup, how do we establish practices that prevent the common occurrence of BIPOC personnel taking on unbalanced labor in this work? An equity focus requires that we distribute responsibilities equitably across the team.
7. Does the session explicitly address or relate to a topic or dimension of equity?	There is a tendency to overlay "DEAI"/equity sessions into a program as an add-on. In convenings or conferences, for example, there is often a "DEAI track." This sends the message that equity is optional and not the "real" work. An equity focus requires that we center and weave questions, issues, dimensions of equity into all sessions and keynotes/plenaries.

Strategic Focus Areas for Awardee Meeting

CC

Core Communications

- PI questionnaire to learn about partners
- Community partner questionnaire to gauge needs and expectations
- Host office hours sessions
- Use video showcase in the onboarding of community partners

CE

Centering Equity

- Community partner welcome at meeting with CAISE and equity committee
- Inclusive session structure to meaningfully engage community partners
- Virtual meeting affords new opportunities for partners and PIs to engage in equitable exchanges

FP

Future Planning

- Post-meeting evaluation survey
- Small working groups on topics of practice
- Community partner opportunities to engage with CAISE
- Share what we learn about equitable partnerships and sharing power in projects

Draft Agenda

EDT	Day 1	Day 2	Day 3
		NSF to confirm:	NSF to confirm:
		Each PO host small group meeting w/their portfolio (45 min)	Each PO host small group meeting w/their portfolio (45 min)
12:00-12:15 PM	NSF Welcome (15 min)	Theme Plenary or Keynote (60 min)	Theme Plenary or Keynote (60 min)
12:15-12:30 PM	CAISE Framing (15 min)		
12:30-12:45 PM	Main Keynote (about 45 min)		
12:45-1:00 PM			
1:00-1:15 PM		BREAK (15 min)	BREAK (15 min)
1:15-1:30 PM	BREAK (15 min)	Concurrent Sessions (4-5, 60 min)	Concurrent Sessions (4-5, 60 min)
1:30-1:45PM	Networking (45 min)		
1:45-2:00 PM	-intro to platform		
2:00-2:15 PM	-break off CPs to meet w/JB, Equity Comm		

Session Themes

PDF in our shared folder:

<https://drive.google.com/file/d/1TdmsyNcjvGFbfJOTI65Bd5OzW2fSoezu/view?usp=sharing>

Breakout Session Prompts

- + How do these topics/themes resonate? What might warrant a shift or reframing?
- + What are some creative, inclusive formats that we should consider for the plenary and/or concurrent sessions?

Wrap-Up

CAISE Equity Audit Committee

October 11, 2021

**What energy are you bringing to
today's meeting?**

OR

**What are you most looking forward to
in the week ahead?**

Agenda (times in Central)

11:00 **Welcome**

11:20 **Observation Rubric**

11:05 **Follow up from Sept meeting**

11:35 **Meeting FAQ and final prep**

11:10 **Awardee Meeting overview**

11:45 **Community Norms and Harassment Policy**

11:15 **Critical Conversations**

11:50 **Housekeeping and wrap-up**

Reminder: Committee Goals

- + Review CAISE equity lens and practices and identify
 - Strengths
 - Weakness
 - Opportunities / Areas for Growth
- + Make a set of recommendations for CAISE on how to proceed in deepening equity lens and practices
- + Support accountability for CAISE throughout this process

From our Sept meeting

Actions informed by committee and audit

- + Discussion of alternative session formats
- + Critical review of presenter candidates
- + Refining focus and approach for plenaries and concurrent sessions
- + Weekly CAISE team meetings: equity checklist reflections at the start



2021 Awardee Meeting

THEME: Building and Sustaining Equitable Partnerships and Collaborations

- + Inviting community partners
- + Challenges of decision making & power sharing, i.e. equity in research and practice
- + Asset-informed engagement



Meeting Design

- + Keynotes and plenaries designed with community partners
 - (NEW) Community partner questionnaire and FAQ sessions
 - Inclusive session structure and facilitation models
- + Concurrent sessions exploring relevant themes
 - Goal: Framed as Problems/Topics of Practice
- + Poster session choices and process
 - Time for virtual networking

Day 1: Working With Community

All times Eastern.

12:00-1:15pm NSF Welcome and Plenary: Engaged Community Partnerships: Opportunities and Challenges in Urban, Rural, and Virtual Contexts

1:30-2:15pm Critical Conversations Roundtables

2:45-3:45pm Concurrent Sessions:

- Asset and value-mapping in research and practice partnerships
- Challenges and Opportunities in working WITH vs FOR communities and audiences (section 1)
- Challenges and Opportunities in working WITH vs FOR communities and audiences (section 2)
- Not the usual suspects: Bringing Informal STEM Education (ISE) to new communities and audiences

4:00-5:00pm Project Showcase

Day 2: Research and Knowledge Building

All times Eastern.

12:00-1:00pm Plenary: Rethinking rigor: Considering racism and colonialism in ISE research method

1:15-2:00pm Critical Conversations Roundtables

2:45-3:45pm Concurrent Sessions:

- Approaches to equitable, community-based empirical research: Challenging dominant science education and science communication paradigms
- Keeping trust: Communicating findings and future work to communities
- Learning from failure: Authentic reflection on critical missteps, oversights and surprises that can undermine projects and partnerships
- What have ISE settings learned about designing and measuring for impact as a result of moving in-person experiences to online?

4:00-5:00pm Project Showcase

Day 3: Innovation and the Future

All times Eastern.

12:00-1:00pm Plenary: Catching up with the future: Imagining new directions for ISE and SciComm in a rapidly changing world

1:15-2:15pm Concurrent Sessions:

- Never going back to normal: Re-imagining priorities, expectations and our work within a pandemic-informed context
- What is place-based anyway? Lessons learned about technology, location, connection, and community in the pandemic (and what we are doing to do about it)
- Working towards change: Transforming ourselves, our institutions, and our field (section 1)
- Working towards change: Transforming ourselves, our institutions, and our field (section 2)

2:30-3:15pm NSF Q&A and Closing

Critical Conversations

- + Emerged from discussions about non-traditional sessions and opportunities for equity
- + Small group sessions following Day 1 and 2 Plenary Sessions
- + Engage with key ideas from the preceding Plenary session, with deeper reflection and critical views
- + Inclusive conversation on the informal science learning and science communication fields

Critical Conversations structure

- + (5-minutes) Session Welcome and norms
- + (40 minutes) Facilitated Conversations - randomized breakout rooms with 10-15 participants and an invited facilitator
- + Capture of ideas and discussion via shared GoogleSlides

Meeting Observation Rubric

- + Developed from external examples, CAISE equity checklist, and other sources
- + Committee to review draft and provide comments on:
 - Length and clarity
 - Content and coverage of questions
 - Alignment with meeting goals

Observation Rubric - committee role

- + All Plenary Sessions observed by at least two committee members
- + At least 50% of Concurrent Sessions observed by a committee member or CAISE team member
- + At least 4 Critical Conversations observed each day
- + Return completed observation rubrics to CAISE team by Wednesday, October 27th

Meeting FAQ and final prep

- + What remaining questions do you have about the Awardee Meeting?
- + What support will you need from the CAISE team to participate? Both before and during the meeting.

Community Norms and Harassment Policy

- + Please read on your own
- + Feel free to add comments directly in the GoogleDoc
- + What suggestions, questions, concerns do you have?

Wrap-Up

**What are your plans for the upcoming
holiday season?**

CAISE Equity Audit Committee

November 19, 2021

Agenda (times in Central)

10:30 am **Welcome**

10:35 am **Awardee Meeting - planning process review**

10:55 am **Awardee Meeting debrief**

11:25 am **BREAK**

11:55 am **Wrap Up**

Equity Audit will identify...(we hope)

- + Areas where CAISE struggles with racial equity as resource center
- + Areas where CAISE has made efforts and taken steps toward racial equity - and outcomes of those efforts
- + What would a re-imagined resource center for AISL look like that centered equity in its work?



Awardee Meeting Debrief

Planning Process

Committee reflections (Jamboard)

- + What noticings or wonderings did you have related to equity at the Awardee Meeting?
- + Where (and to what extent) did you think the Meeting attended to racial equity?

Preliminary Evaluation Findings

Eval data

Professional Role

84% AISL PI, Co-PI or Project staff

19% Rep of a CO (5 overlap with PI)

3% invited presenter

2% Other

75% ISE or SciComm

Years in their Field

4% Less than 5 years

25% 5-10 years

72% 10+ years

Spectrum of Practitioner to Researcher

17% Practitioner

23% More practitioner than researcher

13% Both equally

17% More researcher than practitioner

27% Researcher

3% Neither

63% had never attended an NSF AISL PI meeting before

Eval data

Gender

66% female

26% male

1% non-binary

1% prefer to self-describe

5% prefer not to answer

Race and Ethnicity

79% White

13% Hispanic/Latino

7% Black or African American

5% Asian/Asian American

2% American Indian or Alaska Native

1% Native Hawaiian or other Pacific Islander

6% Prefer not to respond

2% Prefer to self-describe

Should we explore findings by any of the participant characteristics?

Eval data

Open-ended comments indicate community partners may not have felt as welcomed and included as PIs thought the community partners were.

Ratings of Satisfaction with Meeting Elements/Foci (4 & 5)

- 85% Focus on equity **content**/topics
- 77% Clarity of **content**/inclusivity of language
- 74% Relevance of **content** to my work
- 74% **Variety** of session formats
- 74% Ability to challenge their thinking/perspectives
- 64% **Content** that challenged their thinking or way of doing things
- 62% **Length** of the meeting
- 61% **Opportunities** for small group conversations
- 59% **Facilitation** of activities
- 57% **Structure** of the meeting
- 54% **Opportunities** for rich, meaningful dialogue
- 48% Pre-meeting **supports**
- 44% **Opportunities** for networking
- 18% Pre-recorded sessions

Eval data

Ratings of the Successfulness of the Meeting of Specific Aspects (4/5)

71% Identifying specific challenges and opportunities regarding equity in ISE

69% Creating a welcoming and inclusive meeting

65% Creating opportunities for a wide variety of voices to be heard

62% Challenging to reconsider or expand perspectives about work, particularly with regard to equity

61% Creating a meeting that encouraged the engagement of all participants

59% Learn about creating strong, equitable partnerships

58% Feel empowered to challenge current practices and work towards change

57% Providing space for them to comfortably and actively participate in discussions

56% Giving them opportunities to share the work of the AISL project they are involved in

38% Creating connections among participants

30% Finding potential collaborators for future work

Eval data

Meeting Quality

62% High or very high
30% Mixed
5% Low
1% Very low

Meeting Value

67% High or very high
27% Mixed
5% Low
1% Very low

Meeting Satisfaction

58% High or very high
36% Mixed
5% Low
1% Very low

Impacts of the Meeting (4/5)

85% “Meeting reinforced ideas for me around equity and social justice”

74% “I am committed to applying what I experienced and learned at the meeting regarding equity-centered practice.”

72% “I have gained a better understanding of the diverse work done in informal science education and SciComm.”

63% “I have gained new insights around equity and social justice during the meeting.”

Pathable, social media

Critical Conversations debrief

- + Form completed by CC facilitators on Day 1 and Day 2; key themes/feedback:
 - Technical challenges were very disruptive
 - Wide range of discussions in terms of depth, topical focus, and engagement
 - Plenary sessions were too academic for some
 - Institutional challenges were raised - e.g. systems and norms
 - Comments raised about ability to be candid
 - Interest in resources for new PIs and community partners

Observation rubric data

+ 11 observations combined

- Reminder of agreements for inclusive conversation mentioned consistently
- In most sessions nearly all participants were able to contribute and voice their perspectives.
- While discussions addressed equity issues, there was great variation in sessions from fairly general/vague to others to some that engaged at a deeper level (e.g., interrogation of systems or practices)

5-minute break

Reminder: Committee Goals

- + Review CAISE equity lens and practices and identify
 - Strengths
 - Weakness
 - Opportunities / Areas for Growth
- + Make a set of recommendations for CAISE on how to proceed in deepening equity lens and practices
- + Support accountability for CAISE throughout this process

Questions for Discussion

- + What questions re: equity were raised for you about CAISE as an organization after attending the meeting? (Or after being part of the part of planning, or this convo earlier today)
- + We want to learn where CAISE struggles. 1) Is that a meaningful thing to know? 2) How do we go about finding that out?
- + How have you engaged in (or witnessed) successful assessment of organizational practices and processes around equity?

Wrap-Up

What noticings or wonderings did you have related to equity at the Awardee Meeting?

Racial equity: We were able to change who is featured and visible, even if we did not reach our goals fully.

norm-related steps we took that were healthy and supportive. They reminded me in some ways of universal design notions in that they were not (only) targeted towards (racial) equity), and yet they provide an important element of

(emails and chat comments) still came from people we know which has left me with more questions about who we didn't reach or engage beyond the usual audience. I'm not sure we can answer this since it's a problem

Daniel Aguirre had a comment specifically stating that the Day 1 panel left him feeling frustrated as an organizer. I was really wanting to dig in more at the time and wasn't able to.

Curious how new attendees (PIs and community partners) perceived the focus on equity. Meaningful? Superficial? Progressive? Frustrating?

Spatial Chat's function of dropping you in random places helped prevent "birds of a feather flock together" effect that tends to happen at IRL meetings. But in some cases, this may make people uncomfortable.

I am still struggling with the structural contradictions baked into the very fabric of NSF grantee/awardee meetings, namely that NSF is providing funding on a highly competitive basis with all the consequences this has.

I wish we had better representation and a larger response rate in our post-meeting feedback survey. Nonetheless, there is lots to learn here and we should dig in deeply, even with a somewhat limiting sample.

Not sure the content overall had a large focus on racial equity, specifically.

I found myself looking at faces in Pathable and Spatial Chat to see who "looked" like they might identify as BIPOC. As a Black person this is a common occurrence on a personal level, but felt inappropriate as a mtg organizer.

Very curious about evaluation data and what resonated/didn't for people - both new and returning attendees.

CAISE was less prominent and was not pushing our work in the same way as we have in the past.

practitioners; ISE/SciComm professionals vs professionals from other fields: that is not really a racial equity issue, but an equity issue and a huge structural and cultural problem. We worked on it, we know it, and we

I am remembering some of the parallel sessions did not go to break out - and that NSF program officers who were facilitating were the ones who made the call. Power thing.

I know we have all noted this many times but it was very interesting to see the range of community partner candidates that PIs and co-PIs nominated to be invited.

for social awkwardness (including associated with power, positionality) when people who don't know each other well continued to exist in the online Spatial Chat world, but maybe in some other

I wonder if participants who are part of other NSF portfolios, etc saw anything at this meeting re: equity that they would want to replicate or learn more about.

Could have had some community norms around posters - to help CPs and new awardees navigate power dynamic and feel ok to step away from a poster, etc. when they wanted to

We can't really compare to prior meetings: a virtual meeting after 1.5 years of a pandemic is a unicorn.

Who was hosting the meeting since CAISE intentionally stepped back? Was it NSF?

Where (and to what extent) did you think the Awardee Meeting attend to racial equity?

Speaker composition of plenaries

The meeting could not address the broader societal realities that ISE/SciComm is operating under

The efforts we made to identify more presenters of color went further than we have in the past although the make up of the awardee portfolio in general continues to be a limiting factor.

Racial equity was named in some sessions. Ellen McCallie called it out multiple times both in a concurrent session debrief and on Day 3 wrap up.

Speaker composition of concurrent session in some limited way (not as much as we had hoped)

address fully and in ways practitioners could easily operationalize what it means to question norms and requirements that seem to guide NSF-funded projects and that may themselves contribute

internal discussions about intent around who was speaking/sharing/*on stage*

Speaker composition

Some content of the meeting specifically addressed the issue

The meeting acknowledged and reflected more intentional approaches to centering equity in ways that we haven't previously. It felt like a new stop on a longer journey

Some content of the meeting indirectly allowed for conversations around racial equity

racial diversity of speakers in most sessions

What noticings or wonderings did you have related to equity at the Awardee Meeting?

**Sample -
feel free
to take
this one!**

**seemed to be more dialogic
Minus: the sessions (presentations) were more traditional in they just overviewed the programs, not necessarily highlighting the equity innovations. Some did this but not**

There still seemed to be some disconnect between researchers and practitioners with regard to the language being used in some of the talks (practitioners couldn't relate and felt like outsiders)

Wondering: in the future what might the format might the meetings take: virtual, in-person, or hybrid? Will there be addit'nal accommodations to remove access barriers?

collaborations and partnerships - how can we position the work to funders so there is flexibility to listen to, co-design with, iterate upon work alongside the community and be intentionally responsive in the

I was unable to attend a crit conv, but from what I've heard and my experience in facilitating for another program, I think they are the way forward. The key: an effective facilitator

Lots of space for meaningful dialogue

Diverse voices who were positioned and centered in presentations.

I was sad that I was unable to facilitate the Crit Conversations due to tech challenges, but from what I heard when I finally got in, the conversations seemed to move the key points brought up in the plenaries forward.

Most of the session participants I interacted with were already well-steeped in work that centers equity

Where (and to what extent) did you think the Awardee Meeting attend to racial equity?

**Sample!
Feel free
to take
this one!**

**The sessions that I
attended did not
specifically
highlight racial
equity.**

**The norms and
guideline documents
(and intentional
thinking, iterating
before to develop
them) helped with
level setting so
everyone understood
the intentions.**

**I am impressed by
the amount and
level of work that
went into
responding to
committee
feedback on
documents/plans.**

CAISE Equity Audit Committee

February 3, 2022

Agenda (times in Central)

11:30 am	Welcome
11:35am	Meeting Agenda and Goals
11:40am	CAISE and Resource Center Review
12:05pm	5-minute break
12:10pm	Discussion: <i>centering equity in a resource center</i>
12:45pm	Committee Workplan Review
12:55pm	Wrap Up

Reminder: Committee Goals

- + Review CAISE equity lens and practices and identify
 - Strengths
 - Weakness
 - Opportunities / Areas for Growth
- + Make a set of recommendations for CAISE on how to proceed in deepening equity lens and practices
- + Support accountability for CAISE throughout this process

Reminder: Equity Audit will identify...

