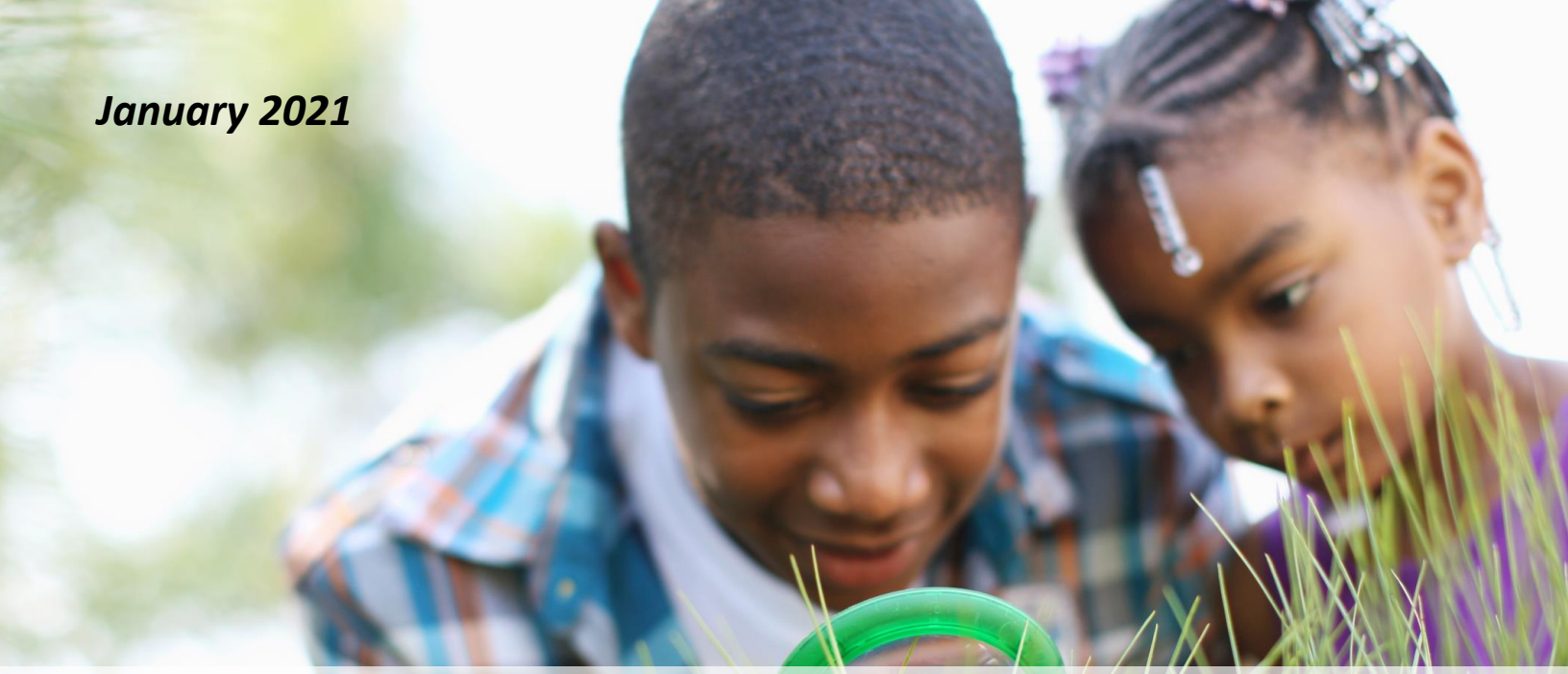


January 2021

CONFERENCE BRIEF:

Hosting a Virtual Conference During the Pandemic: Lessons Learned

Although virtual conferences have become commonplace in the age of COVID-19, this format poses both challenges and opportunities for organizers to design, implement, and engage participants in productive and connected ways. We created this brief to share an example of the process and lessons learned as we designed and hosted a virtual NSF-funded[1] conference called:

Mapping Connections Between STEM and Social-Emotional Development (SED) in Out-of-School Time (OST) Programs

This conference focused on identifying outcomes at the interface of STEM and SED in OST research and practice (e.g. afterschool programs, museums, summer camps, etc.). However, the strategies used and lessons learned are applicable to many disciplines and projects. It is our hope that readers will find this brief useful in creating virtual conferences—especially during challenging times.

Main Findings

- Virtual formats can allow for increased representation, flexibility, meaning-making, and reflection time.
- Expertise, commitment, and engagement of organizers and participants are foundational elements for a successful virtual conference.
- Clear and concise communication at each stage of the planning process is key to ensure clear expectations.
- Diversity, Equity, Inclusion, and Access (DEIA) must be intentional and explicit in both planning and implementing.
- Activities that promote interaction, connection, participation, and reflection lead to productive and insightful conversations and deeper rapport among organizers and participants.

1. This conference project was funded by the National Science Foundation (NSF) award #1940155. The opinions, findings, and conclusions or recommendations expressed are those of the author(s) and do not necessarily reflect the views of the NSF.

