Brainstorming for the Future

Transcript of report-outs delivered during the 2021 SciPEP virtual conference, Communication the Future: Engaging the Public in Basic Science.

What are the research needs and priorities to empower our SciPEP community to more effectively engage the public in basic science? Session attendees reflected on observations shared in Plenary 7, "How do we move forward from here?," and broader conference discussions to generate research ideas for the five following topics:

EQUITY Barriers to and incentives for scientists and members of the public to equitably participate in public engagement with basic science.

EVALUATION Opportunities and challenges to better understand and assess efforts to engage the public with basic science.

GOODWILL Approaches and activities to sustain and expand upon the existing reservoir of public "goodwill" towards basic science through public engagement (2-way dialogue with mutual learning).

UNIQUENESS Opportunities and challenges unique to basic research that should inform, and potentially change, public engagement strategies.

TRAINING Developing effective training resources and training incentives for scientists who desire to participate in public engagement on basic science.

During the final conference plenary session, "SciPEP: a look to the future of public engagement of basic science," Erika Shugart, Rick Borchelt, and Brooke Smith shared key themes that emerged from group brainstorming discussions.

The following transcript has been edited for clarity.

Erika Shugart

Report-Out on the Equity and Evaluation brainstorming groups

Thanks to everyone who contributed to the brainstorm sessions. There is a lot of good thinking, and while all of you were enjoying the science comedians, the three of us were busy looking at all the write-ups that you did. There is so much. It's going to take a lot more time to unpack than we have in the last 30 minutes, so we're just going to talk a little bit about our high-level analysis.

Each of us took some of the different brainstorm sessions. We're going to start with [Group] number 5, what we called 'equity,' but I think it has been highlighted throughout that maybe that term is not the term that we want to be using. I think the central question is really, how do we center *justice* in what we do and what we ask?

This group came up with several, really compelling questions. The first questions that they talked about were: How does the science communication community understand diversity, justice, equity, and inclusion? How do we think about it as a community? How do we think about empowerment, and how do we think about the purpose of public engagement? I think we need to look inside our community and understand ourselves how we're exploring that. It really made me reflect about what I heard in the public relations session yesterday from Katherine McComas, who mentioned that parachuting in has left a lot of messy campgrounds. We need to reflect on how our work has impacted those communities and how we're understanding those impacts.

The next question that came out of that group is: how do we identify the obstacles and gatekeepers to achieve a more just democratized future in public engagement in science? So, what do we need to unpack so that we can overcome these? When I was moderating the deference to science session today, that was something I hadn't really thought about - deference to science and how important that is in these kinds of discussions [about justice]. There's a lot there that I'm learning, and I hope that you are as well. I think that we really need to examine the obstacles that are obvious, those that are not obvious, and how we can unpack these obstacles.

Next was an area that came up - and it came up kind of in a comment on the side - but I think it was important to understand that a lot of what academia does involves transactional relationships. We're getting things from each other, but a lot of the work that we need to do in working with communities is *relational*. So, think about how effective relational organizing is to the impact of broader engagement with academia which is transactional. What is the impact of relational organizing on the organizers and

the audiences? I really, really find this to be quite profound. I think that it came up time and time again with that quote that I've heard more than once during this conference- the need for time, the fact that we need to proceed at the "pace of trust." I also think a lot of the comments that were around empathy [were important]. I think we train a lot in the science communication field around listening. That is certainly a skill that's important, but empathy is a whole different skill, and it's one that clearly needs to be learned and embraced by our [science communication] community. Such amazing work there, and there's a lot more to unpack in that session that we will need to dig into.

Now I'm going to pivot over to the brainstorm Group 4 which was looking at metrics. I saw a couple of different threads there that they were talking about. One is just a super basic, but important question, which is: What do we consider impact? I think we need to look at that and think about it from an individual level as well as a collective level. There were a lot of different angles that we can think about in terms of impact. Once we think about what the impact is that we intend and what the impact is that we achieve, how do we measure it? Are we going to find that all the different forms of communications are equal? I assume not. Thinking about how we measure impact, how we identify it, how we know that it's achieved is going to be quite important.