- + Areas where CAISE struggles with racial equity as resource center
- + Areas where CAISE has made efforts and taken steps toward racial equity - and outcomes of those efforts
- + What would a re-imagined resource center for AISL look like that centered equity in its work?



Resource Center Overview

CAISE as the NSF AISL resource center

Four Leadership Groups Balancing ISE Practitioners and Evaluators/Researchers

- + 2007 - Wendy Pollock, Alan Friedman, John Falk, Kevin Crowley
- + 2011 - Jamie Bell, Kirsten Ellenbogen, Sue Ellen McCann, John Falk, Kevin Crowley
- + 2016 - Jamie Bell, Bronwyn Bevan, Martin Storksdieck, Cecilia Garibay, Kevin Crowley
- + 2019 - Jamie Bell, Rabiah Mayas, Martin Storksdieck, Cecilia Garibay, Kevin Crowley

Sibling resource centers within NSF

- + CADRE: Serves the NSF DRK-12 Program
- + STELAR: Serves the NSF ITEST Program
- + CIRCLS: Serves the NSF RETTTL Program
- + EvaluATE: Serves the NSF ATE Program
- + CS for All Teachers: Serves computer science educators
- + STEM for All Multiplex/Video Showcase: Serves NSF/others
- + NSF INCLUDES & ARIS Serve (NSF) agency-wide

5-minute break

A woman with dark hair and glasses is seated at a table in a conference room. She is looking towards the right of the frame with a thoughtful expression, her hand resting against her chin. She is wearing a black blazer over a green top and a blue lanyard. In the background, other people are seated at tables, some looking towards the camera and others looking away. The setting appears to be a professional meeting or conference.

Discussion: Centering equity in an ISE resource center

Questions for Discussion

- + What does centering equity mean concretely and practically for a Resource Center in informal science education?
- + What are the opportunities for CAISE to more fully center equity?
- + What would be the end goal/desired outcomes?

Breakout pairs - 10 minutes

Group Discussion



Committee Workplan

Proposed Workplan: February-March

- + Review and feedback on Pulse Check findings
- + Assessment of CAISE work over ~15 years to gain a more holistic, historical view
- + Biweekly cycle:
 - Review select documents and products
 - Complete review form/rubric
 - Attend 30-45min reflection and discussion meetings

Wrap-Up and Next Steps

Appendix I - Committee Feedback on July 201

In reviewing the summary of CAISE's history, where do you notice processes or practices that may have attended to or addressed issues of equity?

While equity is not deliberately mentioned and "diversity" is mentioned a couple of times, CAISE's expanded practices and ways of including the larger ISE community in initiatives may have contributed to diversifying the voices in the field, such as the inquiry groups, convenings, and fellows program. These provided opportunities (whether by invite or by self-nomination) for expanded participation but I am unsure in what ways these projects contributed to increased diversity and especially racial

2/21/2022 21:00:20 equity within and across the field.

I began looking for terminology that reflected cultural representation/ equity/collaboration within the "Origin Story". While I did not find those words explicitly, I noticed particularly in the initiatives in Years One through Three an **emphasis on partnerships, public participation in research, public engagement etc.** Within the Fellows Program the criteria that the applicants represent diversity- identified as ethnicity, gender and geographic locations are all indicators in my mind of "addressing equity". The timing and context of Years One through Three 2007-2010 and the terminology used to describe and identify "equity" match with how we within the field talked

2/21/2022 21:12:45 about equity/ inclusion and diversity during that time period.

2/21/2022 21:49:36

There is very little mention of processes and practices that may have addressed issues of equity. I only saw one mention of "diversity" in all the early years of CAISE. One practice that might have helped address equity issues was the partnership with EBSCO on making InformalScience.org full articles more accessible without paying fees. Many smaller minority organizations that are not part of larger universities, have trouble with this. Also there was a mention of a Graduate Education Diversity Intern program, in an area of evaluation, but very little mention of what that might entail. The Equity in the Center Framework is good, but not tied in specifically anywhere in the history of CAISE, that was provided us.

2/21/2022 22:08:57

The summary does not foreground equity work happening in ISE or through CAISE outside of the Inquiry Group focused on "access for people with disabilities". That said, based on my knowledge of some of the ISE projects funded and through my involvement in some of these CAISE activities, I know that equity was centered in some of the work in meaningful ways. It was a focus in other Inquiry groups and in PI meetings—although I can't characterize the degree. I believe the Fellows program was working to broaden participation in ISE work—likely in relation to the NSF report on broadening participation published in 2008 (the agency framing of equity work at the time, which discusses racial differences of representation in STEM fields). ISE research in this time period was also taking up equity-focused sociocultural lines of work (as synthesized in the 2009 NRC Learning Science in Informal Environments report)—work that I recall being centered in at least one PI meeting—and related pieces were being documented in the InformalScience.org database. Over this time period, partnerships between ISE organizations and communities underrepresented in STEM fields were also happening and showing up in the space a bit—especially as research-practice and community-based partnerships grew in emphasis in the field.

2/22/2022 10:45:43

5 CAISE HISTORY DOCUMENT

in what areas (and to what extent) were there strengths in attending to equity, and more specifically, racial equity? Please be as specific as possible. Consider where you might notice substantial efforts that push equity forward as well as modest or "safe" approaches.

Because racial equity is not explicitly addressed it is difficult to assess the efforts in addressing to racial equity as strengths. For example, as mentioned in my above response, practices like convenings and the fellows program were opportunities for the inclusion of marginalized perspectives and voices, however for racial equity to be centred the language and approaches need to be explicit and this is not evident in this document.

I didn't know much about the Fellows Program, in reading about it I can assume by the identifying language such as the intersection of community and "engagement with the ISE program" that there was some focus on racial equity. The Entree Program seems to address racial equity indirectly. If "broader impacts" is code for racial equity then there is a substantial push towards equity. I am reluctant to specify or call out "racial equity", because I think many people are uncomfortable with the term. The critique is that racial equity is not inclusive, the refrain is what about women in STEM? What about non binary people? What about people who identify as Trans? The assumption often being that when one says "racial equity" it means equity for Black people. The resistance to any singular focus on "racial equity" in my mind is an indicator of the absolute need for a focus on "racial equity".

1. Explicitly stating as an initial goal: to facilitate and support greater diversity in the field.
2. The Fellows program was an explicit and intentional effort to diversify. It is interesting that the Fellows program was so heavily contingent on one staff member. On the one hand, it shows a commitment to diversify, but on the other hand, it was not designed for sustainability, so the level of commitment becomes questionable.
3. The partnership with EBSCO to make full articles available - an effort to increase access, to level the playing field in terms of who has access. This gets at equity, but not necessarily at racial equity.

Again, unless I missed something, there is almost no mention of racial equity.

There isn't anything specific about racial equity in the evaluation report. It is also an evaluation report that is synthesizing from the frame of the evaluators and not a detailed accounting of the work—so it is useful to understand those layers in interpreting the representation here. I'm curious to know about the Graduate Education Diversity Intern program mentioned at the end; I suspect there is a racial equity dimension to that program. One strength not described in the report is that over this time period the equity focus of ISE project work was developing—including a growing focus on racial equity in STEM. The CAISE resource database was cataloging this work. Until you get to the Broadening Participation Task Force, I'm not sure to what degree that work would have been amplified.

In what areas (and to what extent) were there gaps or weaknesses in attending to equity, and more specifically, racial equity? Please be as specific as possible.

As mentioned before, in order to attend to equity in all of its intersections (racial, gender, ability, etc.) language needs to be explicit and used to shape any related initiative and projects. Similar to the last PI meeting, equity approaches need to be deliberate and not subsumed under diversity. In other words, in this document language that speaks to equity is largely absent and even diversity is a rare mention.

As I read about the history of CAISE I can see the momentum that has built around systemic change with a focus on partnerships, broader impacts and evaluation...I may not be astute but I don't see "racial equity" called out directly, even though I know from experience and I know the individuals involved have held that commitment. Addressing racial equity requires that organizations hold themselves accountable. Many organizations are using the racial injustice that they witnessed with the murder of George Floyd in 2020. I've noticed people quietly first using the term racial justice rather than social justice in the context of STEM and within our organization. I don't know that is is a gap or weakness but rather a contextual reflection.

Racial equity does not seem to play a big role in the CAISE organization history write up. I think it is fair to say that racial equity work was not a central overall focus over this time period—for the ISE field nor NSF—although specific groups / programs were working on those efforts (and had been before this time period). Stronger themes of equity work in ISE over this time period centered on issues of gender, disability, and class. Access and participation in STEM were primary frames. From my sense of things, the CILT center opened up lines of thinking around redefining what counts as STEM (an attempt to engage in a structural reframing that went beyond access to dominant Western science)—which has continued to open up into the multiple ways of knowing initiative currently unfolding. In her 2008 piece in *Educational Researcher*, Carol Lee highlighted the intellectual apartheid between academic equity discourses and discourses about cognition and development (which were in deep use in the ISE field and beyond). This has been an evolving situation, of course, and significant progress has been made—to the degree that I think of it as the “sociopolitical turn” unfolding over the past decade or so around theory and method. I only have a partial sense of the degree to which the AISL community is participating in this shift—although I know of several people who were directly involved in efforts to overcome that intellectual apartheid. Of course, there is still much to be done to work towards racial equity and Indigenous self-determination—and the AISL community has unique roles to play given how informal learning environments can be realized. AISL could do more to highlight the history of how science was used to racialize societies; how racialized structures of society impact science phenomena (e.g., ecosystem functions); and to promote belonging, sustained learning, and educational

Share any additional comments you have, including any perspectives on CAISE historical activities you may have from personal experience not reflected in the document.

In my history with CAISE I have seen the field grow and with more diverse voices centred across ISE sectors. In attending several PI meetings I have witnessed the increased participation of Black, Indigenous, Latinx and other POCs as PIs, co-PIs, researchers, program officers, etc. visible and present in discussions, presentations, etc. This has been a good thing, however with pushing the equity envelope further, it would be good to see more diverse perspectives/worldviews integrated into discussions and activities and I thought the last PI meeting was a move in that direction. As what happens in ISE makes its way into formal classrooms (ISE is a learning lab about science learning) I believe that this is truly an opportunity for CAISE to be positioned to transform science teaching and learning and the STEM towards more expanded and equitable participation, perspectives and innovation.

I attended a PI meeting, I cannot remember which one and I was struck by how many conversations were focused on equity/racial equity and inclusion within the ISE field. The formal program (which I remember very little of) was more in the mode of project sharing in the form of panels. The real conversations about the intersections of equity/ inclusion / STEM and community were had during the informal gatherings. I do remember noticing that there were far more BIPOC people at the meeting than any other NSF meeting I had attended.

One thing that keeps coming up for me as I read through the history is the question of who has a seat at the table when decisions are being made. Who is involved in the initial conversations about the critical issues that would become the focus of the first three years? Are there representatives from racial minority groups? Representatives from smaller organizations? Who's involved in the conversations about the landscape? Who is considered "part of the field" and thus included in the process of fleshing out the landscape. Seems like there are many opportunities to consider or attend to equity and diversity, but it's hard to know from the description how much or whether it was considered.

Having worked with CAISE in the past, and especially in the Broadening Impacts work, and seeing first hand some diversity among the personnel, I think there have been efforts put forth to address racial equity.

I layered my personal reflections over the time period covered by the report since I think that kind of contextual analysis might be helpful.

Appendix J - Internal Equity

Equity Criteria/Check Questions

1. Who or what is being centered in this
2. Are we defaulting to what we've typically done?
3. Are we defaulting to who we know?
4. How is our language aligned with an equity
5. How are we ensuring we are not
6. How are we ensuring that we are not
7. Does the session explicitly address or relate

ty Checklist Questions and Commitments

Details

Identify the needs, concerns, contributions of stakeholders and how a decision
It's common when timelines are tight and/or when we are stressed to default to
doing things they way they've been done in past. **An equity focus requires
different strategies, formats, approaches to ensure we are making
decisions intentionally and not simply because it's what's we know and
are comfortable with.**

Ensure we are not primarily inviting and populating sessions with those in our
Need to examine our language to ensure we are not inadvertently using coded
BIPOC often bear the emotional labor in racial equity/racism convos. We need
Beyond the clearly-defined roles on the EA and Anti-racism roundup, how do we
There is a tendency to overlay "DEAI"/equity sessions into a program as an add-

Appendix K - Pulse Check Score Report



Race Equity Cycle Score Report



About this Score Report

Since the “Awake to Woke to Work: Building a Race Equity Culture” publication was released in 2018, Equity in the Center stakeholders have asked for a tool to assess where their organizations are on the Race Equity Cycle. The Race Equity Cycle Pulse Check is designed to do so, with this accompanying Score Report providing recommendations on next steps and tools to move work toward the next phase.

This Score Report will briefly re-introduce you to the Race Equity Cycle framework, provide you with an overview of your scores, share descriptions of what the scores mean, suggest next steps to continue to deepen and expand your race equity work, and resources to help navigate each lever.

The score report will not share numerical scores, but rather, will indicate, based on your responses to the Pulse Check questions, at what stage of the Race Equity Cycle your organization is - both overall and for each lever.

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Awake to Woke to Work: Building a Race Equity Culture

Achieving race equity — the condition where one’s racial identity has no influence on how one fares in society — is a fundamental element of social change across every issue area in the social sector. And to realize this change, we must uproot structural racism from our organizations and across U.S. society.

While each organization will follow its own path towards building a Race Equity Culture, our research suggests that all organizations go through a cycle of change, what we call the **Race Equity Cycle**, as they transform from a white dominant culture to a Race Equity Culture. This journey of change pushes organizations to become more committed, more knowledgeable, and more skilled in analyzing race, racism, and race equity, and to place these issues at the forefront of organizational and operational strategy.



Our research also identified seven levers — strategic elements of an organization that, when leveraged, build momentum towards a Race Equity Culture within each stage and throughout the Race Equity Cycle. You can continue to explore the research behind the development of this framework in the the [AWAKE to WOKE to WORK: Building a Race Equity Culture](#) publication.



Summary of Scores

Based on your responses to the Pulse Check questions, we have assessed your organization at the following stages of the Race Equity Cycle:

Overall Organizational Score: **WOKE**
Low Range

At this stage, organizational focus has shifted from representation and diversity, to equity and inclusion within organizational culture. The organization has a working analysis and shared vocabulary, and has begun training staff on race, racism, and racial equity. There is more acknowledgement of differing staff experiences between BIPOC and white people in the organization. Leaders and staff have begun identifying policies and practices to focus on, and identifying and dedicating resources to support race equity work. White dominant structures are still in place, although leaders are beginning to acknowledge them as such. Organization's leadership and staff may continue to place the burden of race equity work on BIPOC staff and partners.

Scores by Lever:



Senior Leaders : [WOKE]

Individuals in a formal leadership role



Learning Environment : [AWAKE]

Investment in staff capacity



Managers : [WOKE]

Individuals who oversee operations of teams



Data : [WOKE]

Metrics to drive improvements and focus



Board Of Directors : [AWAKE]

Governing body of an organization



Community : [AWAKE]

Populations served by the organization



Organizational Culture : [WOKE]

Shared values, assumptions, and beliefs

The following pages will share more detail and suggested next steps for each of your lever scores. A full table with descriptions of all stages for all levers is in the Appendix.



Scores by Lever



Senior Leaders

Here's how your organization scored:

WOKE
Low Range

At this stage, Senior Leaders are developing comfort and competence in talking about issues of race and racism. They initiate broader plans and actions to center race equity in the organization's work and strategy.

Suggested Next Steps:

Here are some actions your Senior Leaders can take - either to begin or continue to deepen - to move through Woke to Work:

- Model a responsibility to speak about race, white dominant culture, and structural racism both inside and outside the organization.
- Regularly examine and review personal and organizational oppression, and deepen skills to analyze their contribution to structural racism.
- Name and examine organizational power differentials, including how these contribute to white dominant culture and/or racially disparate experiences within the organization, and identify alternative leadership models, such as shared leadership, that promote a more equitable, inclusive culture for all leadership and staff.
- Continue to take responsibility for long-term change management strategies to build a Race Equity Culture, including reviewing, deepening, and expanding current strategies. This can include: leading and/or supporting implementation and evaluation of a racial equity action plan for the organization; identifying and hiring consultant(s) to support deepening and/or expanding race equity work; holding staff and leadership accountable to race equity work plans and performance measures.
- Develop and consistently use a vetting process to identify vendors and partners that share the organization's commitment to and practices of race equity.
- Ensure salary disparities do not exist across race, gender, and other identities; conduct regular mandated all-staff compensation audits to identify any disparities and then make parity adjustments as needed.
- Illustrate, through longitudinal outcomes data, how the organization's efforts are impacting race disparities in the communities it serves as well as inside of the organization.
- Implement a consistent practice of tracking retention and promotion by race, gender, and other demographics, across the organization and by staff level.

Managers

Here's how your organization scored:

WOKE Low Range

At this stage, Managers recognize and speak about racial disparities internally and externally. They value diverse teams and acknowledge and understand that representation does not necessarily create inclusion or drive measurable equity. Managers provide training, coaching, and/or mentoring support to staff.