Introduction

Virtual conferences are now the norm in the era of COVID-19. Yet, they are not easy to plan, implement, or design to maintain participants' continued engagement—an essential characteristic of meaningful learning and transfer of knowledge. Although there is no single model for virtual conferences, we created this brief to share an example of our process and the lessons we learned along the way as we designed and hosted the NSF-funded project:

Mapping Connections Between STEM and Social-Emotional Development (SED): Innovating Assessment And Data Systems for Research and Practice

Our conference focused on research and practice at the intersection of Science, Technology, Engineering, and Mathematics (STEM) and Social-Emotional Development (SED) in Out-of-School Time (OST) settings, with conference proceedings, discoveries, and several recommendations for this new field reported elsewhere.[2]

In this brief, we aim to support three audiences: those with little virtual conferencing experience, those finding themselves in the tricky position of having to convert in-person conferences to virtual, and those planning for future conferences during uncertain times. We hope that our experiences and some of our ideas inspire the field to deliver virtual conferences in new and creative ways!

Inside this Brief

The Turbulent Backdrop

After we began recruiting participants, cases of COVID-19 rose dramatically in the United States. In response to the pandemic, many parts of the country recommended or required people to stay at home. Our chosen platform, Zoom, continued to gain popularity. By the time the conference sessions commenced, most participants joined from home and were familiar with Zoom. Many had children in the background—given wide school and daycare closures—but had begun settling into new routines and spaces. Personal and professional stress levels were higher, and time to focus without distraction was lower. Virtual fatigue was setting in as the pandemic stretched on.

Adding more complexity, just before our final session, protests erupted across the country in response to the killing of George Floyd.

With the national call for Blackout Tuesday on the last conference day, and growing unrest in cities of many participants, some faced tough decisions about where to focus their attention and were socially and emotionally impacted. We were grateful that all chose to remain committed and actively participate in the conference.

"I think that the context in which the conference took place enriched the discussions that were had and made it necessary for panelists, organizers, and participants to be explicit about how central DEI is to providing quality SED and STEM education. These discussions were both richer and more emotionally impactful for me, in part given what is happening in the world."

–Conference Participant

2. Institute for the Study of Resilience in Youth. (2021). *Launching a new field: STEM and social-emotional development in informal educational settings*. McLean Hospital and Harvard Medical School. https://www.pearinc.org/stem-sed-conference-2020

Our Conference Path

The Institute for the Study of Resilience in Youth (ISRY) at McLean Hospital and Harvard Medical School hosted the STEM+SED conference. Formerly known as The PEAR Institute: Partnerships in Education and Resilience, ISRY is a recognized translational center that adapts STEM and SED research findings into practices for schools and OST programs, and conversely, draws insight from its experience in the field to generate relevant research, training, and policy recommendations.

Why Virtual?

As we planned our virtual conference a year before the pandemic struck, our National Science Foundation (NSF) grant proposal reviewers asked: "Why not host a conference in person?"

To us, the answer was easy. Above and beyond our team's years of experience in delivering trainings and conferences remotely, we believed that a virtual conference format would:

- Increase the ***representation*** of our participants and, therefore, diversity of thought and innovation;
- Enable for more time for ***meaningful discussions*** in large groups and smaller breakout sessions;
- Allow more ***time for reflection*** during and between sessions, leading to deeper learning and generating more innovative ideas;
- Create ***flexibility*** to modify plans and schedules as conference input and steering committee feedback shaped outcomes throughout the process;
- Save on ***costs and efforts*** that are typical of in-person conferences (e.g., travel, meals); and
- Promote a more ***environmentally-friendly*** conference (e.g., less printing of paper).

While no one anticipated a pandemic during our early planning stages, our established virtual model gave us the flexibility to adjust scheduling and activities on the fly and provided us with an opportunity to exercise our creativity. It afforded our participants peace of mind during a chaotic time, knowing well in advance that they did not have to worry about travel plans because they could attend from the safety of their homes.

Why Zoom?

After discussing the experiences of our organizations with various virtual conference platforms, we found Zoom[3] to have all the features we needed:

- ***Unlimited, free access*** for all participants;
- ***A virtual waiting room*** for added security so that a conference organizer could admit confirmed conference participants into each session;
- ***Breakout rooms*** for small group discussions to enhance participation and engagement;
- ***Screen sharing*** so organizers, presenters, and group leaders could share images and videos (with clear audio);
- ***The ability to record*** video and audio sessions, including the breakout room discussions; and
- ***Whiteboards*** for interactive opportunities, including drawing-based games.

The popularity of Zoom as the conference got underway meant more participants were familiar with the platform, yet were also developing Zoom fatigue. To respond to the changing context, conference organizers intentionally adjusted plans to keep sessions engaging. As Zoom addressed security issues (such as “Zoom-bombing,” by creating waiting rooms for admitting participants), we created additional communications with participants to explain these changes.

3. Zoom is a video conferencing software with a basic plan for free with unlimited meetings. According to the website, Zoom is an “easy, reliable cloud platform for video, voice, content sharing, and chat runs across mobile devices, desktops, telephones, and room systems.” The software can be accessed at: https://zoom.us/

Conference Overview

This page highlights the goals, participants, and geographic range, and timeline for the conference.

Conference Goals

- ***Clarify the meaning*** of an integrated vision of STEM and SED in OST research/practice;
- ***Increase collaborations*** to make STEM-SED a strong focus of OST research/practice;
- ***Search for observable best practices*** for STEM-SED in OST to highlight for the field;
- ***Explore tools*** used to measure STEM-SED and understand quality and outcomes in OST; and
- Initiate discussions on how to ***create an impactful research agenda*** for STEM+SED.

Conference Organizers

- *Gil G. Noam, Ed.D., Dr. (Habil)* (PI): ISRY at McLean Hospital & Harvard Medical School
- *Patricia J. Allen, Ph.D.* (Co-PI): ISRY at McLean Hospital & Harvard Medical School
- *Christine Klein, Ph.D.* (Co-PI & Conference Coordinator): Insight for Learning Practices
- *Kristin Lewis-Warner, M.Ed.* (Sr. Personnel): PEAR, Inc.