Then, there was another whole series of questions about evaluation. The group asked: Should evaluations be short-term or long-term or both? How do we reconcile top-down with bottom-up kind of work in evaluation? Should evaluation be centralized or decentralized? I think it's none and all those things. It is about how we can do all those things. I think we can probably all agree that most [science communication] work is under-evaluated and under-assessed. So, whether [evaluation] is short-term or long-term, bottom-up or top-down, centralized or decentralized, we need to work on all of those things. We need to think about how we can really bake in evaluation in a way it becomes much more rigorous, so that we can learn and improve and not continue to re-evaluate, reinvent the wheel.

I'd now like to turn it over to Rick who's going to talk about a couple more brainstorming sessions.

Rick Borchelt

Report out on the Goodwill and Uniqueness brainstorming groups

I want to remind people that we are looking for big questions that we can productively address through the remit of SciPEP which goes on for another 4 years and some time. We had some very good recommendations from these groups to help us understand

where we might be going with SciPEP and what we might be able to productively address.

For Group 1 which was focused on sustaining [public] goodwill, the very first question right out of the box was spot-on; we've assumed, and I said it - I think - in the opening remarks, that there is this reservoir of goodwill for basic science. That people like and trust basic science. That Congress votes for it all the time. The White House supports it. But, clearly this remains an untested hypothesis, and that's especially true given that many people may hear or interpret basic science very differently depending on where - in that socio-scientific landscape we've been talking about - they hail from. So, it's important for us to understand first, what people are thinking about in terms of basic science, and I'll get to that in a second, and also what that reservoir is. Is there a reservoir?

After we figure out what basic science is, and there's a good sort of discussion and debate about that we need to figure out and I'll get to in the second group, we need to figure out what goodwill amounts to. And is using funding for basic science a reliable proxy for that public support and goodwill? That's what we often turn to. "Oh, they'll fund basic science even when they won't fund climate change." "They'll fund basic science even when they won't fund vaccines." Or is this a situation simply where goodwill plus $5 gets you a latte at Starbucks? And that's quite possible. We don't know the answer to that. We really need to figure out just how far goodwill gets you. Does it exist? What does it amount to, and how does it help you move forward?

And one of the interesting sorts of corollaries there in that conversation was, would a hyperlocal approach to outreach be more likely to nurture and sustain goodwill or understanding about basic science than our sort of mass mediated approach that many of us often use?

Lastly, how much does the public need to actively understand about science in order to be supportive to lend their goodwill, to give us their goodwill? Is trust a critical component of whatever we end up identifying as goodwill? All of these are important and useful and critical research questions for how to sustain goodwill, whatever we end up thinking that is.

Group 2's remit was to figure out: what is it about basic science that is unique from an engagement perspective that might color how we proceed with SciPEP and as a science communication and science engagement community? And again, the very first critical question foreshadowed in Group 1 was whether that divide between basic and

applied science is cognitively or effectively useful for us. We really need to figure this out.

I was telling Brooke earlier that 6 months ago when we started, when the ink was just drying on our Memorandum of Understanding, we both thought that there were some interesting things about basic science that were completely different from everything else. Thanks to all of you, I *have to* go back and rethink what we believe about that. Is this how the broader public thinks about science? And if that's not how the broader public thinks about science, why are we trying to make them think in a different way - when in fact we could probably match more effectively what they already think and figure that out that way?

Corollaries to that basic question I think include whether this sort of strict focus on basic science - here I mean to the exclusion of discussions about relevance or news you can use or science you can use - removes us even farther from the publics that we want to engage. And, I keep thinking back to the equity question. Basic science not only is the most basic of everything; it is also the very top of the "ivory tower". You're farther and farther and farther removed from the public at the top of that tower. Is our communication about the top of the ivory tower farther and farther and farther removed from the public? Or conversely, is this field of basic science or concept of it so usefully broad that more members of the public actively see themselves engaged by it or attending to it or participating in it?