Suggested Next Steps:

Here are some actions your Managers can take - either to begin or continue to deepen - to move through Woke to Work:

- Consistently communicate and demonstrate that racially diverse teams are assets to the organization, enabling people of color to bring their full selves to work and use their lived experiences to fulfill their job responsibilities.
- Model a responsibility to speak about race, white dominant culture, and structural racism both inside and outside the organization.
- Regularly examine and review personal and organizational oppression, and deepen skills to analyze their contribution to structural racism.
- Ensure that people of color are advancing in the organization by supporting their professional growth, providing leadership opportunities, and recommending and approving promotions for staff of color. This requires establishing and implementing a promotion process that anticipates and mitigates biases about people of color serving in leadership positions.
- Develop and implement a consistent practice to hire and promote staff members who demonstrate proficiency in how to address racism and race equity with coworkers and in their programs.
- Incorporate standard race equity performance measures on all staff members' work plans and annual reviews.
- Continue to identify and support policy and practice changes that center race equity and mitigate racial disparities both inside and outside of the organization.

Board of Directors

Here's how your organization scored:

AWAKE
High Range

At this stage, the Board continues to focus on diverse representation - seeking individuals from multiple racial identities for Board and ED/CEO positions. Board members show commitment to racial diversity across all levels of the organization and hold ED/CEO accountable to diversity policies and practices.

Suggested Next Steps:

Here are some actions your Board of Directors can take - either to begin or continue to deepen - to move through Awake to Woke:

- Identify and implement Board practices (e.g., shared norms, vision, values, policies) that will foster an inclusive environment and encourage and value differing viewpoints in decision making processes.
- Work to recruit a critical mass* of people of color on the Board, including in leadership roles, if you don't already.
- Identify and evaluate Board membership requirements that ignore systemic racial inequities and reinforce dominant culture, such as minimum donation amounts and conventionally prestigious backgrounds, and implement changes to these requirements that will advance a more equitable culture and representative composition on the Board.
- Acknowledge and manage power dynamics that exist on the Board, and how decision making may be impacted by power dynamics and biases.
- Analyze disaggregated data and root causes of racial disparities within the Board that impact the organization's programs and the populations they serve.
- Identify and implement additional learning experiences/trainings for Board members to deepen their understanding and analysis of race, racism, and racial equity.

*Whenever "critical mass" is used throughout this document, organizations should aim for proportional racial representation based on local census data, if possible, so the Board, organizational leadership, and staff reflect the demographics of the community. If local census data are not available, or not relevant to your organization (i.e. you work for a national organization), then set proportional goals based on national census data.



Learning Environment

Here's how your organization scored:

AWAKE
High Range

At this stage, the Learning Environment is focused on developing an understanding of individual and interpersonal racism, and identifying and addressing microaggressions. While learning is beginning on these concepts, the organization's DEI work focus is still mostly on diversity and representation, and there is no system or process in place yet to integrate this learning into practice.

Suggested Next Steps:

Here are some actions your organization can take - either to begin or continue to deepen - to move your Learning Environment from Awake to Woke:

- Identify and create learning experiences for leadership and staff that:
 - Support people of color to understand and acknowledge that it is not their individual or collective responsibility to support their white colleagues' learning journeys around race, racism, and racial equity.
 - Support white-identified staff members to acknowledge and reduce the emotional labor placed upon people of color within the organization regarding race related discussions.
 - Help senior leadership understand and build skills in inclusive leadership, with learning approaches that emphasize reflection, iteration, and adaptability.
 - Support teams to improve their skills to work across differences and use constructive conflict to inspire better thinking and solutions.
 - Deepen leadership and staff understanding and analysis of race, racism, and racial equity concepts and practices.
- Employ non-traditional ways to gather feedback on programs and trainings which may include interviews, roundtables, and external reviews.
- Seek input from people of color to create and iterate learning objectives and measurement strategies.
- Collect data on effectiveness of DEI and racial equity trainings and conversations (in addition to participation numbers) and conduct reviews from participants to share key insights and learnings with teams or full organization.



Data

Here's how your organization scored:

WOKE Low Range

At this stage, in regards to Data, there is an emerging practice and systems for race-conscious ways to measure initiatives, programs, and internal processes. The organization expands data collection and analysis of DEI work beyond racial diversity in hiring and retention so race-based disparities in outcomes can be identified cross-functionally.

Suggested Next Steps:

Here are some actions your organization can take - either to begin or continue to deepen - to move your Data through Woke to Work:

- Proactively use both qualitative and quantitative data to inform, adjust, and create race equity strategies and initiatives.
- Regularly use both qualitative and quantitative data and measurement in storytelling about the organization's race equity journey, both internally and externally.
- Build and implement a continual practice to assess alignment between strategy metrics and equity values and goals.
- Consistently measure cultural responsiveness of organization's policies and programs for employees, stakeholders, and communities. Use these data to inform necessary changes to increase cultural responsiveness, staff and stakeholder (including Board) engagement and relevance of work.
- Develop and implement a robust data measurement system for the organization's comprehensive race equity action plan, so that the organization is continually measuring internal and external impacts of race equity strategies and initiatives, and holding itself accountable to progress cross-functionally.
- Use evaluation tools for race equity, including equity assessments, to examine equity work internally and in external partnerships/initiatives.
- Develop and apply race equity lens to research, evaluation, and data collection practices in the organization to name and acknowledge biases in traditional approaches and practices, and proactively identify and implement equitable and inclusive practices in this area of work.

Community

Here's how your organization scored:

AWAKE
High Range

At this stage, in regards to Community engagement, the organization values community members as informal advisors to the organization, and has begun consulting with community members more regularly. The organization has begun to use data analysis to identify and assess racial disparities and root causes in the communities they serve.

Suggested Next Steps:

Here are some actions your organization can take - either to begin or continue to deepen - to move your Community engagement through Awake to Woke:

- Acknowledge and deepen organization-wide understanding of how the communities and populations the organization serves have been disenfranchised and marginalized by systemic racism and other systems of oppression. Name that the organization has a role in creating those inequities and injustices, and thus, has a responsibility to help fix them.
- Build processes and practices to regularly seek community input on programs and services they provide or intend to provide.
- Develop strong feedback loops to encourage and respond to community feedback about racial bias, diversity, and inclusion within your organization's work, both internally and externally.
- Create community representation at the Board level, either on the Board itself (best practice) or through a community advisory board that is given key decision-making power.
- Disaggregate community-level and programmatic data to adjust programming and educational goals to keep pace with changing needs of the communities your organization serves.

Organizational Culture

Here's how your organization scored:

WOKE
Low Range

At this stage, the Organizational Culture supports discussion of racially charged events with staff and leaders hold space for staff to process feelings, though this is an emerging skill. The organization is beginning to acknowledge and understand the undue responsibility and burden placed on BIPOC people to explain, defend, and advocate for themselves and their communities, and begins learning how to move away from this practice.

Suggested Next Steps:

Here are some actions your organization can take - either to begin or continue to deepen - to move your Organizational Culture through Woke to Work:

- Communicate consistently and proactively about the organization's race equity values, priorities, and initiatives, both internally and externally.
- Create and nurture a positive environment where staff members feel they can raise race-related concerns about policies and programs without experiencing negative consequences or risking being labeled as a troublemaker.
- Set clear and consistent expectations and engage everyone in organizational race equity work. Ensure that individuals understand their role in creating an equitable culture both based on their racial and other identities, and positionality in the organization.
- Thread accountability mechanisms across all efforts to support and sustain a racially equitable organization.
- Make employee engagement and satisfaction surveys a standard practice; use survey results to assess achievement of social inclusion and identify areas for further work and growth.
- Promote an environment where leaders and staff members talk freely about key organizational learnings around race equity and the organization's race equity journey, including explicit conversations about mistakes/missteps and how the organization will learn from them going forward.
- Make continual learning, dialogue, and iteration on race equity analysis and practice a central part of the organization's culture.
- Continue to consciously implement and deepen practices and processes that lessen, and eventually eliminate, cultural expectations and practices rooted in white dominant systems.



Conclusion & Resources



Conclusion

Building a Race Equity Culture requires intention and effort, and sometimes stirs doubt and discomfort. Holding a racially just vision of the future can sustain you through challenging times. What does a true Race Equity Culture look like, and what benefits will accrue to your staff, systems, stakeholders, and community served?

When your organization has fully committed itself to a Race Equity Culture, the associated values become part of the organization's DNA. It moves beyond special initiatives, task force groups, and check-the-box approaches into full integration of race equity in every aspect of its operations and programs.

We have bold goals for this work. If enough race equity champions are willing and ready to engage their organizations in the transformational work of building a Race Equity Culture, we will reach the tipping point where this work shifts from an optional exercise or a short-term experiment without results, to a core, critical function of the social sector. By building a Race Equity Culture within organizations and across the social sector, we can begin to dismantle structural racism. Only then will we truly live up to our missions to serve the common good.

We appreciate your commitment and efforts to advance racial equity in your organizations. We hope the Race Equity Pulse Check, this score report, and the resources offered below and in the following pages help you continue to chart a path for racial equity in your organization and the communities you serve.





Resources by Lever

- A. Senior Leaders:
- [Is Your Company Actually Fighting Racism, Or Just Talking About It?](#), Kira Hudson Banks and Richard Harvey via Harvard Business Review
 - [White Supremacy And The Problem With Centering Donors' Interests And Emotions](#), Vu via NonprofitAF
 - [Building An Anti-racist Workplace](#), Time's up Foundation
 - [The Role of Senior Leaders in Building a Race Equity Culture](#), Kerrien Suarez via Bridgespan
- B. Managers:
- [Why So Many Organizations Stay White](#), Victor Ray via Harvard Business Review
 - [The Curb-cut Effect, And Why Race, Equity, Access, Diversity, And Inclusion \(Readi\) Are Even More Critical Now](#), Vu via NonprofitAF
 - [How Company Leaders Can Promote Racial Justice In The Workplace](#)
- C. Board of Directors:
- [Is Your Board Ready To Advance Equity?](#), Rick Moyers via National Committee for Responsive Philanthropy
 - [Why We Need To Drop The Idea Of 100% Board Giving](#), Vu via NonprofitAF
 - [Racial Equity Resources For Boards](#), Cause Strategy Partners
 - [The real reasons many organizations are still unable to diversify their board, staff, fundraising committees, etc.](#), Vu via NonprofitAF
- D. Learning Environment:
- [Your Unconscious Bias Trainings Keep Failing Because You're Not Addressing Systemic Bias](#), Janice Gassam Asare via Forbes
 - [If You Want A Truly Equitable Workplace, You Must Get Over Fear Of Conflict](#), Mimi Fox Melton and Karla Monterroso via Fast Company
 - [Seeing, Reckoning & Acting: A Practice Toward Deep Equity](#), Sherly Petty via Change Elemental
- E. Data:
- [Racial Equity Cannot Be Measured Without Disaggregating Data - Advancing Racial Equity](#), Joanna Shoffner Scott with Paula Dressel via Race Matters Institute
 - [Equitable Performance Metrics Any Organization Can Measure Now](#), Jasmine N. Hall Ratliff via Equity in the Center
 - [Centering Racial Equity Throughout Data Integration](#), Actionable Intelligence for Social Policy
 - [Equitable Evaluation Framework™](#), Equitable Evaluation Initiative
- F. Community:
- [Community Engagement Planning Guide](#), Developed by Lidiya Girma, Neighborhood Relations Specialist for BrooklynPark
 - [Facilitation Guide For Community Engagement: How To Foster Effective Conversations About Our Work And Our Communities](#), National Gender And Equity Campaign In Minnesota & Asian Americans/Pacific Islanders in Philanthropy
 - [Act, Strategies, Community Engagement](#), Racial Equity Tools
- G. Organizational Culture:
- [Resources For Addressing Racism In Ourselves, Our Neighborhoods And Our Businesses](#), Pamela Slim
 - [How To Be An Active Bystander When You See Casual Racism](#), Ruth Terry via New York Times
 - [Continuum On Becoming An Anti-racist Multicultural Institution](#), Crossroads Ministry
 - [Transforming Organizational Culture Assessment Tool](#), Maggie Potapchuk



About Equity in the Center

[Equity in the Center](#) works to shift mindsets, practices, and systems within the social sector to increase racial equity. We envision a future where nonprofit and philanthropic organizations advance race equity internally while centering it in their work externally.

Equity in the Center's goals are:

- Nonprofit and philanthropic organizations adopt a Race Equity Culture focused on proactive counteraction of social inequities
- Organizations define, implement, and advance race equity internally while advocating for it in their work externally
- Race equity is centered as a core goal of social impact across the sector

Appendix L - Awardee Meeting

Commitments and Standards

50% or more of speakers on each panel are self-identified

75% or more of individual/keynote speakers are self-identified

50% or more of speakers on each panel are women or non-

50% or more of individual/keynote speakers are women or

Transparent code of conduct for all meeting participants, to

Provide specific supports for community partners.

Provide specific supports for first-time meeting attendees.

Ensure that BIPOC, women and non-binary participants and partners are recognized and rewarded fairly and equitably.

Solicit input and recommendations from external sources - including but not limited to the equity audit committee.

Equity Commitments & Standards

Notes/Questions

What's the gender breakdown of PIs?

EA committee can help us create/refine this as an
Attending to needs of these groups and putting in

Appendix M - Awardee Meeting Racial Equity Rubric

Racial Equity Concept/Term	How might this concept show up in the Awardee Meeting?	What goals do we have for equity in this area?	What steps might we take to support progress/success?
Dominant Culture: The established language, religion, values, rituals, and social customs on which the society was built... An organization's dominant culture is heavily influenced by the leadership and management standards and preferences of those at the top of the hierarchy. In this paper, dominant culture refers specifically to the American context in which organizational culture is predominantly defined by white men and white women in positional power.	Meeting style and format modeled after academic conferences	That multiple cultures will pervade the ethos and vibe of the meeting	Attend to who is invited to inform, plan and implement various aspects of the meeting
	Who emcees, leads and/or facilitates sessions	broader representation	Review all communications in advance of sending out for evidence of inclusion of multiple cultures; select carefully who is "on stage"
	How contributions/ comments/ insights that emerge at the meeting are amplified or not	Intentional monitoring and plan/design for how to support equitable engagement/ recognition of attendee contributions	Make reflecting on manifestations of dominant culture norms part of every debriefing convo [MS: not sure what this means]
	Who feels comfortable speaking up and feeling valued in their contributions	Everyone feels equally empowered to contribute	Develop a code of conduct that explicitly encourages contributions; ensure that we establish mechanisms in each session (and make them explicit) to capture all voices.
			Consider the creation of meeting orientation materials (this might include a code of conduct as mentioned above) but it would also transparently identify the culture of PI Meetings, the ways that dominate culture/ norms/ expectations might be challenged by or consistent with the design of the Awardee Meeting; Encourage documentation of the meeting from multiple perspectives [MST: are we documenting the meeting? If so, how? I assume some sessions are recorded for later viewing?]
Diversity: Psychological, physical, and social differences that occur among any and all individuals; including but not limited to race, ethnicity, nationality, religion, socioeconomic status, education, marital status, language, age, gender, sexual orientation, mental or physical ability, and learning styles	Individuals who lead sessions primarily white, male, and at academic institutions	Develop criteria and goals re: diversity of session leaders, panelists, speakers. Perhaps set up numeric goals (e.g., 80% of session leads will be BIPOC)	Review who was featured at last meeting with regard to session leads, and on all of the panels, by gender, race/ethnicity and maybe "seniority". Then craft expectations for representation for our meeting and monitor whether we stay roughly within those expectations. (previous column)
	People might not see themselves represented in whatever identity category is important to them.	Allow people to see themselves represented.	Create and use "identity stickers" (often done at conferences). Ensure this doesn't come across as "labeling" people [most allow you to choose multiple stickers and people seem to use them proudly]. Capture attendees self-reported characterization and summarize for all attendees the demographics of attendees; maybe feature that at the kick-off. Show who is there in this "written" document (PPT) or through the "stand up if you... see who is with you, see who is not" exercise? [or something like it]
		Acknowledge and increase awareness of the room for growth in who is currently funded/ represented in the AISL portfolio	create and share data viz of the portfolio and invite some sort of interaction with it to support engagement and meaning making around the distributions present in the portfolio [need to start soon]
Microaggression: The everyday verbal, nonverbal, and environmental slights, snubs, or insults, whether intentional or unintentional, which communicate hostile, derogatory, or negative messages to target persons based solely upon their marginalized group membership.		To minimize occurrence of microaggressions but also to create a "safe" enough environment for people to express if/when they are feeling such thing and so that those making "mistakes" can feel comfortable acknowledging and correcting them...	Discuss internally what kinds of microaggressions that we have either experienced or observed ourselves in meetings, workshops. e.g. so that we can be vigilant
	It simply does in everyday encounters and during sessions and such.	Avoid them as best we can.	As part of the code of conduct I mentioned before, add interpersonal communication expectations to code. HHMI had some great ones.