NSF Award Abstract:

https://www.nsf.gov/awardsearch/showAward?AWD_ID=1940155

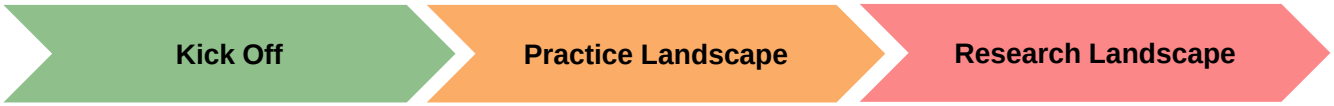


Figure 1. Conference sequence.

Steering Committee

Ten experts[4] from the STEM education and social-emotional development (SED) fields brought diverse views from research, practice, and policy to the project. The group met with conference leaders twice before the May 9th kick-off to help plan, meeting on March 27 and 31, 2020 (Fig. 1). During the conference, they served as discussion group leaders, with some giving presentations on panels. Throughout the project, they shared resources and advice to help shape the conference experience and outcomes.

Conference Participants

49 experts from 37 organizations & institutions representing:

- National youth-serving organizations
- Collaboratives state afterschool networks
- STEM learning ecosystems researchers
- Evaluators
- Consultants
- Private and federal funders
- State and federal departments of education representatives

Participants' Geographic Range

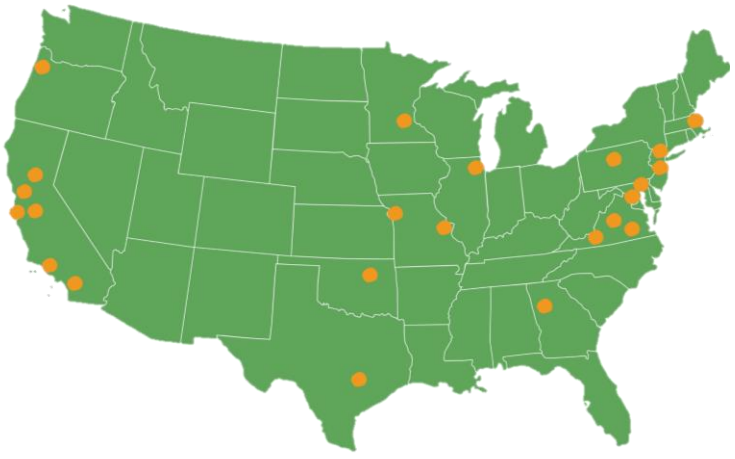


Figure 2. Participants represented all four U.S. regions.

4. For a full list of names, titles, and bios for all Steering Committee members and conference participants, visit the conference website (last page).

Conference Structure

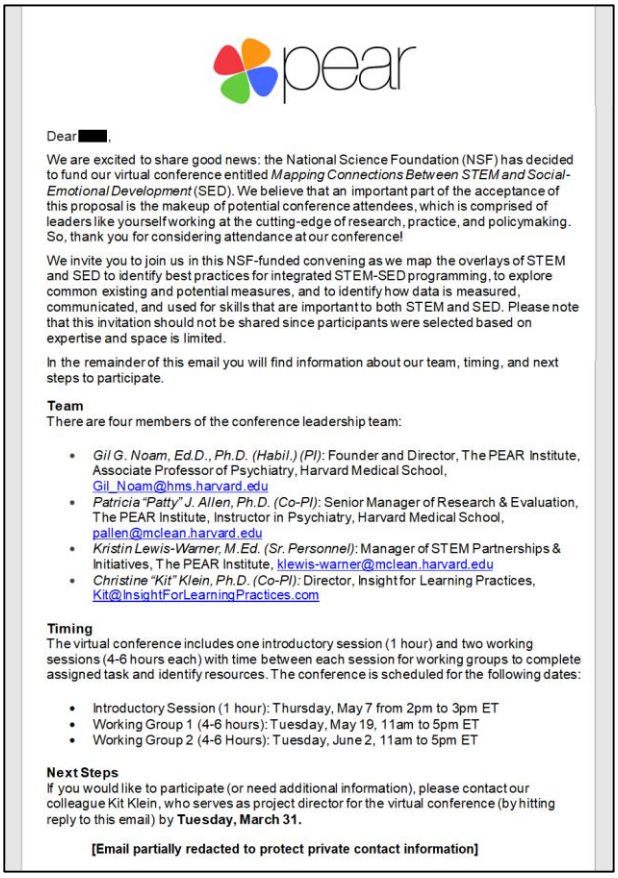
Internal Components

Conference planning began as we developed an initial agenda and grant proposal. Once we received funding, we began meeting regularly as a team of conference organizers and confirmed Steering Committee members. With input from the Steering Committee, we revised the agendas for the three conference sessions and added to our list of potential participants. At each step along the way, we remained flexible and built on feedback from the Steering Committee, conference participants, and our NSF Program Officer. See Fig. 3 for sequence.

Responding to the needs of conference participants took many forms, from answering questions and providing additional information to using closed captioning on videos.

Communication via email came from the Conference Coordinator to add consistency even though all conference organizers contributed to emails and documents shared (see Fig. 4 and 5).