One of the quotes that came out of the conversation that I'm going to carry with me is, "You don't have to be an expert to ask a basic science question." I like that. I'm going to carry that forward. That's going to go on my email signature block I think for a while now.

Brooke, I think it's up to you to share some high-level questions.

Brooke Smith

Report-out on the Training brainstorming group

Yep, I've got the final group focused on training. The training group, which I believe was Group 3, had a lot of great fodder that we saw in your notes and the questions there. A couple things that I noticed is that some of the questions that came forward are evergreen questions for all of science [communication] training. It is really important that this group is having those conversations and also some questions specific to basic science. I really like that both of those kinds of questions came forward.

One of the top questions, which is of course one of the big themes of this conference and the big questions we'll be moving forward, is how to center justice and equity in the science communication trainings that we do. I did want to acknowledge that John Besley and Anthony Dudo did a landscape analysis of communication trainers probably two or three years ago now, and [equity] was one of the things that they pointed out in their analysis in terms of what the training community is doing and not doing. Were there stumbling blocks? One of the top things that they noted after an analysis of interviews with lots of different trainers is that trainings are not diverse - who is leading the training is not diverse, who people are training to connect with is not an inclusive and equitable view of the world. The different modes and methods we're using and skills that we're bringing to folks lacks a sense of diversity and inclusion.

There's actually a group called the Science Communication Trainer Network. I encourage you to look into it if you are a trainer. Connect with the group because they started working together as trainers across the whole field on this [equity, diversity, and inclusion] question. There's so much work to be done; we need more voices, more experiences as part of that, so I encourage you to go look at that group. But, that question [how to center justice and equity in the science communication trainings] really rose to the top.

There was another question too about how we make sure that training is applicable for the types of communication and engagement that people want to do. This resonates with me when I read that. Oftentimes people get training that's available to them or it's who they know, but have they thought deeply about what they want to do with their communication engagement? How can they match [what they want to do] with the kinds of training that they're doing?

I have two more questions. I think we were supposed to do three, but there were four that I picked.

Another question is, how do we make sure training is appropriate for where you are on your career trajectory and where your career path is headed? So that's an interesting one that I haven't heard before that we should probably give a little bit more thought to as well.

Lastly, one question very specific to basic science: Is the predominant mode of trainers focused on helping the researchers make their science applied, making it relevant? Are there basic skills or building blocks for science communication that might be foundational for all of science communication, and are there unique ones for basic

scientists who maybe aren't looking to make their science relevant to some future application? This one really, really spoke to me.

I have a lot of experience in my career in doing communication training with scientists and helping to develop trainings. I had a very powerful experience when working with a room full of applied scientists that had a single basic scientist in the room. We were going through an exercise of talking about why your science matters, and what does that mean to you, and the basic scientist said to me, "It matters because it's basic science," and we really tried to unpack that. How do you talk with the public about that? What does that mean? It felt like it was on a very different playing field to the other 25 scientists in the room who were able to say, "Oh, it helps in your life tomorrow because of this very specific thing that you can relate to." That stuck with me. I think that is something that would be great to unpack more as we move forward with SciPEP, especially with so many scientists looking for these skills and training.

The training group also talked about resources that might exist or importantly might not. There's a list of some resources that we'll share in our follow-up, but I did want to call attention to one thing that was flagged, highlighted, bolded, underlined - a lack of a resource which is there's just not enough funding for science communication training. It seems to be some sort of public good and service that is provided, yet experts provide it. We don't have enough professionals, social science scholars involved. And until we pay for it, are we really going to be doing it as well as we should be? So, I just wanted to give a shout-out to what I think is a very important point.