Racial Equity Concept/Term	How might this concept show up in the Awardee Meeting?	What goals do we have for equity in this area?	What steps might we take to support progress/success?
		connected to the idea of a code of conduct-- encourage a positive intent framing of all discussions as well as some established strategies/ trainings for facilitators to be vigilant about moments of potential microaggression and how to support repair when an event occurs	create space for attendees to share concerns if any arise during the meeting -- some sort of explicit mechanism for this that is baked into the daily evaluation/ reflection (if that is something that we will choose to do)
<p>Inclusion: The act of creating environments in which any individual or group can be and feel welcomed, respected, supported, and valued to fully participate and bring their full, authentic selves to work. An inclusive and welcoming climate embraces differences and offers respect in the words/actions/thoughts of all people.</p>	design of the sessions; selection of speakers; affordances of the online platform to attend to DEIA	<p>To have all people feel included and comfortable, via the language that we use, the accessibility we provide, etc.</p> <p>Same as diversity and dominant culture and microaggressions.</p> <p>Different from above: selected topics and ideas that are featured and discussed represent the broad need of all attendees</p> <p>establish a virtual meeting where participants feel welcomed and supported to bring a more intersectional identity into the sessions and discussions</p>	<p>Reflect on previous meetings and current best practices, esp. around virtual meetings</p> <p>See above</p> <p>Survey attendees; focus internal discussions on full range of possible topics. Do analysis of past conference topics to understand what was not featured and foregrounded.</p>
<p>Decolonize (mind): We exist within societal structures rooted in historical facts, one of which is colonialism: the policy and practice of acquiring control of land (frequently occupied by people of color), occupying it, and codifying power structures to elevate one race and culture above all others. The international practice of colonization informs the dominant culture that characterizes American society today, driving ideologies and subconscious biases rooted in centuries of racism, classism, and white privilege. In order to dismantle white supremacy and the white dominant culture norms it influences, one must actively "decolonize" the mind, recognizing and counteracting the thoughts, preferences, practices, and behaviors that are deeply rooted vestiges of colonization.</p>	<p>The ways we frame discussions about communities (.eg., assumptions and how we talk about minoritized groups' attitudes, perspectives needs about/for STEM). These can be deficit based perspectives and language may have "white savior" overtones.</p> <p>Land acknowledgements seem to be popular</p> <p>Part of our colonized mind is how we address what a PI/awardee meeting ought to be. I think we are addressing much of it above, with the exception of directly targeting the issue as a content problem.</p>	<p>Setting and supporting expectations for participants to decolonize their own minds during and after the conference.</p> <p>Questioning colonized structures and approaches/behaviors as part of the conference. Feature sessions and ideas that explicitly address how decolonization can be done in ISE/SciComm</p>	<p>Specific time for individual reflection. Prompts for participants to think about these issues throughout. Inviting/requesting speakers in advance to consider including references to these concepts in their presentations.</p> <p>Request people do this and send along https://native-land.ca to help them.</p> <p>Feature speakers who can make the concept explicit. This runs deep.</p>
<p>Race Equity Culture: A culture focused on proactive counteraction of social and race inequities inside and outside of an organization.</p>	<p>Underrepresentation of non-White people throughout the meeting</p> <p>Lack of making racism as underlying problem a key feature of discussion at the meeting</p>	<p>Defined above as targets for representation</p> <p>Make racism explicit at the meeting</p>	<p>see above under Diversity</p> <p>Define what antiracist programming might look like. Get input from others on it. See what similar conferences have done to address race equity culture</p>

Racial Equity Concept/Term	How might this concept show up in the Awardee Meeting?	What goals do we have for equity in this area?	What steps might we take to support progress/success?
<p>White Supremacy Culture: Characteristics of white supremacy that manifest in organizational culture, and are used as norms and standards without being proactively named or chosen by the full group. The characteristics are damaging to both people of color and white people in that they elevate the values, preferences, and experiences of one racial group above all others. Organizations that are led by people of color or have a majority of people of color can also demonstrate characteristics of white supremacy culture.</p> <p>Kenneth Jones and Tema Okun identified twelve characteristics of white supremacy culture in organizations: Perfectionism, Sense of Urgency, Defensiveness, Quantity of Quality, Worship of the Written Word, Paternalism, Power Hoarding, Fear of Open Conflict, Individualism, Progress is Bigger/More, Objectivity, and Right to Comfort.</p>	<p>"Right to comfort" pressures</p>	<p>In a virtual environment it may be tricky to intentionally create an environment where it will be "comfortable to be uncomfortable," as it were. That said I think our goal should be to be open, transparent and responsive to evidence of or reactions to what might be perceived as white supremacy culture in action</p>	
	<p>White people taking up a lot of talking time</p>		
	<p>Goals for, structure, topics chosen, formats used, code of conduct defined</p>	<p>Create an inclusive, diverse and antiracist conference</p>	<p>reflect Jones and Okun's characteristics in our code of conduct. Implement structural ideas from above. Have a non-white group of advisors who consist of putative attendees (including CPs) review meeting design etc. and provide critical feedback.</p>
	<p>BIPOC viewpoints not validated, elevated or respected based on dominant norms</p>	<p>All participants being heard/seen; participants from dominant cultures mindful of the space they take up and power they occupy</p>	<p>Include some of these areas in a Code of Conduct or similar. Involve BIPOC as discussion facilitators, accountability partners etc.</p>

Appendix N - Awardee Meeting Observation Tool

AREAS OF OBSERVATION FOCUS

These are drawn from the rubric we created and condensed here to areas that seemed most pertinent to sessions.

Countering Dominant Culture Structures and Norms:

- Everyone feels equally empowered to contribute. Range of voices heard so that no one dominates (particularly individuals who are not white men and women in positional power)
- Jargon is kept to a minimum and is not overly academic
- Presenters and facilitator attend to equitable engagement/ recognition of attendee contributions

Creating an Inclusive Environment:

- Code of conduct is referenced at the beginning of the session
- Atmosphere is welcoming and feels inclusive
- Participants, particularly those from marginalized identities are supported to bring an intersectional lens into the sessions and discussions

Addressing Equity and Countering White Supremacy

- Equity issues/dimensions are centered and explicitly addressed by presenters
- Discussions focus on issues of equity. This could include, for example, acknowledgement of systems or practices that support or counter dominant cultural norms, white supremacy, decolonizing approaches, differences in power, cultural norms, etc.
- Space is created where individuals are encouraged to sit with discomfort, complexity, lack of closure or clear answers

OBSERVATION PROTOCOL DRAFT: Critical Convos & Concurrent Sessions

Session Title:	Date
Number of Participants:	
Group breakdown (poll at start): needs poll categories added here to show approx breakdowns so there;s some reliability across individuals? e.g. Few (<25%), Some (26-50%), Most (51-75%), Nearly all (>75%) or similar?	

Setting Stage for Inclusion		
Code of conduct is referenced at the beginning of the session	Yes	No
Reminder of agreements for inclusive conversation mentioned	Yes	No

Comments on above ratings or other areas related to setting the stage for the session

Engagement of All Participants	Rating			
Over the course of the session, how many participants contribute their perspectives?	Few	Some	Most	Nearly All
Range of voices heard so that no one dominates, particularly individuals who present as racial majority and/or are in positional power.	1 Not at all true	2 Somewhat true	3 Very true	N/A
Participants, particularly those from marginalized identities are supported to bring our full, authentic selves into the sessions and discussions.	1 Not at all true	2 Somewhat true	3 Very true	N/A
Presenters and facilitator attend to equitable engagement/recognition of all attendees.	1 Not at all true	2 Somewhat true	3 Very true	N/A
Jargon is kept to a minimum and is not overly academic or field-specific.	1 Not at all true	2 Somewhat true	3 Very true	N/A
Atmosphere, overall, is welcoming and inclusive. For example, participants appear comfortable engaging the group, some rapport is established, etc.	1 Not at all true	2 Somewhat true	3 Very true	N/A

Comments on above ratings

Focus on Equity Content/Topics	Rating			
Equity issues/dimensions are explicitly addressed by presenters.	1 Not at all true	2 Somewhat true	3 Very true	N/A
Discussions address equity issues/dimensions. This could include, for example, acknowledgement of systems/practices that support or counter dominant cultural norms, white supremacy, decolonizing approaches, differences in power, etc.	1 Not at all true	2 Somewhat true	3 Very true	N/A
Space is created where individuals are encouraged to sit with discomfort, complexity, lack of closure or clear answers, or push their thinking.	1 Not at all true	2 Somewhat true	3 Very true	N/A

Comments on above ratings

Nature of Discussions

Describe the overall nature of interactions and discussion. Specifically:

- To what extent was there rich meaningful dialogue? For example, did participants engage with each other and build each other's ideas as opposed to just talking about their perspective?
- What are one or two examples that reflect and/or provide evidence of rich meaningful conversations, if any? What seemed to contribute to that (e.g., group makeup, topic, etc.)
- Your overall impressions of the ways in which this session (both content and format) attended to equity and inclusion

Additional Comments

Appendix O - 2021 NSF AISL Awardee Meeting Community Norms

Engaging in conversations with a community like this one requires that we are clear with each other about our goals for group dialogue and about how we expect each other to behave in our dialogue space.

These guidelines are adapted from the “Multicultural Ground Rules for Discussion” developed by Dr. Ruby Beale.

The dialogues aim to achieve one or more of the following:

- Introduce you to ideas that are new and exciting
- Illuminate topics that you haven't engaged with or that you might reconsider
- Surface tensions and disagreement
- Challenge your assumptions
- Help you understand your own ideas and opinions
- Bring a sense of clarity and peace
- Inspire you
- Energize you
- Make you laugh or smile
- Help you feel connect with others

In order to achieve these goals, we hope you will consider these principles:

- Acknowledge differences among us in identity, skills, interests, values, disciplines, and experience. We learn in the space between and around these differences.
- Acknowledge that one of the roots of discrimination is in the systematic misinformation we have been fed about our own group and members of devalued groups (this is true for both dominant and non-dominant group members).
- Acknowledge that this systemic misinformation may surface sexism, classism, racism, heterosexism, and other forms of discrimination (religion, age, ability, language, education, size, geographic location etc.) exist and may surface from time to time.
- Try not to blame people for the misinformation we have learned--but we hold each other responsible for repeating misinformation or offensive behavior after we have learned otherwise.

Be mindful of these guidelines as you engage in discussions

About who we are

- Speak from your direct experience.
 - Consider that your personal experience is not necessarily shared by all, particularly by those individuals that are not part of your “group”
 - Acknowledge that an opinion of a group member does not equate to the lived experience of all members of that group.
 - Offer comments using ‘I’ statements.
- Keep what is shared confidential as people may share personal and vulnerable information. (“Stories stay, lessons leave.”)

How we listen and share

- Assume the best about others and speak with good intention. (That doesn't mean we can't hold people accountable.) Trust that others are doing the best they can to learn. Challenge the idea, not the person.
- Approach discussions with curiosity and genuine interest in other people's experiences and the opportunity to learn and grow. Many have lots of expertise and much to share.
- Try to understand what someone is saying before rushing to response or judgment. Respond with thoughtfulness and consideration.
- Be patient: what seems urgent in the moment to you might not move a conversation forward for everyone.
- We want to hear from everyone and encourage everyone to contribute, share, and be rightfully present. Work to both actively participate in group discussions while also making space for others less likely to speak out on their own. Ensure each individual can voice their thoughts even with disagreement, safe space to discuss.
- Be self-aware of the time/space you're taking up in the "room." Reflect on what the rightful level of your contribution might be. Re-read what you wrote before you submit/send.
- Define technical terms and avoid jargon; be as specific/precise as possible to avoid misunderstandings.
- Be an ally and advocate. If you see that someone is not being included, or that conversations are dominated by a few, or that assumptions are being made about others that may be counterproductive. Feel free to intervene or to speak up.
- Work towards communal understanding: our conversations are not meant to create consensus, have winners or losers, or persuade others of some ideas. We are here to share, learn and grow.

These kinds of discussions can be challenging and exhausting. Here are some **suggestions for ways you can take a break and replenish.**

1. Mindfulness (pause and take 3 deep breaths)
2. Get up from your computer
3. Go outside and take a walk. Be in nature, if possible.

Appendix P - Critical Conversations Facilitator Guide

Overview

Thank you for agreeing to serve as a facilitator for the *Critical Conversations* at the upcoming AISL Awardee Meeting! These small group sessions follow the Plenary Sessions on meeting Day 1 and Day 2, providing opportunities to explore concepts raised in and prompted by the Plenary sessions. The overarching goals for *Critical Conversations* are three-fold:

1. Support rich conversations in which all participants - in particular first time awardees and members of community-based organizations - contribute to the discussion.
2. Engage with key ideas from the preceding Plenary Session, through reflection and connection with the work (professional practice) of those in the group.
3. Facilitate generative and thought-provoking conversation on the current state and future of the informal science learning and science communication fields.

The sessions have the following format:

- **Session Welcome (5 minutes)** - Participants meet in a single Zoom room; CAISE team member will share session norms and process
- **Conversations (40 minutes)** - Participants are randomly assigned to breakout rooms of 10-15 participants, each led by a facilitator.

Facilitator Role

Facilitators will guide the overall flow of each conversation, providing enough facilitation to support the goals above while allowing the participants to truly drive the discussion. Facilitators will be set as co-hosts for the breakout sessions, will be asked to use some basic Zoom functions, and should be accessing zoom video via computer or similar device (not a mobile phone). These functions are: pasting text and weblinks into the chat box, screen sharing (and unsharing), and monitoring the chat for any comments or questions from participants.

Throughout the discussions, we ask that Facilitators:

- Encourage participation by all attendees and acknowledge their contributions
- Invite questions from participants
- Push conversation into deeper reflection/analysis
- Acknowledge points of conflict or discomfort

Here are also some brief examples of prompts that may be useful in kickstarting or expanding conversation in your session:

- *How does that point connect with something anyone else is thinking?*
- *Does anyone have a different perspective to share?*
- *Where might there be tensions in your work and/or the field on this issue?*
- *What shifts in your own practice are you hoping to see related to this topic?*

Notes on Discussions & Capturing Ideas on GoogleSlides

- Synthesis is NOT the goal. We want to generate and share ideas, but we don't see the discussions as the space for coming to consensus or synthesizing ideas. Given the time

limitations and the topic, our hope is that discussions raise a range of ideas and that participants engage in meaningful dialogue on what we know can be complex issues.

- The main function of the post-its is to give individuals a moment to gather their thoughts before engaging in dialogue. This also allows everyone a way to express themselves and gives you, as facilitator, a way to scan what is on people's minds.
- We hope the post-its support dialogue but they are not the main focus. So always opt for facilitating the conversation over ensuring things are captured on the post-its.
- The google docs will not be publicly available in any way. The CAISE team will review them to learn a bit about the discussion, but they are not being formally analyzed or shared as part of the meeting evaluation or reports to NSF or the community. But the overall process of the series of Critical Conversations and key themes emerging across them may be shared in aggregate to support/inform our community.

Session Support

One or more CAISE team members will remain in the main room should you have any questions, technical issues, or need any kinds of support. This includes circumstances where you feel uncomfortable and/or unable to manage a situation. You can always send us a private chat should you need anything. You can also text Rabiah Mayas at 773-988-0698, Cecilia Garibay at 773-620-1373 or Sasha Palmquist at 202-731-3823.

In the unlikely event that an individual violates the community norms here are some steps you can take as a facilitator. (At any point you can also ask for support from a CAISE team member, as described above.)

1. Mute participants
2. Note that you appreciate that this is a challenging topic. Remind of community norms to respond with thoughtfulness and to engage respectfully.
3. Invite everyone to pause. (Perhaps noting, what feeling is coming up and where in your body do you feel that? Take 3 deep breaths.) Invite people to turn off their video if needed during this time.
4. Redirect discussion and resume

If behavior persists, you can manually remove the individual from the breakout room, either sending them back to the main room or removing them completely.

Additional Information

The meeting rooms will close promptly at the end of the session, but it's possible that some participants will want or need to continue the discussion for a few minutes afterwards. If this is the case - and you have capacity to support this - you are welcome to schedule a meeting Pathable and invite participants to join you there. Once in Pathable: From the main navigation menu, select People > Attendees/Speakers. Find the person you'd like to connect with and click the three dots symbol (•••) next to their name. **Select "Schedule Meeting"**. Click the drop down next to an individual and select 'Schedule meeting'.

Run of Show - Tuesday, October 19th (Day 1)

<u>Timing</u>	<u>Facilitator Action</u>	<u>Links + Comments</u>
Plenary session	<ul style="list-style-type: none"> Listen and participate in plenary Listen to final prompt; note ideas for discussion 	
Break (15 min)	<ul style="list-style-type: none"> Review Run-of-Show (as needed) Ensure access to links Enter the Critical Conversations zoom 	Oct 19th links: GoogleSlides Community Norms
Start of Critical Conversation - (5 min)	<ul style="list-style-type: none"> Listen to CAISE team welcome, session norms, and Community Norms reminder Note the results of the participant poll You will be assigned to a breakout as co-host 	
Start of Breakout (3 min)	<ul style="list-style-type: none"> Welcome group and introduce yourself Invite participants to introduce selves in the chat <p><i>Participant notes to consider:</i></p> <ul style="list-style-type: none"> <i>People identifying as working outside of ISE/SciComm may have/feel less privilege at this meeting than those within the field.</i> <i>People with less experience wrestling with critical issues may feel less comfortable to push into deeper areas of discussion.</i> 	On screen: Slides 1-2 of GoogleSlides
Kickoff discussion question and Google Slides share (10 min)	<ul style="list-style-type: none"> Share first discussion prompt on screen Share link to GoogleSlides and orient to the Group section (Breakout # = Group #) Give 2 min for thinking and writing sticky notes Invite sharing of sticky note ideas verbally 	On screen: Slide 3 On screen: Slides with sticky notes for your Group#
Continued Discussion (20 min)	<ul style="list-style-type: none"> Show slide with 2nd prompt question (“strong reactions to plenary”) Give 2 min for thinking and sticky note writing Invite sharing and facilitate open discussion 	On screen: Slide 4 On screen: Slides with sticky notes
Wrap Up (2 min)	<ul style="list-style-type: none"> Offer (or invite) brief last comments Remind that these kinds of discussions can be challenging, exhausting - <i>share link to the list of ways meeting participants can take a break</i> CONCLUDE SESSION promptly 	
Immediately post session (3-5 min)	<ul style="list-style-type: none"> Complete Google Form debrief about the session 	Facilitator Debrief Form

Run of Show - Wednesday, October 20th (Day 2)