Figure 3. Sequence of conference planning activities



pear

Dear [redacted],

We are excited to share good news: the National Science Foundation (NSF) has decided to fund our virtual conference entitled *Mapping Connections Between STEM and Social-Emotional Development* (SED). We believe that an important part of the acceptance of this proposal is the makeup of potential conference attendees, which is comprised of leaders like yourself working at the cutting-edge of research, practice, and policymaking. So, thank you for considering attendance at our conference!

We invite you to join us in this NSF-funded convening as we map the overlays of STEM and SED to identify best practices for integrated STEM-SED programming, to explore common existing and potential measures, and to identify how data is measured, communicated, and used for skills that are important to both STEM and SED. Please note that this invitation should not be shared since participants were selected based on expertise and space is limited.

In the remainder of this email you will find information about our team, timing, and next steps to participate.

Team
There are four members of the conference leadership team:

- *Gil G. Noam, Ed.D., Ph.D. (Habil.) (PI)*: Founder and Director, The PEAR Institute, Associate Professor of Psychiatry, Harvard Medical School, Gil_Noam@hms.harvard.edu
- *Patricia "Patty" J. Allen, Ph.D. (Co-PI)*: Senior Manager of Research & Evaluation, The PEAR Institute, Instructor in Psychiatry, Harvard Medical School, pallen@mclean.harvard.edu
- *Kristin Lewis-Warner, M.Ed. (Sr. Personnel)*: Manager of STEM Partnerships & Initiatives, The PEAR Institute, klewis-warner@mclean.harvard.edu
- *Christine "Kit" Klein, Ph.D. (Co-PI)*: Director, Insight for Learning Practices, Kit@InsightForLearningPractices.com

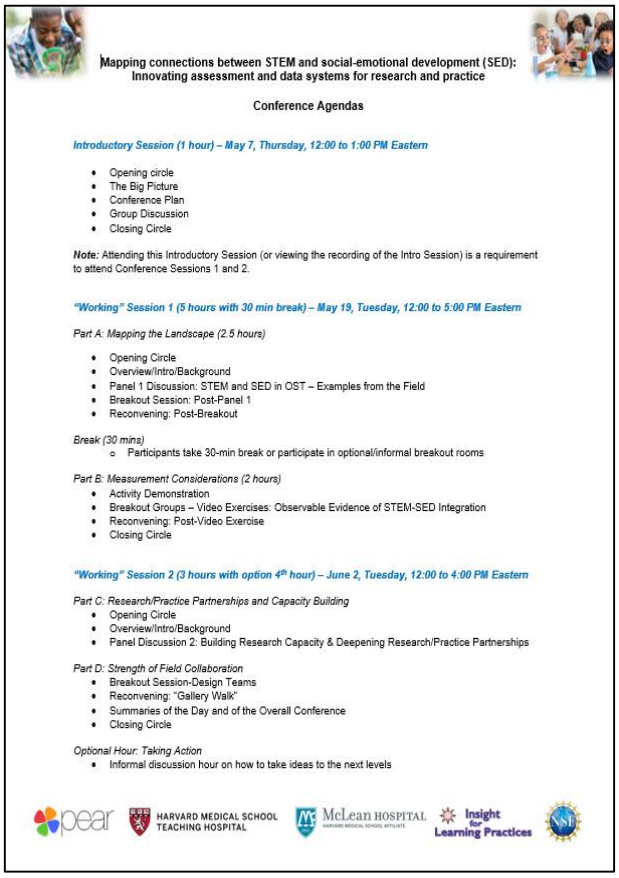
Timing
The virtual conference includes one introductory session (1 hour) and two working sessions (4-6 hours each) with time between each session for working groups to complete assigned task and identify resources. The conference is scheduled for the following dates:

- Introductory Session (1 hour): Thursday, May 7 from 2pm to 3pm ET
- Working Group 1 (4-6 hours): Tuesday, May 19, 11am to 5pm ET
- Working Group 2 (4-6 Hours): Tuesday, June 2, 11am to 5pm ET

Next Steps
If you would like to participate (or need additional information), please contact our colleague Kit Klein, who serves as project director for the virtual conference (by hitting reply to this email) by **Tuesday, March 31.**

[Email partially redacted to protect private contact information]

Figure 4. Example correspondence shared with conference participants (individualized and shared via Constant Contact bulk email blast)



Mapping connections between STEM and social-emotional development (SED): Innovating assessment and data systems for research and practice

Conference Agendas

Introductory Session (1 hour) – May 7, Thursday, 12:00 to 1:00 PM Eastern

- Opening circle
- The Big Picture
- Conference Plan
- Group Discussion
- Closing Circle

Note: Attending this Introductory Session (or viewing the recording of the Intro Session) is a requirement to attend Conference Sessions 1 and 2.

"Working" Session 1 (5 hours with 30 min break) – May 19, Tuesday, 12:00 to 5:00 PM Eastern

Part A: Mapping the Landscape (2.5 hours)

- Opening Circle
- Overview/Intro/Background
- Panel 1 Discussion: STEM and SED in OST – Examples from the Field
- Breakout Session: Post-Panel 1
- Reconvening: Post-Breakout

Break (30 mins)

- Participants take 30-min break or participate in optional/informal breakout rooms

Part B: Measurement Considerations (2 hours)

- Activity Demonstration
- Breakout Groups – Video Exercises: Observable Evidence of STEM-SED Integration
- Reconvening: Post-Video Exercise
- Closing Circle

"Working" Session 2 (3 hours with option 4th hour) – June 2, Tuesday, 12:00 to 4:00 PM Eastern

Part C: Research/Practice Partnerships and Capacity Building

- Opening Circle
- Overview/Intro/Background
- Panel Discussion 2: Building Research Capacity & Deepening Research/Practice Partnerships

Part D: Strength of Field Collaboration

- Breakout Session-Design Teams
- Reconvening: "Gallery Walk"
- Summaries of the Day and of the Overall Conference
- Closing Circle

Optional Hour: Taking Action

- Informal discussion hour on how to take ideas to the next levels

pear · Harvard Medical School Teaching Hospital · McLean Hospital · Insight for Learning Practices · NSF

Figure 5. Example agenda that provided a conference overview at the introductory session, and which was revised iteratively during the conference

Conference Structure, continued

External Components

Three conference sessions (in the **orange** arrows below, Fig. 6), held two weeks apart, were a central part of the conference process. The other components (in the white arrows below) were critical to achieving the conference goals.

Rituals and routines were central to planned sessions and built on well-established practices from ISRY. The SED lens of these sessions was crucial, given the disruptive national context. This conference included the following rituals and routines:

- ***Opening and closing circles*** were used to build rapport and increase trust and engagement between participants and organizers (Fig. 7);
- ***Videos*** were used to demonstrate the relevance of the topic and connect discussions to everyday people, practice, and research (Fig. 8);
- ***Hands-on and minds-on activities*** were used to add meaning and increase engagement (see Fig. 11-13 on pg. 8); and
- ***Small group discussions*** were used to allow all participants opportunities to share ideas in virtual breakout rooms with other participants (~6 to 8) from diverse backgrounds and perspectives.

Questionnaires. A brief pre-conference questionnaire provided us with background information from participants, including what they hoped to learn and what they wanted to contribute to the emerging field of STEM-SED integration. A second questionnaire between the two longer working sessions provided perspectives on issues discussed in the previous sessions and provided insights for the final session.

Resources and readings. Required and optional readings laid the foundation for a shared language. Shared websites and other resources added to the field-building nature of the conference. Sharing recordings of the sessions and links to the videos used in the sessions added to community building.

Conference process evaluation. An external evaluation of the process of convening an online conference was conducted by Carey Tisdal, Director, Tisdal Consulting.

Figure 7. At the start of each session, conference organizers engaged participants with questions that prompted them to share details about themselves with others.

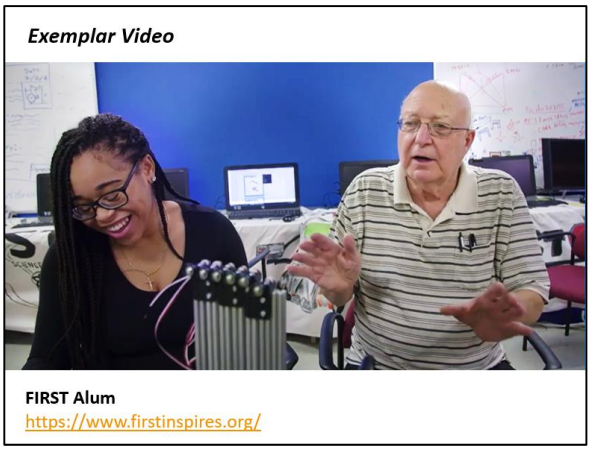


Figure 8. This video of an NSF-funded project illustrated how mentorships in OST STEM can positively impact youth.

Figure 6. Sequence of conference activities

Key Components of A Virtual Conference

ISRY regularly offers online training and webinars to meet the needs of researchers and practitioners from the fields of STEM and SED. Rather than a focus on sharing information from trainers or webinar hosts *to* participants, we designed our *virtual conference* to focus on involving and engaging committed participants in discussions and idea-sharing to *co-create* a foundation for a new field of research and practice.

We identified **three key components** for a strong virtual conference: Commitment, Expertise, and Engagement (Fig. 9). These build on clear and effective communication between organizers and participants.

Figure 9. Three key components that contribute to strong conference outcomes

Commitment. As we recruited participants and explained the nature and goals of the conference, we explicitly asked for a commitment to active participation. While we anticipated that participants would set aside conference time (free from distraction) and participate as fully as possible, we knew we needed to establish conference norms. Once the pandemic began to change participants' routines (and locations), we adapted the norms to set a positive tone for making a commitment to participate despite the changing—and increasingly turbulent and unpredictable—world around us.

Expertise. The Steering Committee provided feedback on all aspects of the conference. Participants completed questionnaires to provide resources and insights. Most importantly, conference sessions involved participants in discussions and in conference design processes.

Engagement. We used several techniques to keep participants engaged either hands-on or minds-on: questionnaires before sessions, small group discussions, large group discussions, videos, interactive activities using a whiteboard, and others. We describe examples on pp. 8-9.

Communication Strategies

To ensure strong expertise, commitment, and engagement, we created a communication strategy to inform all participants with accurate and clear conference details.

Navigating Spam. We used a bulk emailing system to send invitations to potential participants. We sent individual emails to those who didn't respond in a reasonable timeframe. Since some email systems block bulk messages (>50+ addresses) or messages sent using bcc, we sent emails in smaller blocks or individually.

Point-Person. From the beginning, we established a conference coordinator who tracked all communications: invitations, RSVPs, questionnaire completion, and more. This made it easier for participants to follow email threads and watch for information. While the entire team participated in drafting and editing all of the various communications, after the initial invitation, participants received emails from one person.