<u>Timing</u>	<u>Facilitator Action</u>	<u>Links + Comments</u>
Plenary session	<ul style="list-style-type: none"> • Listen and participate in plenary • Listen to final prompt; note ideas for discussion 	
Break (15 min)	<ul style="list-style-type: none"> • Review Run-of-Show (as needed) • Ensure access to links • Enter the Critical Conversations zoom 	<p>Oct 20th links: Community Norms</p> <p><i>See group-specific GoogleSlides links below</i></p>
Start of Critical Conversation - (5 min)	<ul style="list-style-type: none"> • Listen to CAISE team welcome, session norms, and Community Norms reminder • Note the results of the participant poll • You will be assigned to a breakout as co-host 	
Start of Breakout (3 min)	<ul style="list-style-type: none"> • Welcome group and introduce yourself • Invite participants to introduce selves in the chat <p><i>Poll notes for you to consider:</i></p> <ul style="list-style-type: none"> • <i>People identifying as working outside of ISE/SciComm may have/feel less privilege at this meeting than those within the field.</i> • <i>People with less experience wrestling with critical issues may feel less comfortable to push into deeper areas of discussion.</i> 	<p>On screen: Slides 3 of GoogleSlides</p>
Kickoff discussion question and Google Slides share (10 min)	<ul style="list-style-type: none"> • Share first discussion prompt on screen • Share link to group-specific GoogleSlides (Breakout # = Group #) • Give 2 min for thinking and writing sticky notes • Invite sharing of sticky note ideas verbally 	<p>On screen: Slide 4</p> <p>On screen: Slide 5 with sticky notes</p>
Continued Discussion (20 min)	<ul style="list-style-type: none"> • Show slide with 2nd prompt question (“strong reactions to plenary”) • Give 2 min for thinking and sticky note writing • Invite sharing and facilitate open discussion 	<p>On screen: Slide 6</p> <p>On screen: Slide 7 with sticky notes</p>
Wrap Up (2 min)	<ul style="list-style-type: none"> • Offer (or invite) brief last comments • Remind that these kinds of discussions can be challenging, exhausting - <i>share link to the list of ways meeting participants can take a break</i> • CONCLUDE SESSION promptly 	
Immediately post session (3-5 min)	<ul style="list-style-type: none"> • Complete google form debrief about the session 	<p>Facilitator Debrief Form</p>

Day 2 Breakout Room Assignments & links to individual group Google Slides

Room	Facilitator	Google Slides link
1	Daniel Aguirre	https://docs.google.com/presentation/d/1R-211tMf-9-9qz0Dfw8_cZx3-kYYOpw4kXkEMw8_HbE/edit?usp=sharing
2	Dionne Champion	https://docs.google.com/presentation/d/1elvbGhKNCqVp9Q6z3eX0dkaYrbW-VcA-X766wUCxw7U/edit?usp=sharing
3	Jennifer Adams	https://docs.google.com/presentation/d/137v3bhkMJCCkyp1ICigMfF5RompwchtwuihvWvC9XyE/edit?usp=sharing
4	Jennifer Borland	https://docs.google.com/presentation/d/1c1-EPIAhkuna7GY9dII1zBSdkp5K1qosZraV9JQuJ_Y/edit?usp=sharing
5	Katie Todd	https://docs.google.com/presentation/d/1LfpYBYxsZlcnZ5pVMT825-GfoQEmij1dP07HPOXTy-Y/edit?usp=sharing
6	Marcie Benne	https://docs.google.com/presentation/d/1NdfmouiKAWOJFvMHSmEpMOhtODCZ1JnTXwldXrmnzKg/edit?usp=sharing
7	Scott Pattison	https://docs.google.com/presentation/d/1-LB-ZIUENPqg0mYaZbWvWh9vI2MXKIIrOjTacWGu_gQ/edit?usp=sharing
8	Tifferney White	https://docs.google.com/presentation/d/1XfMQ4qJ-lvEIHfFYaV8vMNQ-PjBPZhm0GDEYhd5LrQ/edit?usp=sharing
9	Ben Koo	https://docs.google.com/presentation/d/118j46sTtReXXIA-DgoFH6TMGmFhBKLgVbRPHZsIjDDQ/edit?usp=sharing
10	Josh Gutwill	https://docs.google.com/presentation/d/10L3a7u0MJoaf6bBOutagiEL2lyBnK4Zedx5YPXveVn4/edit?usp=sharing
11	Laura Bartock	https://docs.google.com/presentation/d/1_KHSPGHvvCpNDp4pDVoVI90FDzZmhjYQrztlBe yaUtQ/edit?usp=sharing
12	Melissa Ballard	https://docs.google.com/presentation/d/1gvp59tXXjUU19o6y9SypbxF--k49ykBHvsHoy-f-4Q/edit?usp=sharing
13	Monae Verbeke	https://docs.google.com/presentation/d/1qxzUgo55tyEUFrehmMeegV4nMWLmc4d8sNBm2qEOE_Y/edit?usp=sharing
14	Sunshine Menezes	https://docs.google.com/presentation/d/1gygxDZZMnngF3KbEPT9hqAhtqIHidH_f8RSMvO68BNA/edit?usp=sharing
15	Adam Fagan	https://docs.google.com/presentation/d/19w3WZetCTE58EMufo8el9VfQVeLR2dYdckuwJHwycj/edit?usp=sharing
16	Angela Calabrese Barton	https://docs.google.com/presentation/d/1nulvVImEshSBdOqN7AQiqJEj_hbuT3aiFZ1bJRhH7G8/edit?usp=sharing
17	Michelle Choi	https://docs.google.com/presentation/d/1mZvPkzilpjabECaMFaKbNGiM6Zwqsb21CByriJDckWg/edit?usp=sharing
18	Lindsay Maldonado	https://docs.google.com/presentation/d/1HDV7PRM5G-08Hvc9aGVQpqzRI9nbwiOeAk_a1xJtiqo/edit?usp=sharing
19	Rae Ostman	https://docs.google.com/presentation/d/1gJta-4maxUhU2CN0wiSEVWYqYqivjFZTrsd8VhpcX70/edit?usp=sharing

20	Amanda Fisher	https://docs.google.com/presentation/d/1a54qyhKngjUiRkPj06WYeC27z_Hk1gn4L2EOXybMQQw/edit?usp=sharing
21	Kelly Riedinger	https://docs.google.com/presentation/d/1OFPrYWHNHUitun1GMljB8AN1RlFfUf49h-PPIXvv34/edit?usp=sharing
22	Rabiah Mayas	https://docs.google.com/presentation/d/162WleM-L4YO9uK6Hb2q_WY00FoBgEW1E2OC9jemfUXE/edit?usp=sharing

Appendix Q - Critical Conversations participant notes - Day 1

Critical Conversations

October 19, 2021 - Day 1

Please introduce yourself in the chat!

***Your name, role, and organization
(and location)***

What are some strategies, for individuals and institutions, for dealing with power differentials - including strategies related to funding and decision-making?

What are some concepts, analyses or other elements from the plenary session to which you had a strong reaction?

Group 1



What are some strategies, for individuals and institutions, for dealing with power differentials - including strategies related to funding and decision-making?

Reflective and authentic relationship development

Data observation and trends of where data is frequent versus infrequent, then have discussion surrounding the “WHY”

Never underestimate the intelligence of the other party, but underestimate their vocabulary.

Being explicit about those power differentials

Ways of knowing are different for different cultures and audiences

Define the roles and responsibilities clearly and clarify the expectations as the project proceeds

Co collaboration of the proposal and doing front end evaluation at the beginning of the project

What are some elements from the plenary session to which you had a strong reaction?

Inspired

Challenged

Surprised

Conflicted

Misc

Group 2



What are some strategies, for individuals and institutions, for dealing with power differentials - including strategies related to funding and decision-making?

Equal pay for similar work being done across institutions

Talk about power; listen to desire for power differential

Make sure different partners have an equal voice in major decisions

Co-write grant proposals

Consider different forms of power and how those play out: what does the word even mean?

Recognize that everything is going to take more time than anticipated: take lots of time to talk

Make space to talk about the power dynamics, discuss the impacts

Identify the sources of "power" and try to redistribute or have honest conversations

I know that my org requires lots of cumbersome paperwork to disperse funds. We are trying to make the process easier.

What are some elements from the plenary session to which you had a strong reaction?

Inspired

Value holders holds language

Challenged

At the end of the day, the person with the purse strings holds the power

Surprised

Try not to hold fixed an outcome. Hold fixed an ability and commitment to engage in questions and conversations together

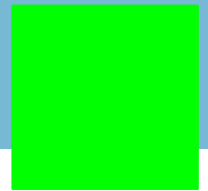
Conflicted

Conversations around sustainability and thinking beyond project

Look out for power differentials at boundary crossings

Misc

Group 3



What are some strategies, for individuals and institutions, for dealing with power differentials - including strategies related to funding and decision-making?

The dominant funder distribute money equitably and find other ways to supplement the project like investing institutional funds.

Institute a common way that decisions are made

Take an inventory of what expertise is available in the organization and your team before seeking external partnerships.

Acknowledge that there are power differences in the room and that you are all working to actively create an equitable environment. Start conversation before funding is there- what are you aspiring to do together?

Always asking and deferring to common input for decision-making. Avoiding exerting prerogatives related to funding, and managing money decisions unobtrusively. (Eric Hamilton)

Listen to values and understand what are/might be different norms.

Attend to the resources (including funding) that are being shared, distributed, allocated) and why with group leaders.

Developing relationships with potential partners prior
Understanding the spending 'rules' of an organization¹-ex. 501c vs state spending vs federal spending
Common goals
Historical context related to projects – was it done before, how and what is the current community perception of the prior work

Acknowledge there will be power differences based on historical patterns of race, class, ethnicity, SES, gender.

Communicate what are the roles, expertise, and assets that each person /individual is bringing to the table.

What are some elements from the plenary session to which you had a strong reaction?

Inspired

Challenged

Surprised

Conflicted

Misc

Not having fixed outcomes but “fixing” on the conversation

Focusing on the big idea and operating principles rather than the smaller differences in design

Inspired to hear stories about the need and willingness to pivot and shift outcomes; and to hear others are facing these challenges.

Group 4



What are some strategies, for individuals and institutions, for dealing with power differentials - including strategies related to funding and decision-making?

Transparency and disclosure

Active dialogue about power - have to keep talking about where you are at.

Set level expectations - understand everyone's personal goals/values before you start representing institutional values

Asking the question: where can decisions be made/what's already been decided? (what are things that can still be decided vs. things people feel are decisions that have already been made)

Failure to realize power structures exist (at both ends) (i.e., reality/reason there's a challenge -> strategy: co-exploring power differentials as part of establishing a relationship (so there a failure to realize)

Surfacing assumptions that everyone has before making the decisions

Mindset of reflection and humility - for organizations examining internal and external power (i.e., institutional structures with lots of history) -> Have to be okay with changing/admitting things don't work.

Long-standing power differentials between employees - history that makes people feel things aren't equal. -> try to invite conversation/release of those feelings and problem solving

Meeting minutes should be shared documents. Responsibility distributed, and discussed at each meeting before moving forward

What are some elements from the plenary session to which you had a strong reaction?

Inspired

Competing priorities - honoring the knowledge and power and finding common goals

When you are in a mutual respectful partnerships - feel like you can tackle any challenge

Challenged

There are a lot of community-less places -> challenging to find commonalities...where things are believed to exist but don't really exist

People living together doesn't necessarily = community

Surprised

use of words like "community" - not using terms like "low socio-economic status" (e.g., for community with extreme poverty)

Different levels of familiarity with different concepts - surprised that we don't talk in the US about dif indigenous knowledge traditions (dif way of talking about it in the US) - rehash older ideas rather than looking at next generation ideas

Conflicted

Misc

Group 5



What are some strategies, for individuals and institutions, for dealing with power differentials - including strategies related to funding and decision-making?

What are some elements from the plenary session to which you had a strong reaction?

Inspired

Challenged

Surprised

Conflicted

Misc

Group 6



What are some strategies, for individuals and institutions, for dealing with power differentials - including strategies related to funding and decision-making?

Some of the toughest conversations seem to be needed within institutions...as the different parts of the organization aren't always present at the team (cross institution) conversations.

I think it is important to really name and identify the power structures early on in the work and revisit often (Perrin) so hopefully its shifts throughout the work

Co-design work needs to start early in the project/proposal development process- so all have a vested interest, but this takes trust and relationships

Think about and be clear about what expectations are for when the funding ends--discuss this before there is even funding.

Projects are permitted to grow and make change as the collaboration/partnership develops. NSI recognizes this. Communicate with NSF about how these alterations are helping achieve project goals.

Taking the time to develop relationships before projects are even discussed helps establishing trust.

My project involves families and libraries - we formed a library working group and are working with libraries and families on all aspects of project design - reaching families through local PBS partners. Many of our projects are outgrowths of pilots so we have relationships going into the project.

Following and applying a co-production of knowledge framework helps establish expectations (processes and outcomes)

Power Analysis (what power lies within each organization, who has access to which resources, tools, etc., and what do we need can we provide for one another)

Getting to know each other as people as well as partners; talking through priorities without making assumptions; building in time for social time - ie time where people are invited to relax while also talking about "work" - is important for people to feel comfortable. Finally, making it explicit that others are invited to share ideas.

What are some elements from the plenary session to which you had a strong reaction?

Inspired

Challenged

Surprised

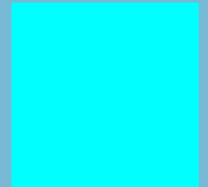
Conflicted

Misc

Loved the idea of value-holders and not just stakeholders

Inspired by the native ways of knowing-- this is a model for thinking about checking assumptions - also loved idea of value holders-

Group 7



What are some strategies, for individuals and institutions, for dealing with power differentials - including strategies related to funding and decision-making?

Systems are not well set up for long-term partnership building

Some funders have tracks specifically for partnership building

The grant-writing process is not set up to be good for relationship-building

Transparency. Time to learn what each partner wants.

We really have to slow down, and when we do so, our work becomes less fundable.

It's important to have diverse representation in the PI and Co-PI roles

How could we reimburse partners for grant writing time?

The partnership arising out of a need, not a potential for funding

Rethinking participant support and what's required (receipts, etc.)

What are some elements from the plenary session to which you had a strong reaction?

Inspired

Challenged

Surprised

Conflicted

Misc

Allies who can deal with emotional aspects when things aren't going great.
Deep alignment.
Long-lasting.

Relationships > outcomes

"Values-holders"

Different levels of power:
individual, organizational,
institutional...

Group 8



What are some strategies, for individuals and institutions, for dealing with power differentials - including strategies related to funding and decision-making?

Create a shared vision statement to avoid misunderstandings

Design in authentic participation from the beginning of a project

Collaborate on writing grant

Build authentic and inclusive relationships, in particular across different levels in power hierarchies

Iteratively revisit project goals/outcomes

Utilize external (to project) facilitators

Build long term partnerships so that when opportunities arise you are not seeking immediate, short term transactional relationships

identifying each partners strengths/expertises

Self-reflection!
(positionality, racial and other biases, power)

No such thing as over communication!

Iteratively check-in on project/partnership health

Still working on making time ahead of funding deadlines to connect with partners early on, but this is a commitment we're continuing to push on.

What are some elements from the plenary session to which you had a strong reaction?

Inspired

Challenged

Surprised

Conflicted

Misc

Group 9



What are some strategies, for individuals and institutions, for dealing with power differentials - including strategies related to funding and decision-making?

We're considering soft-systems (CATWOE) decision making.

I was part of a nascent CoP once, where the project leads were getting a bunch of AISL grants to pay for their time, but weren't supporting any of the members of the CoP. That engendered a lot of bad will and mistrust.

acknowledgement of interconnections and need to rely on others knowledge, skills, resources, relationships

Allow for time...time for institutions to know each other, time for deeper thought about benefits and outcomes, time to develop a level of comfort sharing ideas that may seem foreign to the partnership.

Self awareness about the power each party has

Explicit documentation of decisions made about voices at the table.

Be explicit and upfront about budgets.

Creating meeting agendas collectively and purposefully to allow for all to participate

Allowing space and time for input from all groups affected - including ways to share without fear of retribution

Active listening

Being responsive to community needs and engaging directly rather than foisting a pre-developed solution

In addition to many other strategies, I have found it could be helpful to budget advisors specifically to help with questions about relationship practices. So many questions come up and it's good to have additional allies help all involved learn and change.

What are some elements from the plenary session to which you had a strong reaction?

Inspired

Challenged

Surprised

Conflicted

Misc

Group 10

What are some strategies, for individuals and institutions, for dealing with power differentials - including strategies related to funding and decision-making?

Giving voice to all stakeholder groups.
Holding open discussions about the goals of the funding and how those who might not know about it can be informed and have opportunities to access it.
Having sessions in which the means for attaining funding are clearly explained to underrepresented groups at the institution.

Starting these conversations at the project design phase.

Interested in "Power Assessments" which someone shared in the plenary as a structured approach to assessment

Work to shift leadership in funding and funded institutions to include voices in partnering communities.

Ensuring that there is at least one representative per stakeholder group at all levels of planning, from the conceptualization of the project onwards.

Kelli - Walk everyone through the process and ensure mutual understanding for what is often a mysterious/Ivory Tower process.

Have someone on the team who has done all this before. All novices is not the way to start.

The stakeholder group/institution with the most power should practice equity oriented listening strategies to ensure that all stakeholders' perspectives are heard.

Be mindful of language around the relationship between the more powerful stakeholders and those with less. For example "service" "resource" "enrichment" towards viewing all stakeholders as having something critical value to bring to the partnership.

What are some elements from the plenary session to which you had a strong reaction?

Inspired

Challenged

Surprised

Conflicted

Misc

Group 11



What are some strategies, for individuals and institutions, for dealing with power differentials - including strategies related to funding and decision-making?

What are some elements from the plenary session to which you had a strong reaction?

Inspired

Challenged

Surprised

Conflicted

Misc

Group 12



Grp. 12: What are some strategies, for individuals and institutions, for dealing with power differentials - including strategies related to funding and decision-making?

Ideally bring most potential collaborators to the table as part of the making process.

Capacity building for community partners to engage in funding discussions

Inviting community partners to the role of co-PI

Acknowledging the strengths of each partner from the beginning (even proposal stage) and how our strengths build into the project

Have meetings on-site at places with less \$/time to travel to increase the influence of that context on the project

Have honest and open conversations about primary aims and goals for each party, and keep an eye on those as guiding values for decisions

What are some elements from the plenary session to which you had a strong reaction?

Inspired

Challenged

Surprised

Conflicted

Misc

Group 13



What are some strategies, for individuals and institutions, for dealing with power differentials - including strategies related to funding and decision-making?