Frequency. We sent emails as information became available or was needed by participants, with reminders when responses were needed. The frequency increased as the conference dates approached, but efforts were made to minimize the number of emails (by maximizing the content within emails while ensuring information was clear and concise). Evaluation results indicated that the timing was appropriate.

Conference Strategies and Activities

We used several strategies to capture participants attention and curiosity, which always involved rituals and norms. The activities differed each session and aimed to create a positive tone, but the sequence of our rituals was the same (Fig. 10).

Opening circles focused on setting the stage, building rapport, giving people time to join the session, resolving any tech issues, and establishing the conference norms. Examples:

- Rotating slides with participant names & photos
- Creating a "word cloud" as participants shared words that came to mind for the integration of STEM and SED (Fig. 11)
- Stamping a whiteboard with a grid using the annotation function within Zoom to identify where participants saw themselves on different continuums (e.g., STEM ←→ SED, Fig. 12)
- Pictionary using the whiteboard, with participants guessing (typing in chat or speaking) the words from pictures drawn (Fig. 13)

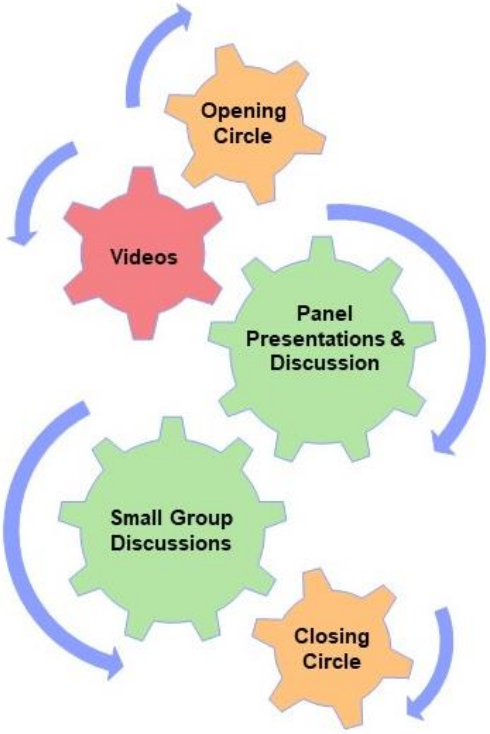


Figure 10. Visual representation of the sequence of rituals embedded into each virtual conference session

Figure 11. Conference Word Cloud, "Word Associations for STEM+SED"

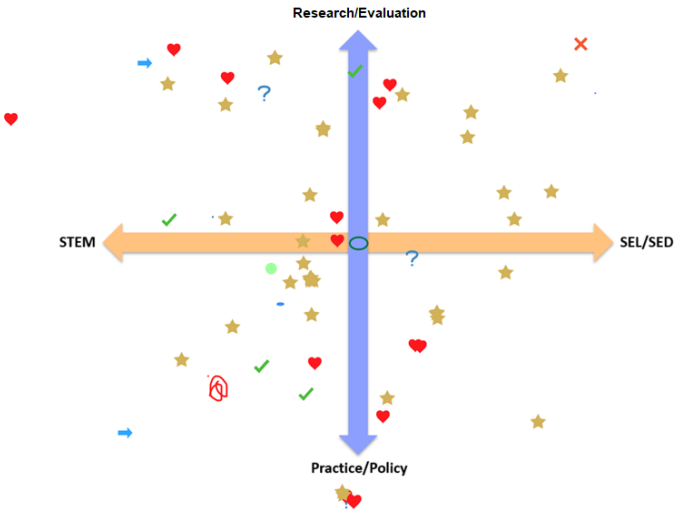


Figure 12. Whiteboard annotations, "STEM+SED / Research-Practice continuums"

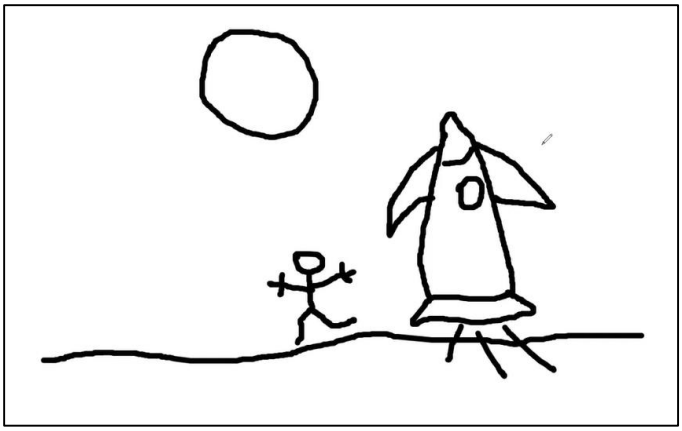


Figure 13. Pictionary Example, "SpaceX"

Strategies and Activities, Continued

Videos illustrated programs with STEM-SED integration, served as conversation starters, and provided examples of the problem we are trying to solve (Fig. 14 and 15). Examples:

- Breakout groups viewed and discussed one of three real-life videos before large group viewing of all, followed by group discussion (Fig. 15)

Panel presentations allowed for the sharing of information around one theme to create a common foundation for discussion. Examples:

- Three speakers (10 min each) followed by a 20-minute discussion of all three
- Three speakers (10 min each) with discussion (10 min) after each presentation plus 10 minutes to discuss all three

Breakout group discussions with preassigned small groups (group assignments based on questionnaire responses and areas of expertise to create balance). Examples:

- Same groups met twice (30 min and 35 min) to discuss presentations and observations of STEM & SED in practice in a video
- New groups met once (40 min) as Design Teams to generate ideas for research with practical implications. Ideas were presented in "gallery walk" style
- Groups consisted of one Steering Committee member as facilitator, one ISRY support person, ~six to eight participants

Informal conversations during breaks, with some conference organizers and participants discussing key issues. Examples:

- One break (15 min – shortened from 30 min)
- One break (10 min)

Closing circles focused on reflection and setting expectations for the next steps (Fig. 16). Example:

- Word clouds revealed
- Reflections on key themes
- Reflections on the day (including national context)

Figure 14. A state network leader with personal ties to the B-360 program introduced this video demo. It showcases how B-360 effectively uses dirt bike culture to meaningfully connect youth to STEM in Baltimore, a majority Black city.

Figure 15. Videos were used to provide examples for the exercises that participants were asked to complete in small groups (~six to eight people) during breakout sessions.

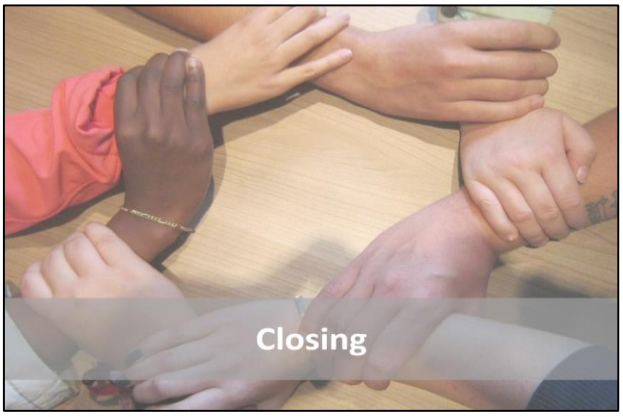


Figure 16. Each conference session ended with a closing circle, a strategy often used in education to prompt reflection and bring a peaceful end to a vigorous day of discussions.

Lessons Learned

The reflections below come from our experience as conference organizers and are informed by the conference evaluation[5], which included observations and a participant questionnaire. The tables below outline what worked and what could work better to meet some of our goals for the conference.

What Worked

Participant Involvement & Engagement

- Multiple strategies for engagement allowed participants to share ideas & resources.
- Establishing engagement as a norm encouraged participation.
- Informal discussions during breaks provided more opportunities to build relationships & provide input to guide the conference.

Structure

- Discussions after each panelist presented were more effective than one discussion after all three panelists.
- Assigning participants to breakout rooms before each session kept groups balanced by research/practice and STEM/SED.
- Using the main room for one of the breakout groups allowed late arrivals to join the group in session instead of waiting to be moved.
- A dry run and tech check one hour before each session ensured common understanding by organizers & the support team, and allowed for time to find and fix problems early.

Roles & Responsibilities

- Written guidelines for the group leaders, panelists, and support team outlined responsibilities and resources.
- The group chat was monitored to raise issues mentioned by participants.
- Organizers and the support team used group text messages to communicate outside of Zoom during sessions to handle timing and technical issues.
- Organizers provided a toll-free telephone “hotline” for technical issues.

What Could Be Better

Participant Involvement & Engagement

- Virtual happy hours or other informal gatherings could have increased the sense of community, networking, and involvement.

Structure

- More time to accept participants from the virtual waiting room before beginning the sessions would have ensured everyone heard the opening comments.
- Assigning participants to report back before the breakout groups started would have alleviated challenges.
- More frequent short breaks, as well as a full 30-minute break for the longer sessions, could have helped with Zoom fatigue.
- Using something other than DropBox to share & curate non-public materials would have prevented confusion for some participants.

Roles & Responsibilities

- Having group discussion leaders and the support team meet prior to conference sessions would have allowed time for questions and clarification of roles.

5. Tisdal, C. (2020). Conference Process Evaluation for Mapping Connections between STEM and Social-Emotional Development (SED). Tisdal Consulting.

Lessons Learned, Continued

This page is a continuance of the many lessons learned throughout the conference. The tables below outline three more categories (from a total of six) used to describe what worked and what could work better to meet some of our goals for the conference.

What Worked

Diversity, Equity, Inclusion, Access (DEIA)

- Intentionally recruiting participants from a wide range of organizations, roles, areas of expertise, regions, and demographic backgrounds enriched the conversations and conference experience.
- Asking Steering Committee members and participants for recommendations on who to invite increased representation from the fields in terms of content expertise and demographics.

Participant Voice

- We asked participants to share resources, which we then shared with all participants and added to literature reviews and other information on the conference website.
- Participant responses to surveys before sessions allowed participant voice to shape the conference.

Adjusting to Rapid Change

- Shortening session times, based on Steering Committee feedback, addressed the new at-home challenges.
- Acknowledging the protests and issues of equity weighing on the country at the beginning of our last session let participants know we were aware of the tensions.
- Modifying the agenda to allow for more time discussing diversity, equity & inclusion in the last session allowed space for new insights to emerge.
- Flexibility during all sessions allowed us to respond to participant needs & suggestions in a timely manner.

What Could Be Better

Diversity, Equity, Inclusion, Access (DEIA)

- Taking gender and race/ethnicity into consideration when assigning small groups for breakout rooms would have balanced groups further.
- Using Closed Captioning throughout the conference (rather than just on videos) would have increased the accessibility of the conference, especially for persons who are deaf, hard of hearing, or have other hearing impairments.