Work on partnerships from the beginning. It needs to happen prior to grant submission.

First, give up power and some resources. Institutions need to hold their responsibilities. But then what?

It is important to get relevant perspectives into the work. Directors need to bring people into the partnerships. You need to be clear about what you offer. Not all PIs are in the position to make fiscal decisions. You can advocate for equitable arrangements.

Issue: There is some push back against everyone doing this equity partnership work because it may take money away from the long history of partners who have done this work for decades.

We need to build on the interests and desires of community—and then show up for the long term. In soft money orgs, that means supporting efforts over time. There is a lot of hope—and we rely on our institutions to support it.

Issue: Our timeline to project development is often so long for community partners (e.g., 2-3 years with multiple submissions).

Partnerships with Indigenous communities should start with spending significant time in community. They should be thought of as life-long partnerships with Indigenous communities.

What are some elements from the plenary session to which you had a strong reaction?

Inspired

Challenged

Surprised

Conflicted

Misc

Group 14



What are some strategies, for individuals and institutions, for dealing with power differentials - including strategies related to funding and decision-making?

As it was discussed in the plenary, co-creation is key, as is transparency.

Start conversations early and build long-term partnerships.

Invite new partners who have not been at the table. Have others help you.

Start early with a discussion about roles and responsibilities

Ensure that all partners have sufficient resources.

We've been moving towards having partners who are from historically excluded groups actually setting the course for the project, and then we (as the organization with more power), play a supporting/facilitating role as opposed to one of a more leadership one.

Be flexible with changing approaches.

Be open about the funds needed by each individual/or organization

Have a discussion about how decisions are made and by whom; how to resolve significant differences

What are some elements from the plenary session to which you had a strong reaction?

Inspired

The importance of developing shared language among partners

Challenged

Appreciated the comment: Be willing to change the approach but preserve the partnership. So simple but also profound after 1.5 years of perpetually adjusting.

Surprised

Conflicted

Hard to create balanced partnerships when funding streams start and end. Need to keep an eye to mutually beneficial goals and understand how keep moving in common direction as \$ and team members change.

Misc

Group 15

What are some strategies, for individuals and institutions, for dealing with power differentials - including strategies related to funding and decision-making?

Create resource groups within partnership to advocate for and support marginalized voices

Create an internal organizational speaker series to give a platform for employees to have participatory experiences and a forum for dialogue to empower DEAI work for informal educational agencies..

Establish open communication by discussing norms and roles (e.g., how often meetings, how long, who will join/how often, does everyone have access to good internet/headphones, video required or not, etc) at the beginning of the partnership as well as obtaining open platforms that allow all members to talk and participate freely to support equitable and long-term relationship building and to combat drop-off in participation.

What are some elements from the plenary session to which you had a strong reaction?

Inspired

Challenged

Surprised

Conflicted

Misc

Group 16



What are some strategies, for individuals and institutions, for dealing with power differentials - including strategies related to funding and decision-making?

Kal (work in rural and tribal STEM engagement):
Started by id'ing the STPs (same 10 people) that are the influencers of opinion - and engage them as partners

Kal: embed sustainability into the initial planning with partners

Paola: Co-creation is essential and planning changes with the community and not just for the community.

Early partnership and engagement prior to funding (in writing proposals, determining project structure/norms)

Looking for strategies - we have a new project with new researcher PIs along with a brand new museum partner



What are some elements from the plenary session to which you had a strong reaction?

Inspired

Idea of power assessments

Challenged

Need to build partnerships even prior to proposal-writing

Surprised

Importance of relationship building, context

Conflicted

Misc

Resilience comes down to relationships

Getting away from the idea of having a fixed outcome

Not just about sharing money - other ways to balance power

Placed based decision making is messy



Appendix R - Critical Conversations participant notes - Day 2

Critical Conversations

October 20, 2021 - Day 2

Please introduce yourself in the chat!

Your name, role, and organization

What are some concepts, analyses or other elements from the plenary session to which you had a strong reaction?

Group 1



What are some elements from the plenary session to which you had a strong reaction?

Inspired

Challenged

Surprised

Conflicted

Misc

Group 2



What are some elements from the plenary session to which you had a strong reaction?

Inspired

Challenged

Surprised

Conflicted

Misc

Discussion of epistemic supremacy

Thinking about how to create spaces that result in multi-layered knowledge production

Discussing the positive/negative impact of science concepts with youth - drone example

Helping international students and faculty with the domestic context

Whose voice? Who is the power source?

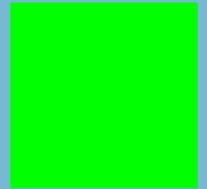
What education could be

Eek! The highly non-objective nature of social science (?) makes me concerned, as a scientist/empiricist, that we're headed towards a sort of Foucaultian post-truth epistemology. So out of my depth here.

Example of how everyone in the foodchain feels disempowered.

Not sure how you can have validated instruments for many different racial and ethnic groups????
s

Group 3



What are some elements from the plenary session to which you had a strong reaction?

Inspired

Challenged

Surprised

Conflicted

Misc

The idea of axiology -- ethics as something we might expand beyond IRB notions to that of respect, benefit, etc.

How to be sensitive to the diversity of an audience, but still get valid data in your research and evaluation

Were the panelists recommending to reject traditional methodologies? Or reconsider or supplement

Wondering how to help change the culture at US Fish and Wildlife to be more welcoming to POC. Or is it env science more generally that needs an overhaul or jthe job descriptions that leave people in the field in remote, rural, white, potentially dangerous situations

Great stories to illustrate the topic.

Struck by the notion of epistemic supremacy. How can we challenge the ways we assess learning in education?

Zoom ended abruptly. Thank you for facilitating, Cecilia!

Challenge to acknowledge and find ways to heal the legacy of western science before or while embarking on a science project (cit sci or not)

Glad to see that there is a focus on this at this time...but also feel there is a need to recognize the longevity of how people of color have had to address issues of discrimination

Group 4



What are some elements from the plenary session to which you had a strong reaction?

Inspired

Challenged

Surprised

Conflicted

Misc

Thinking about supremacy and how to dismantle it

Redefining validity and rigor

I love that the word "love" was used and honored and not taboo as some sort of ideological antithesis to rigor (+1)

The tension of incremental change within a system versus re-imagining systems

I keep thinking about transformation and access -- as in how do we transform spaces now to create access and possibilities for more transformation of STEM spaces more broadly

I loved the variety of visions for where the field could go.

How do we push beyond access? Access is not enough.

Thanks to you all - I really appreciated today's conversation (jen)

How can we move from talk about these issues to action and change

Reminding ourselves that just because an instrument has been validated in one context it may not be valid in another context

Inspired by the stories and experiences shared today.

There is a constant tension (for me) between helping students access what is (as of now in STEM ed spaces) while we are also transforming - also how do we sustain energy for transformation both our own and our collaborators.

So appreciate the conversation, happy to discuss any new ideas (Deena)

"Wherever we sit, we all feel powerless" -> sense of powerlessness can cause resistance to disruption...how can we catalyze change?

Axiology was a new term for me...look forward to learning more

Listening to the communities that you are working with

Silos vs.

Agree to all this. It was

Nice to meet +

Group 5



What are some elements from the plenary session to which you had a strong reaction?

Inspired

I appreciated highlighting the practice of noticing -- to get to a deeper shift in our work.

Challenged: Why TRULY benefiting from research?

... naming 've ID'd it's good for the middle as youth as d for all"

We are talking a lot about research justice on our project right now which means examining methods, structures and outcomes we hope for

Challenged

I resonate with the comment about recognizing the tension between who I am and who I want to become--and how to get there, recognizing....noticing...

The idea that decolonizing research will become the norm, not what's isolated to the folks who do social justice or cultural responsiveness

...settling notions of who es research, when me folks actively push way from the idea or search; how can we frame research productively?

Access is not enough; it is not the goal. It's more than just who's at the table, but how the table operates and functions. What happens if I don't even want to be at THIS table.

My opinions (and my being) is always evolving, based on experiences, reflection, and what I learn with and from others.

Surprised

Love the discussion around noticing invisibility as well as a sense of belonging in the act of research. The example of photo voice was a good methodology.

We've been trying to represent our story differently. Riffing on clover foodlab and their timeline

Conflicted

As a white woman who woks in STEM at a university, I know that I have both benefitted from and propogated racist systems

Misc

I'm curious about how the status quo continues to set into motion the unfolding of histories.

LOVE the idea of finding joy in the true rigor of holding each other accountable as humans in community

DEI being lumped instead of being parsed out in evaluation

Group 6



What are some elements from the plenary session to which you had a strong reaction?

Inspired

Access isn't necessarily the aspiration - it's not a high enough goal

It's not about getting it right but about engaging w/ partners in co-creation

Epistemic issues and Axiology in STEM fields

Embrace the idea that different communities need different instruments for eval

Axiologies of knowledge production

Challenged

Reframing rigor in our work

Thinking about what good and what harm our programs do

We've succeeded at getting more people at the table, but now we need to look at "what is the table?"

Surprised

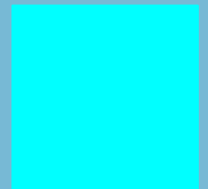
Conflicted

Misc

Really loved the perspectives shared, and the tone of the conversation

What does it mean to ask, "What community are we watering?"

Group 7



What are some elements from the plenary session to which you had a strong reaction?

Inspired

Interested to learn more about the stem identity approach described by Dr. Boyce

+1

Some of the research methods like Photo voice

Very thought provoking ideas

Challenged

How to put the theory into practice and design work.

The ramifications of STEM to social areas and how to identify

What counts as a moral imperative if we embrace epistemic pluralism and diversity?

Surprised

The NSF funding system is not set up for equitable community work.

How can I get my leadership to understand and recognize when we may uphold epistemic supremacy (even if we don't mean to)

Conflicted

How to use existing tools and frameworks that were designed in traditional norms and how to build from them in a decolonial way.

Misc

Importance of Rhetoric.
This discussion of
“different ways of knowing”
is not the one I’ve heard
colleagues railing against. I
already sent a bunch of
messages :D

There were lots of
jargon/acronyms being
used; some familiar
and some not so
familiar

Deficit narratives and
how common they are.
How can we embrace
asset-based
narratives/perspectives

The idea of unpacking
and thinking more
about knowledge
supremacy is
interesting to me

LOVED the personal
stories and the
vulnerability of the
panelist

How can we
include measures
of all aspects of
DEI in our work?

My interpretation of
the term access,
what it means to us
and how is used in
DEI discussions

Reviewers should be
trained on these topics. It’s
disheartening to have these
conversations and then be
punished for these ideas by
reviewers

Group 8

Role of funders in
perpetuating
deficit-based
narratives

What are some elements from the plenary session to which you had a strong reaction?

Inspired

Heartened by the emphasis on qualitative and personal accounts in participants' own words as legitimate ways to evaluate

People seeing the value of qual

Putting together ideas of rigor with and social inquiry as a cultural product

Challenged

Need to do more reading to better understand what is meant by bringing colonizing practices to research

Noticing before acting

Wondering about tools for measuring equity and access? Since that came up

Surprised

That while this is such an important conversation it happened during this meeting. I frankly don't see reviewers taking these topics to heart. They want RCTs they can replicate.

Community-led research seems to put a big burden of apparatus on communities, hope NSF will support that. It's really hard even at an R1 to figure out these processes and to manage them.

Conflicted

Sometimes I feel the labels for race and ethnicity can mask deeper nuanced intersectionality that would invite everyone to realize how they 'pass' and fit themselves into any given intellectual community.

There's an article about intersectionality in quant research in RRE that I can share (post above)

Misc

Learned a new term: axiology

Giving "access" does not mean that this is what they need and/or desire

Group 9



What are some elements from the plenary session to which you had a strong reaction?

Inspired

People First!
...st!!

Rethinking rigor wrt methodology — point about instruments validated in one context; invalid in another

Access for whom, to what, toward what

Who is at the table → what kind of table is it

+1

Challenged

What can I learn about myself and the colonizing practices I enact

What does “access” really mean?

Rethinking practices

Challenging assimilationist approaches

W/E/I discourse has so often suggested that what's good for middle class white kids is good for everyone

Discussion of who holds the power and connection to constraints wrt desettling ISE

Surprised

The open challenge to our funding models

Conflicted

Connecting the thoughtful, beautiful and precise language that researchers used with a broader audience who use different discourses, e.g.

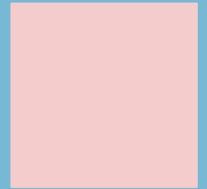
Misc

Opportunities we have (to shift practices/ways of thinking) when we accept review invitations

How do we mainstream these ideas?

How do we bring others into the field?

Group 10



What are some elements from the plenary session to which you had a strong reaction?

Inspired

Moving beyond “access”, thinking about “epistemic Supremacy”

Brining “human centered assumptions” front and center

Photo voice as a way of capturing STEM identity

Honoring multiple ways of knowing in evaluation and research

Challenged

Creating guidelines for cross-contextual validity of instruments

To be sure to include all voices early in development of research instruments - to make sure we are asking the right questions

How to incorporate rigor and DEI concepts discussed in a practical way

Surprised

Conflicted

Misc

Group 11



What are some elements from the plenary session to which you had a strong reaction?

Inspired

We get nudged/permission to work with new partners, collaborators, and communities and maybe allowed to back away from other initiatives that are non-essential

Challenged

Agree with everything that was said...but overwhelmed by how much there is to do. Could be so many other forces at play.

Surprised

Conflicted

Misc

How can you use a validated instrument for communities that have been historically underserved/marginalized.

How can we changed the shape of the table while working within the system

What is about my ancestors that made them colonizers?

There is a recent book discussing how we arrive at "facts" called The Constitution of Knowledge...and our individual and group roles in promoting it

Learned some new terms.

We are often in positions to question/ challenge systems not just implement projects

Inspired, yet challenged in how do you address these issues. How do you change the table?

Nice to speak to others that are along on this journey... makes you feel like you aren't just working

Group 12



What are some elements from the plenary session to which you had a strong reaction?

Inspired

"We need to routinely highlight the relationship between STEM and empire and colonialism" — Dr. Shirin Vossoughi


In 2016 (GSS not AISL) NSF changed the title of a grant we submitted so as to remove "Decolonizing" from "Decolonizing Space and Time in Tribal Water Quality Governance" - I'm inspired by how much has changed in 5 years.

Inspired on seeing the importance on change. Challenge on the time frame and need for new voices.

Challenged

NOTICING continual reflection of who?

How has coloniality developed a sense of white human supremacy in our research? —Megan Bang

Push with Love 

Loved the question, "what kind of table is it?"

Surprised

The acknowledgement of the relationship between STEM & colonialism/military

Conflicted

Identity complexity (Remy Dou)

I was inspired and encourage by Shruti's thoughts on the importance of noticing and taking time to figure out new approaches. Conflicted through because it can at times seem like nothing is happening and status quo remains

+1 for how to balance noticing and action in practice

Misc

In our communities, how do we create spaces of cultural engagement in the work that are able to take seriously the issues of epistemic supremacy?

Group 13



Additional Ideas

The practical applications were interesting
- I was interested in the student point of view (taking photos to answer questions about the program, what it means to be a scientist, etc.)

What are some elements from the plenary session to which you had a strong reaction?

piece
piece

Inspired

Access is not everything, just a starting point

Re-energized me to think about the youth co-researcher piece of our project.

Challenged

Would have wanted more convo on the concept of noticing

“People first” is good philosophically, but STEM projects don’t nec. allow that.

Surprised

Conflicted

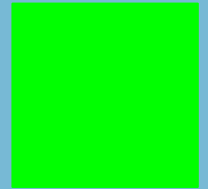
Appreciated the distinction of each aspect of DEIA. We often use it as an umbrella term - but we rarely are addressing the I or the A in many projects.

Misc

There was a great term that I hadn’t heard before: “anti-d...” but I don’t remember what it was. Do you?

Need a part 2 for the idea of “what kind of table is it”? Easy to say but not too many varied examples available to inspire

Group 14



What are some elements from the plenary session to which you had a strong reaction?

Inspired

Really appreciated the focus on each individual aspect of DEIB

I liked the idea of "noticing"

I hadn't heard of the photo voice method, but love this as a way to collect more authentic data

Challenged

The quote "We're in a time of human maturation" Are we?

The importance of critical reflection on how we show up in our projects, and for whom?

Remembering that "rigor" of instruments is always context/ population dependent

Surprised

Curious to learn more about moving away from human centered to relationships

Talk about love in a research forum

Conflicted

The idea that children are rarely the strategist

Wondering how to move away from-must use "evidence based tools" when it doesn't fit the population but meet funder "desires"

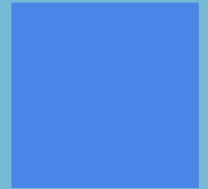
Misc

I'd never heard the term "axiology" before

Axiology. Ditto Me as well

Would be great to have additional resources that we can share with others (research, papers, etc.)

Group 15



What are some elements from the plenary session to which you had a strong reaction?

Inspired

Access alone is not the goal

Focus on NOTICING what is assumed

LOVE and CARE as guiding principles

not just

ogy

Hope that there are so many others who care about this work!

What kind of table is it (moving beyond who is at the table)

Challenged

Care and attention to what gets reproduced

Surprised

Beginning to grapple with my own identity as marginalized but also colonizer

+1 to this

Conflicted

When and how am I replicating

So important. Need to share broadly and engage people with it (the recording and ideas. "

Misc

"Epistemic Supremacy"

+1 to this
+ 1 more :)

Paradigm shifts are key, emergence is key.

Curious about examples of other "non-validated" evaluation/research tools (e.g. photo-voice analysis that Ayesha spoke of)

**THANK YOU for
making the
space for this --
NSF, CAISE,
ASTC <3**

Group 16



What are some elements from the plenary session to which you had a strong reaction?