Participant Voice

- Intentionally creating an easily identifiable subject line for emails might have helped increase response rates for the surveys.

Adjusting to Rapid Change

- Ensuring all participants are present when acknowledging an unfolding crisis (in this case, social injustice and civil unrest following the death of George Floyd).
- More and clearer acknowledgment of participants' emotions in response to crisis.

Insights for Future Convenings

As you plan your virtual conference, we encourage you to answer these questions.

Achieving Goals

- What are your goals, and how can you best achieve them?
- Is a virtual conference the best format?
- What processes and techniques best support achieving your goals?

Structure

- How will you design engaging activities that relate to your goals?
- What platform best supports your planned activities?
- How many sessions will you have, and long will they be?
- How much time will you have between sessions, if more than one?
- How many breaks will you have and how long will they be?
- Will you record sessions, breakout rooms, or chats?
- Who will have access to the recordings, and where will they be stored?
- Will recordings need editing before sharing?

Roles & Responsibilities

- Who will take on which roles and responsibilities? (See recommendations)
- Who will coordinate the team and make sure deadlines are met?
- How will you maintain flexibility and adapt to a rapidly changing situation?
- What process will you use for decision-making?

Communication

- Who will contact participants, when, and about what?
- How will you avoid having email trapped by spam filters?
- How will you ensure that participants notice & read your emails?

Diversity, Equity, Inclusion, & Access (DEIA)

- How will you select participants to ensure DEI?
- How will you recruit participants to ensure a broad range of voices and perspectives are included?
- How will you create a safe place for everyone?

Accessibility

- Will you use Closed Captioning?
- How will you accommodate those who are visually impaired or color-blind?
- How will you handle any power differential that might exist?

Budget

- Collaboration and conference organization take time. Did you budget enough time?
- Did you budget for transcription of recorded sessions, if needed, or Closed Captioning?

Our Recommendations

Structure:

- Limit sessions to four hours maximum
- Include at least one 10 min break every 90 mins, and one 30 min break for sessions that are three or more hours long
- Remain aware of participants' time zones when determining start and end times

Responsibilities to Include:

- Overall coordination of conference
- *Before sessions*: recruitment, registration, sending materials, tracking responses
- *During sessions*: master of ceremonies, sharing slides, note-taking, recording, timekeeping, technical support, videos
- *Post sessions*: creating/sharing outcomes, sending thank you's and follow-up

Budget:

- Plan for more time than you think you will need before, during, and post sessions

Concluding Remarks

Hosting a conference virtually can be a daunting task. However, it can be done successfully and with benefits over in-person events, such as increased access, diversity, and flexibility. In a time of crisis, it is especially important that conferences are structured yet versatile and create a supportive culture by building positive relationships between participants and the work. In this case, the work happened to be directly related to the crisis, making the topic more salient and personal.

Virtual conferences require much more than sending a Zoom link. It is an involved, deliberate, and time-intensive process that is most successful when the expertise, commitment, and engagement of both organizers and participants are harnessed. The format places a greater onus on the organizers to be creative in capturing the interest, attention, and curiosity of participants. This can be especially challenging in the midst of a pandemic and social unrest, where participants are burdened with additional stressors and distractions.

The processes and strategies that we used to host this virtual conference, which we highlighted in this brief, helped to build rapport among colleagues and develop a deeper understanding of the topic that felt greater than the sum of all the conference players and parts. Importantly, the unsettling national context unfolding during conference days intensified session discussions. Being attuned to the social-emotional dynamics, which is possible from a distance, helped to foster poignant discussions around education—in the context of a global pandemic and civil unrest—that were productive, insightful, and optimistic.

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Conference Organizers and Authors

Gil G. Noam (PI), Founder and Director, ISRY at McLean Hospital, Associate Professor at Harvard Medical School, and senior author of this brief, is a clinical and developmental psychologist with a strong interest in translating research and innovation to support youth in educational settings. Dr. Noam's group has developed a comprehensive approach to informing on the quality of students' STEM learning experiences and providing a common language to support the measurement of STEM and SED outcomes.

Patricia (Patty) J. Allen (Co-PI), Senior Manager of Research, ISRY, Instructor in Psychiatry at HMS, and second author of this brief, focuses on translational research in two core areas: STEM and SED. She supports multiple national research efforts to measure STEM and SED and to inform continuous improvement to help ensure that youth across the country have positive, high-quality experiences when they participate in STEM activities.

Christine (Kit) Klein (Co-PI), Director, Insight for Learning Practices LLC, and first author of this brief, has provided STEM education research and evaluation services to informal learning organizations for over 25 years, including external evaluation for STEM youth programs and research in an impact study of a SED-focused youth art program.

Kristin Lewis-Warner (Key Personnel), Associate Director of Partnerships, PEAR, Inc., and third author of this brief, is a research and evaluation professional with over ten years of experience in the education sector, with a focus in STEM learning, out-of-school time (OST) learning, teacher professional development, and student-centered learning.

For More Information:

Please visit the STEM+SED Conference page at InformalScience.org, a central portal to project, research, and evaluation resources designed to support and connect the informal STEM education community:

https://www.informalscience.org/mapping-connections-between-stem-and-social-emotion-al-development-sed-innovating-assessment-and

Questions?

If you would like to learn more about ISRY or are interested in exploring collaborations at the interface of STEM and SED in research, practice, or policy, please contact Dr. Gil Noam (Gil_Noam@hms.harvard.edu).

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