Inspired

...”who is at the table” - “whose table is it?”

What it means to de-center and desettle “human” supremacy in this work.

The importance of movement/mobilities in how we think about learning and engagement in ISL

Love the letter /guidebook Shruti

Challenged

I liked the idea of how we often do research on Under Represented populations in STEM and that we really ought to reframe that so that we are not “doing research on people”.

We’ve given quite a bit of thought to what it means to critically be with youth and educator partners - and how this shapes the political and ethical dimensions of research

The woven threads of

Surprised

I love thinking about the different ways of knowing and the need to consider what is success or knowledge from multiple perspectives. I think in STEM, there is so often a focus on the facts of science, that we often forget this social science lens.

Inspired by the idea of epistemic hierarchy--this comes up a lot with biological researchers I work with. Sometimes they have discounted other

Conflicted

I’m wondering about the tension between working in/with communities in the world as it is towards the world that could be. This is complex and complicated --the roles of youth, community members, researchers, etc would all be shifting alongside shifting ideologies towards justice that are hopefully co-constructed. I can imagine many stopping points to reflect and redirect. How would that fit into a world as it is - example max 4 year funding cycle. (Edna)

Misc

Maybe I am just naive, but I wasn’t quite sure what epistemic supremacy meant and how that relates to research or to the classroom. How would a teacher know this is present in research that is shared in the classroom with students? - Culver

Group 17



What are some elements from the plenary session to which you had a strong reaction?

Inspired

Challenged

Surprised

Conflicted

Misc

Who is at the table and more importantly what kind of table is it?

How are we engaging people in co-design and co-analysis?

The definition of rigor needing to change

That NSF and the field is talking about this seriously

There are plenty of people for whom this discussion would make their heads explode. What can be done?

Rigor free from knowledge supremacy: whose voice, whose epistemology

Partnerships as a reflective process that is constantly to be evolving and noticed upon.

Access to what, for whom, and to what end?

Multiple ways of knowing.

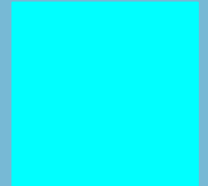
Problem that systems that fund and assess are euro-centric

Reclaiming access to accessing humanizing experiences that value multiple ways of knowing and being

Agents in reproduction

What is our unintended impact from the research itself

Group 18



What are some elements from the plenary session to which you had a strong reaction?

Inspired

The notion of epistemic supremacy. I'm inspired to have this conversation with my project team.

The idea of access being something that's free of force and knowledge supremacy

Moving from current notions: accessibility as access to broken institutions/structures, and instead rebuilding from the ground up, to create actually accessible programs

Challenged

Cultural validity

Is it possible to examine issues of equity and inclusion in a valid way if you don't have the same lived experience? Even if you are aware and making efforts to avoid old paradigms, etc.

Surprised

Conflicted

Misc

Group 19



What are some elements from the plenary session to which you had a strong reaction?

Inspired

Challenged

Surprised

Conflicted

Misc

Group 20



What are some elements from the plenary session to which you had a strong reaction?

Inspired

Access alone isn't the goal!

I was surprised that power received little attention in the discussion.

The depth of folx' knowledge inspires and challenges (and humbles) me as I continue my personal EDIB journey

Challenged

Diversity is not equity & inclusion

"What do I have yet to learn about myself in terms of colonialism?"

Relationships p-centered instead of human-centered

Shape of the table, not just who is at the table

Surprised

This comment system is really weird.

Conflicted

We keep reproducing the system

These conversations are important, but they often feel like they end at this philosophical level... how do we put them into practice

Misc

Group 21



What are some elements from the plenary session to which you had a strong reaction?

Inspired

I value the discussion of axiology at NSF, since that was an off limits topic for years.

Scientific inquiry as just one field of cultural product (apologies to Bourdieu)

New ways to consider work and particular DEI conversations

Challenged

Access and whether that's what we're striving towards

The discussion of leveling research for learning in community is valuable, but I wonder if we can be more explicit about the value of critical pedagogies

Notion of epistemic supremacy

Agree with this :)

Surprised

The inherent paternalism of access focused work on communities

Conflicted

I do worry that competing research paradigms can be conflated with non-research

Access to what end?

Interesting dialogue that got cut off, but focused on the tension between museum mission and the visitor as user of experience

Misc

Recognition of the role of identity -cultural, economic, ect in research design.

Reinforced use of multiple methods, triangulation, etc

Additional Ideas

What are some concepts, analyses or other elements from the plenary session to which you had a strong reaction?

The idea of validity and challenging valid for who, what community

There is an ongoing need to re-visit and re-evaluate research design to be inclusive and ethical

I'm grappling with trying to find the balance between recognizing and hearing the ways of knowing of other cultures while trying to engage learners in the ways of knowing of the culture of science.

Challenging the notion of access and whether it is enough to aim toward

The inherent paternalism of access focused work on communities

I value the discussion of axiology at NSF, since that was an off limits topic for years.

Scientific inquiry as a cultural product

I worry that sometimes there are tacit assumptions of cultural specificity to some social values related to STEM careers that are more about living with low economic status

I do worry that competing research paradigms can be conflated with non-research

Group 22



What are some elements from the plenary session to which you had a strong reaction?

Inspired

Building rich relationships with partners that go beyond the research aspect

People first

Challenged

How do practitioners apply much of this to our work?

Surprised

(From the poll, not the plenary)
Our field is over-rating our own progress towards an equity lens

Conflicted

The framing was highly academic

Misc

How do us non-academics turn that inspiration into action

Appendix S - CAISE Historical Document

The History of the Center for Advancement of Informal Science Education (CAISE)

July 2015



INVERNESS
RESEARCH

CAISE HISTORY: *DRAFT* MAY 2015

The History of the Center for Advancement of Informal Science Education (CAISE)

This document outlines the history of the Center for Advancement of Informal Science Education (CAISE). Working from eight years of evaluation data, notes, and historical documents that track the evolution and refinement of CAISE's audiences and roles, we offer the following narrative that tells the story of CAISE. We illuminate important features of CAISE: its structure, governance, collaboration with the National Science Foundation (NSF), and ways it has sought to serve the broader informal science education (ISE) field.

CAISE, as one of the NSF-funded resource centers, seeks to add value to the investment that NSF is making in the informal science education field through the ISE, and now, AISL program. The intended audiences for this document include CAISE itself, the Directorate for Education and Human Resources (EHR) of the National Science Foundation, and others who want to find ways to augment the functionality and effectiveness of their grant-making efforts.

ORIGIN STORY: CONTEXT AND CONDITIONS FOR THE CONCEPTUALIZATION AND FUNDING OF CAISE

National Science Foundation Division of Research on Learning and the Resource Centers and Networks

The National Science Foundation's (NSF) Division of Research on Learning in Formal and Informal Settings (DRL) has invested in several resource centers and networks. Investing in DRL Centers is quite different from investing in programs and projects. Resource centers are value-added propositions, intended to enhance and amplify the effectiveness and reach of NSF-funded projects. The rationale behind the DRL centers stems from a few underlying premises about ways it might be possible to leverage NSF's current funding of programs and projects:

- 1) **There is untapped synergy and knowledge in every DRL program.** Hundreds of grantees bring expertise, experience and knowledge to their individual projects; each project also is doing innovative and creative work and generating both formal and informal knowledge. There are too few mechanisms for identifying, sharing and disseminating that knowledge. Shouldn't there be mechanisms and resources to better connect the projects and to enhance communication and the sharing of knowledge?
- 2) **NSF does not have the personnel, time, resources or license** to perform all the functions it would like to fulfill, either in support of or in learning from its grantees. Shouldn't NSF find structures and mechanisms to optimize the quality and output of its investments?

There are multiple factors that shape the vision, form, strategies and work of each DRL resource center. (And, we note as a result, that the DRL resource centers are all quite different in purpose, work and form.) Some of the most salient factors that define the character and work of each resource center include:

- 1) the overarching NSF program vision of the intended role and function of a DRL resource center,
- 2) the vision, skills, interests and capacity of the organization and individuals leading each DRL resource center,
- 3) the vision of the cognizant program officer,
- 4) the nature, extent and quality of the interactions with the other program officers who are part of the associated program cluster,
- 5) the nature and scale of the projects and PIs within the program the resource center serves, and
- 6) the nature and scale of the field(s) represented in those programs.

All of these factors have been important in shaping the vision and function of CAISE and making it distinct from the other resource centers.

The Context of the Informal Science Education Field Eight Years Ago

The informal science education field is large, and comprised of many different sectors doing different types of ISE work. Those working in the ISE field vary in the degree to which they are centrally or peripherally involved in ISE work, and in the extent to which they view themselves as informal science educators first and foremost.¹

At the time CAISE was funded, few structures existed that were designed to connect people either within or across the ISE sectors. A small number of websites (e.g. informal.org and exhibitfiles.org) had been created to serve some sectors in the field, but most people had professional affiliations only with their particular area and professional association (e.g. Association of Science-Technology Centers, Association of Zoos and Aquariums, etc.).

Similarly, funding with the NSF ISE program had begun a shift in 2006 away from primarily funding projects within each sector to projects that involved collaborations across different types of organizations in the broad universe of ISE (for example, museums and community based organizations; children's television programming and museum exhibitions and/or web-based experiences). In addition, NSF ISE funding had begun to make the shift from supporting a plethora of direct service programs to seeking out more efforts that developed knowledge and other forms of capacity. Hence, there was a growing emphasis on research and evaluation for NSF-funded ISE projects, a priority all across DRL.

¹ Falk, J. H., S. Randol, S., and L.D. Dierking (2008) The Informal Science Education Landscape: A Preliminary Investigation. Retrieved from http://informal.org/images/research/2008_CAISE_Landscape_Study_Report.pdf

CAISE as a DRL Resource Network

In March of 2006, NSF released a very brief Request For Proposals (RFP) for an Informal Science Education Resource Center, or ISERC. The RFP noted that the ISERC would serve three key audiences: the ISE field, the ISE Principle Investigators, and the ISE Program. There were five original respondents to the request, and three finalists: Association of Science-Technology Centers (ASTC), American Association for the Advancement of Science (AAAS), and the Institute for Learning Innovation (ILI). A collaborative proposal combining elements of both the ASTC and ILI initial proposals won the award, and was funded through a cooperative agreement administered by ASTC in 2007.

Where the initial resource center for the ITEST program, for example, was narrowly conceived to focus on the needs of the PIs of the funded ITEST projects, CAISE envisioned itself as a center that would serve not only the ISE program but also would take on the much more ambitious agenda of advancing the entire informal science education field (hence the change in the name from the Informal Science Education Resource Center to the Center for Advancement of Informal Science Education). The leaders of the new center came from the field, were recognized long-term leaders in the field, and sought to leave a legacy of creating a center that would continue the interests and well-being of the field.

From the NSF point of view, the original goals of the informal science education resource center were: to share the work that is funded more broadly, for projects to learn from one another, and do work that NSF could not, such as run PI meetings. More generally, NSF wanted to encourage networking, sharing and collaboration across projects and across ISE sectors to help build community in the field. Additionally, they envisioned a center that would help share more widely the findings from research and evaluation such that people could build on and use the knowledge generated and inform the research community about the pressing issues of practice on which they could base their research. There was also a sense in which the center could serve as an intermediary between the “field” and NSF, each learning about and from the other. Finally, NSF was interested in the center facilitating and supporting greater diversity in the ISE field.²

Thus, the center was funded via cooperative agreement both to help NSF and to serve the ISE field, PIs and program. ASTC’s Director for Research, Publications and Exhibitions, Wendy Pollock, was the PI, and the co-PIs and partner organizations were Dr. John Falk, founder of the Institute for Learning Innovation who moved to Oregon State University shortly after the proposal was funded, Dr. Kevin Crowley of the University of Pittsburgh Center for Learning in Out-of-School Environments (UPCLOSE), and Dr. Alan Friedman, then president of the Visitor Studies Association (VSA).

² From interviews with NSF ISE program officers in early 2007

Over the course of the first three years, CAISE designed and undertook a number of initiatives, refining its strategies for serving the field, center governance, and decision making processes. CAISE hired two key staff members—a Director, Ellen McCallie, and a Manager, John Baek. Three initiatives in particular illustrate work particularly aligned with the mission and vision of CAISE during this time period.

Highlighted Initiatives Years One Through Three

Inquiry Groups. CAISE drew on their knowledge of the field to identify critical issues to be examined in small inquiry groups, with each group to be led by a particular leader in the field interested in and committed to the issue. The inquiry groups would produce a white paper that reflected the best thinking, practices, and research on the issue, and the resulting white paper would become the focal point for conversations at conferences and PI meetings, as well as be published on the CAISE website for broader distribution. Inquiry groups for the first three years worked on the following issues:

- public participation in scientific research
- access for people with disabilities
- informal-formal partnerships
- public engagement with science
- assessing impacts for online professional communities in ISE
- a portfolio inquiry group
- ISE infrastructure
- ISE policy
- learning in informal settings

Inquiry groups were successful in engaging leaders in the field to highlight key issues. They provided opportunities for deep discussions focused on common and pressing issues or concerns among people across sectors, and were rated highly by the participants. The groups were also forums for representatives from the field to share and discuss different understandings of issues that did not exist at the time. And, the five white papers that were produced continue to be referenced today.

Fellows program. Two cohorts of young professionals (nine in cohort one, and 11 in cohort two that included four repeat Fellows from the first cohort, for a total of 15 Fellows) participated in a CAISE Fellows program. The criteria for selection of the Fellows were that applicants be diverse in terms of ethnicity, gender, and geographic location; that they come from across ISE sectors, and that they be at a point in their careers when they could make the most of the Fellows experience.

The Fellows program focused on the following: coaching them on how to develop successful ISE proposals, supporting their engagement more broadly with the ISE community, and providing them opportunities to contribute to CAISE initiatives. While this program was deemed successful by CAISE and the evaluators, the staff member who

oversaw the program left the Center, which made the program difficult to sustain. It is

interesting to note that the majority of the Fellows have continued to work in the ISE field.

PI Meeting/ISE Summit. One of CAISE's main functions was (and still is) to support NSF ISE Principal Investigators. In the first year, CAISE planned and facilitated a PI meeting for ISE grantees, which focused primarily on technical assistance and sharing the work of projects across the funded sectors. In year three, based on feedback from participants in the first PI meeting, CAISE took a different approach and hosted an ISE Summit. This meeting was broadened to include people in ISE outside the NSF-funded PIs and focused on critical issues in ISE, including research and policy.

In addition to these major initiatives, the first three years were aimed at documenting the history of the field and defining the boundaries of informal science education. The first activity was a landscape study of the ISE field, led by John Falk, of the ISE field. The landscape study in particular highlighted that there was no "field" of ISE at the time; rather, it consisted of a collection of individuals and projects, organized by NSF funding and weakly identified with ISE. Both the process of conceptualizing and conducting the landscape study and the findings, influenced the first three years of CAISE's work. A second activity that helped to flesh out the landscape and history of the ISE field was an interactive timeline, populated by the field.

Also in the first three years, there was some discussion of CAISE serving not only individuals but also becoming a connector for those institutions and organizations that served the different sectors. Thus, CAISE thought about itself becoming an "association of associations," whereby CAISE would connect, support, coordinate and serve the members of the various ISE-serving organizations.

Summary of Years One Through Three

In its first three years CAISE formed and defined itself, balancing the aspirations of its leaders with the mandate to serve as an NSF resource center.

The inquiry groups created excitement, energy and useful products. The PI meetings allowed for PIs and others to examine themselves as a field more intensely and explicitly than had been done before. The landscape study and the timeline and emerging website all served as a foundation for a more concrete identity of the ISE field.

The first three years also presented challenges. CAISE had to resolve internal governance and communication issues not uncommon to any new complex organization. Because CAISE was housed within ASTC, there were questions from sectors other than the museum community about whether CAISE was serving all sectors equally. Also, because CAISE was funded by NSF, there were clear prohibitions on CAISE "providing advice" to the ISE program, and as well as clear limits on the degree to which CAISE could "advocate" or "lobby" for the field of informal science education.

Evaluation data gathered from CAISE leaders, steering committee members, NSF POs, and initiative participants at the end of year three revealed a lack of clarity and disconnect around the fundamental purpose and desired strategic direction of CAISE. A tension had been brewing over the first three years regarding the extent to which CAISE was primarily meant to serve and advance the NSF ISE program, and through that service advance the broader field, or to more directly serve as a center that addressed the needs and interests of the broader field drawing on the NSF ISE program as a major resource. In addition, there were concerns about the extent to which the activities and products were being driven by the field versus being driven by CAISE, and about the extent to which they were meeting NSF's goals.

Also at that time, Early Concept Grants for Exploratory Research (EAGER) had funded an initiative for DRL centers to meet and share their work. At these meetings, it became clear that CAISE was something of an outlier—other centers were in the business of serving their projects and PIs exclusively, whereas CAISE was also trying to document, define and strengthen the broader field.

The end of year three was a major crossroads in planning the future of CAISE and its mission. The reverse site visit that year resulted in rethinking the mission and work of CAISE.

Years Four And Five (2010—2012)

After the reverse site visit for year three, year four began with some major changes to the staffing and oversight plan. First, Wendy Pollock retired and a new PI, Jamie Bell, took over. The Director, Ellen McCallie, and Manager, John Baek, both left CAISE. In addition, Alan Friedman became an advisor and was replaced as a Co-PI by Kirsten Ellenbogen, the new VSA president. And, Sue Ellen McCann of KQED in San Francisco was brought on as Co-PI to ensure that the media sector was well represented in the Center. The steering committee was replaced by a smaller senior advisor group, with each member assigned to a CAISE year-four initiative. Additionally, NSF program officers became more involved by working on specific CAISE initiatives.

Highlighted Initiatives Years Four and Five

A shift in the vision for CAISE helped frame the choice and design of initiatives to pursue in years four and five. Activities were planned that reflected a “dynamic interplay” between and among the key audiences of NSF program officers, ISE programs, PIs, and the larger field.

Infrastructure Coordination Roundtable: CAISE convened an Infrastructure Coordination Roundtable group comprised of representatives from the field to develop metadata standards for a portal, the Informal Commons (later incorporated into InformalScience.org) that would compile resources from various infrastructure websites supporting the ISE field into one searchable repository. Five years later, the Roundtable group continues to meet

and provide guidance on the development of metadata standards and the vision of InformalScience.org as a site for the field. It helps ensure that InformalScience.org is representing the work that is occurring in the field more broadly, and that as new web resources are developed, they can be easily added to the repository.

Convenings. The Inquiry Group structure from the first phase of CAISE was discontinued. However, there was still a desire within CAISE and NSF to connect and characterize the field. To that end, CAISE assembled and hosted convenings focused on topics identified in conversation between CAISE and NSF. The topics were drawn from key work in the ISE portfolio and included ISE media, ISE organizational networks, professional development, and sustainability and science education. Note that the creation and convening of the media group was also a step toward being more inclusive of other ISE sectors.

PI Guide to Evaluation. CAISE determined that a key need of the field was support for PIs—particularly new PIs—in program and project evaluation. The PI Guide was a CAISE-led collaborative effort of seven authors from the field, each writing different chapters focused on a particular aspect of finding, hiring, and working with an evaluator. This guide was also seen as a support for those engaging in broader impacts, education and public outreach work that incorporated ISE.

ISE Evidence Wiki. Another initiative for supporting PIs in project design and development was the creation of the ISE Evidence Wiki. Selectively gathered from research reports and evaluation findings, the Wiki is meant to be a collection of evidence about the value and contributions of informal science education. This resource was developed as a means to support PIs and evaluators in proposal development as well as empowering them more broadly to make the case for their ISE work.

Entrée. The Entrée program was a precursor to the current Broader Impacts and ISE initiative, which was aimed at helping to connect ISE work with the research scientist community doing broader impacts, education and public outreach work. (NSF grants for research in the sciences require projects to promote better public understanding of their research and science more broadly. The idea here is that ISE can offer many opportunities for PIs to share their research and meet their broader impacts requirements.) At the time, the push for including broader impacts as an important part of research proposals was intensifying at NSF. In response to this, CAISE made presentations to professional societies and other professional organizations about how to connect with informal science education practitioners to fulfill broader impacts requirements. This particular strand of CAISE work laid the groundwork for the current efforts in this area.

PI Meeting. After the ISE Summit at the end of year three, CAISE returned to hosting a more traditional PI meeting. This meeting was designed to engage participants in an open space format for part of the meeting as a way to support networking and to foster dialogue among PIs about what they saw as the most pressing issues and areas of opportunity in the field.

Summary of Years Four and Five

During these years, there was greater engagement of NSF Program Officers and core senior advisors in the planning and ongoing work of CAISE. Initiatives were more targeted and aligned with an emerging new vision for CAISE that focused on serving the ISE program, PIs, potential PIs, and evaluators first, and then, through that work, serving the broader field. At the end of year five, the argument for re-funding CAISE emphasized the idea that CAISE was serving as infrastructure, supporting many different kinds of improvement activities in the field. In particular, CAISE argued that its informal commons and metadata system was serving as online infrastructure for the field, and that this online infrastructure could be extended and enriched by the other activities of the Center.

Finally, by the end of this time period, in negotiation with NSF, CAISE shifted its priorities to address the “three grand challenges:” Evaluation capacity building, linking practice and research, and contributing to broader impacts. CAISE strands of work shifted from addressing concerns specific to ISE sectors toward addressing challenges facing the entire field.

Years Six Through Eight (2012—2015, also referred to as the renewal period)

The current funding period began with some changes at NSF. First, the ISE program changed its name to Advancing Informal STEM Learning (AISL). Second, the funding for AISL was cut back from its previous budget.

CAISE also made a shift at the beginning of year six in organizational structure toward a “central project office” (CPO) arrangement, and hired a project manager. The CPO structure meant that CAISE would now contract co-PIs for time and effort rather than administer sub-awards to partnering co-PIs’ institutions. This shift represented a major turn away from what had been a partnership of three organizations toward a more of a center, with more flexibility to allocate resources where they could be most effective in advancing the mission of the center.

CAISE continued much of the work that was begun in years four and five, with an understanding that 1) the ongoing strengthening of the web infrastructure and 2) the work started in the Entrée initiative connecting broader impacts and informal science education were both particularly important foci. The four key audiences for CAISE in this era, therefore, were: AISL PIs/potential PIs; STEM research PIs/Education and outreach directors of large centers and facilities; AISL/STEM NSF Program Officers; and ISE Evaluators.

Continuing to build on the notion of creating a dynamic interplay between NSF and the field, as well as building on the specific roles CAISE had been undertaking throughout its existence, CAISE solidified a frame for the initiatives they would undertake: the work to be pursued must contribute to fulfilling the roles of convener, connector, characterizer, and/or communicator.

Broader Impacts. The Entrée activities helped orient CAISE to a new audience and the needs of STEM researchers and their outreach efforts. The focus in this time period has been on supporting the connection of STEM researchers and informal science to address broader impacts requirements of NSF, with particular focus on NSF large centers and facilities. CAISE attended national meetings and conference sessions focused on broader impacts, held two convenings, developed an advisory board from the field, created resources specifically targeting this audience on InformalScience.org, and is planning for a white paper to be written jointly by CAISE and members of the field that outlines the current landscape of work in this arena.

Web infrastructure. InformalScience.org became the umbrella website for CAISE. This site built on past investments in web infrastructure and encompassed the former informalscience.org, insci.org, iseevidencewiki.org, caisemedia.org, caiseconveningwiki.org, and informalcommons.org. CAISE undertook a major redesign and ongoing enhancement and refinement of the website throughout this funding period. Importantly, much of new website development work has been related to the initiatives, including:

- the addition of the Outreach to Scientists page which was meant to serve the Broader Impacts initiative
- the Research Agenda page which brings together recent efforts to create research agendas in specific areas of the field (e.g., Natural History Museums, Children's Museums, Giant Screen Films)
- the redesigned Evaluation tab (described below).

In addition, a collection development policy was drafted to guide the selection of new resources to catalogue on the website. The site premiered in September 2013, and the final migration of content from the original site was completed a year later in Fall 2014.

Research and Evaluation. Responding to NSF's shift in priorities to research and evaluation, and the overlapping nature of work and needs in the current initiatives, CAISE merged the Practice and Research and the Evaluation Capacity-Building initiatives. Several activities occurred under this initiative, including an evaluation convening, participation in a national meeting on shareable measures, an online shareable measures forum, the creation of a research roadmap for ISE, an ISE Evidence Wiki edit-a-thon to strengthen content on the wiki, and a partnership with EBSCO to make full articles accessible from InformalScience.org so that people not part of a university have access to entire research articles without having to pay for them.

PI Meeting. Similar to the previous meeting, this funding period hosted a gathering of the AISL PIs in August 2014. This meeting was the highest rated PI meeting CAISE had facilitated to date, with over 80% rating the quality and value as *high* or *very high*.

Communication efforts. In the last few years, CAISE has increased its efforts to communicate its work through blog posts, conference presentations, a newsletter, social

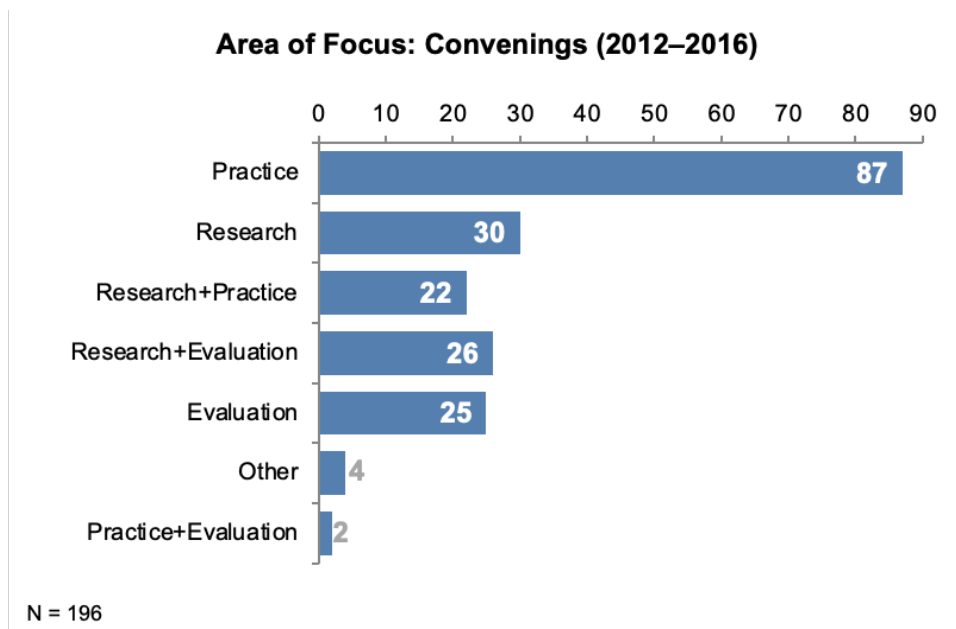
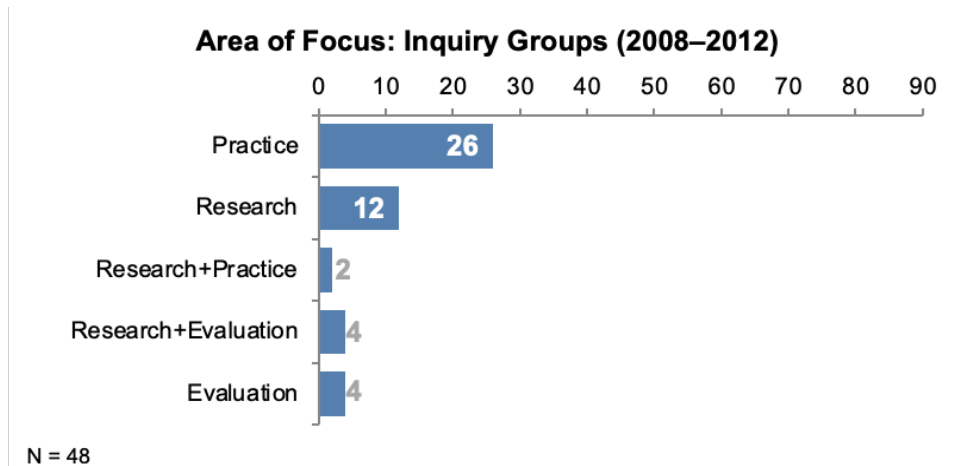
media, and webinars. The newsletter, blog posts, and convenings are mutually supportive and create an increase in traffic to the website.

Throughout all of these initiatives, CAISE has focused on connecting with and leveraging other resources, centers and networks. For example, CAISE developed a partnership with the American Evaluation Association (AEA) Graduate Education Diversity Intern program, forged a connection with the National Alliance for Broader Impacts (NABI), and has provided resources to support those engaged in broader impacts work, particularly around how to evaluate broader impacts work for the Materials Research Science & Engineering Centers, and the Centers for Chemical Innovation.

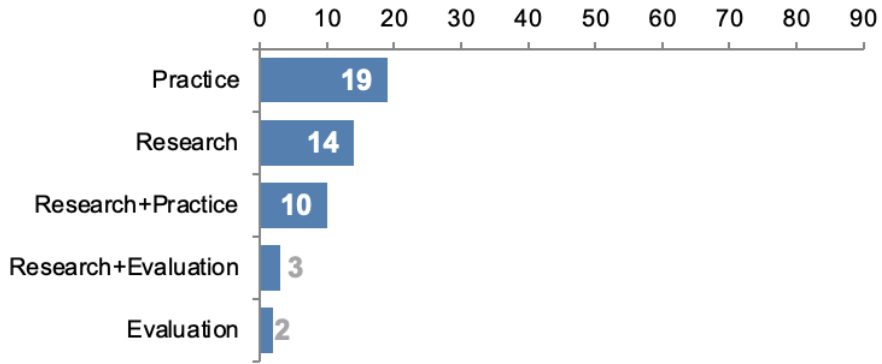
Summary for Years Six Through Eight

In summary, these initiatives are ongoing, and evaluation data for year eight show that the initiatives have added value not only to the core audiences, but also to the broader field. CAISE has worked effectively and efficiently as a center for the AISL program and the ISE field, and has offered unique and valuable services to the ISE field. In particular, the repository of projects, research and evaluation on InformalScience.org, and CAISE's facilitation of small convenings and meetings that have brought together diverse members of the field, have helped to characterize the ISE field and connect its members.

Appendix T - CAISE Participant Database Analysis

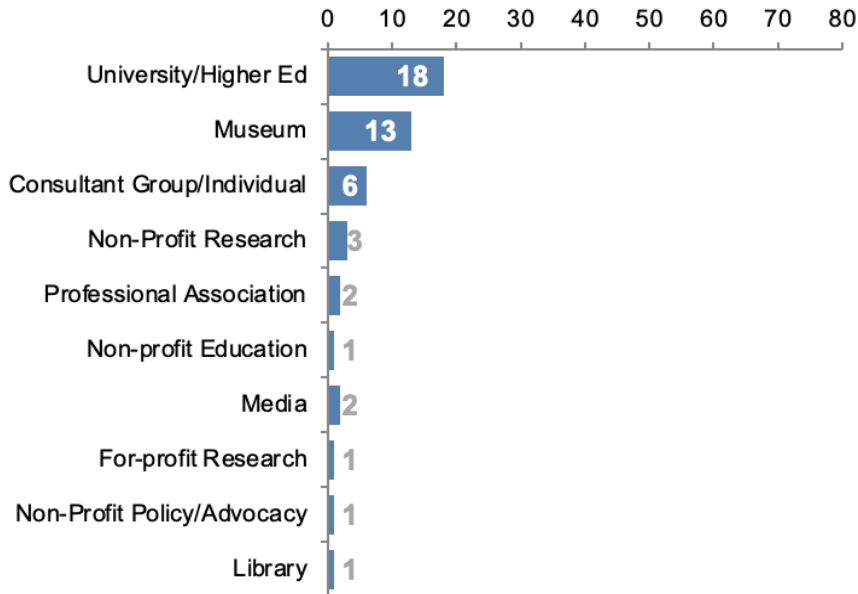


Area of Focus: Taskforces (2016–2022)



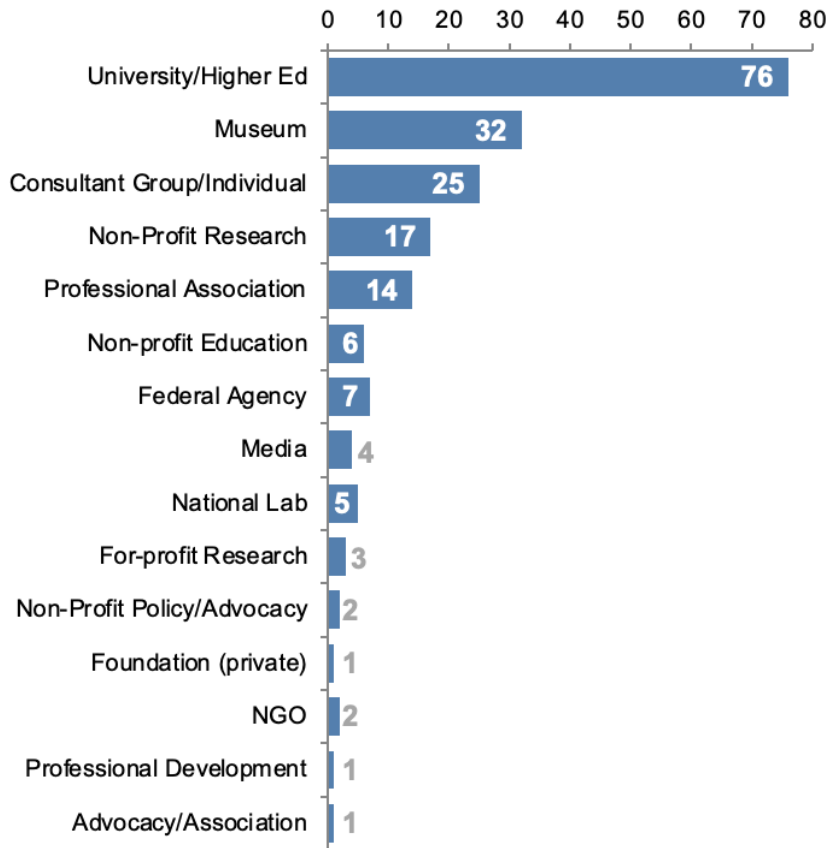
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Organization Type: Inquiry Groups (2008–2012)



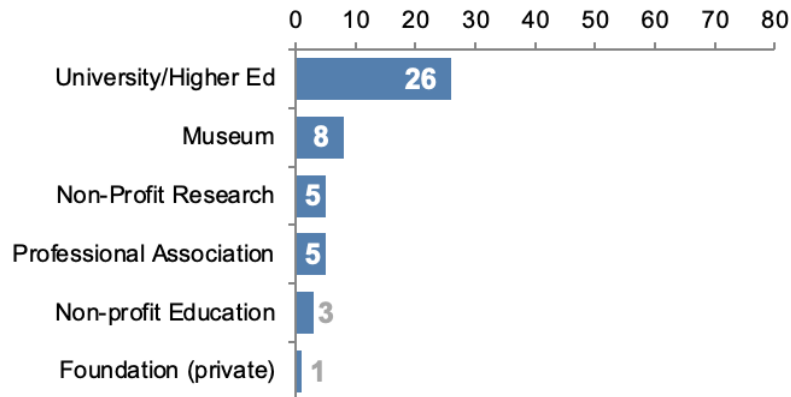
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Organization Type: Convenings (2012–2016)



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Organization Type: Taskforces (2016–2022)



N = 48

