

## **Transgender and Nonbinary Computing and Engineering Education: A Workshop Experience Report**

**Stacey Sexton**

**Amanda Menier, SageFox Consulting Group**

**Rebecca Zarch, SageFox Consulting Group**

Rebecca Zarch is an evaluator and a director of SageFox Consulting Group. She has spent almost 20 years evaluating and researching STEM education projects from K-12 through graduate programs.

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Existing gender diversity Broadening Participation in Computing/Engineering (BPC/BPE) initiatives almost exclusively center a binary gender model focusing on girls and women as static categories [1]. However, recent surveys [2] suggests that 2.1% of Gen Z adults identify as transgender (that is, have a gender identity that differs from the sex they were assigned at birth [3]). Additionally, in research presented at the 2022 RESPECT conference, we showed that there are at least 10,850 nonbinary<sup>1</sup> K–12 students in the United States registered across nine different states [4]. As the number of people who identify as transgender and nonbinary (TNB) increase, current best practices regarding approaching gender in computing and engineering need to be revised [5]. To further support future gender diverse computing and engineering students, we will need to develop a research agenda that further elucidates this nascent area of study. We particularly expect that intentional work will be needed to uncover the as-yet poorly understood ecosystem surrounding TNB computing students, their advocates, and their allies. In particular, we see a clear need to understand intersections with race and disability, as the 2015 U.S. Transgender Survey showed that TNB people of color and people with disabilities had worse outcomes than their already marginalized peers [3]. In order to be a force for change for this goal, we held a virtual workshop to develop a research agenda that includes TNB students in BPC/BPE for inclusive and intersectional policy, practices, and research.

## Why Us?

Despite our reluctance to cast ourselves as *the* experts in this area, we nonetheless felt that this was an important conversation to have with the community and we did not see a great deal of movement happening on the part of others in this field. In particular, we may have felt this tension all the more strongly as we hold an interesting position as evaluators and researchers — we are simultaneously very enmeshed in the computing and engineering education world, but have never been engineers or engineering educators. However, (at least on the part of our workshop co-chairs) we did have the experience of being gendered in education spaces in ways that didn't feel quite right, and recognized that that feeling wasn't present in the literature that we were engaging with.

## Intersectionality

Intersectionality is foremost a theoretical framework forwarded by black women scholars, highlighting how people who are marginalized by multiple identity facets experience an aggregate of oppressive conditions and negative outcomes [6]. Intersectionality is a theoretical lens for analyzing the world. Far beyond simply describing a layering of identity markers as a

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<sup>1</sup> Having a gender identity outside a male/female binary

statistical analysis function, intersectionality is “a way of understanding and analyzing the complexity in the world, in people, and in human experiences” [6]. Human beings are shaped by the interaction of different social locations mediated by connected systems and structures of power. Studying these interactions and mediations is complicated by being within those same systems [7]. We worked to operationalize intersectionality both within the workshop content and in our design and delivery of the workshop.

### **An Intersectional Design Intention**

As our end goal is to enact a systems change, we are keenly aware that power dynamics and other issues of intersectionality must be addressed. As members of this community, we have had the opportunity to learn from leaders in the field about racial marginalization in computing and engineering spaces, the influence of disability on participation in computing and engineering, and the long history of gender-focused initiatives that have centered women in the past and are beginning to include TNB people. When we formulated the structure of the workshop, we therefore built the topic of intersectionality into our plans, and attempted to live out those principles in our design.

### **Workshop Goals**

With this in mind, we sought to bring together experts across a range of computing, engineering, and related technical and data-based disciplines as well as experts from other fields in the social sciences, including education and the learning sciences, to build an agenda for inclusive policy, practices, and research for TNB computing students. Our specific goals were to:

- Define near- and long-term agenda items for intersectional research about the inclusion of TNB learners in computing for the Computing Education Research (CER) community
- Advance our collective understanding of and ability to implement principles of intersectionality in future work
- Highlight existing work, researchers, and thought leaders on the inclusion of TNB learners in BPC/RPP initiatives
- Create a community where this work is valued for those doing, receiving, and being represented by this work
- Provide participants with the opportunity to conceptualize how to expand and refine the inclusion of TNB learners as part of their current and future BPC/RPP initiatives.

### **Workshop Format**

As we intended to bring a wide variety of individuals of different backgrounds together, we envisioned a multi-part workshop: first, a series of panels to make sure that all participants had a common grounding to draw upon, and second, a highly interactive multi-day experience to

brainstorm together. The workshop was held in three parts spaced with approximately one month between events. First, two panels were held about a month apart, with the first focusing on current TNB research in Engineering, Computing Education, and Applied Computing and the second focusing on different intersectional perspectives, including race and ethnicity, disability, and language. Approximately one month after the second panel, the workshop was held for three hours a day on three consecutive days. The first day focused on having the participants get to know one another and defining our sense of despair and hope. The second day focused on how to build an intersectional study (instead of just studying intersectional populations). The final day focused on identifying the remaining tensions and focused on the next steps we (both the organizers and participants) would take following the conclusion of the workshop.

## **Session Details**

The following tables provide a snapshot of the three days of the workshops and the specific sessions created. We note the general topic, session type, engagement mechanism, and whether the session featured an external speaker. We made extensive use of Google's Jamboard feature to allow participants to interactively share their thoughts using virtual sticky notes and other annotations in a cloud-based, collaborative environment. This had the added benefit of producing an artifact that documented the thoughts and conversations that we shared during our working sessions. For those who have not used this tool in the past, it is almost like a shared, co-created PowerPoint presentation. These jamboards became an important source of the post-workshop theming that we undertook to understand the themes and unresolved tensions we uncovered during the course of the workshop.

### ***Panel One***

The first panel was held on November 3, 2022. It was the first activity in the workshop series and was intended to set the initial tone for what we hoped the community would become. This panel was meant to provide us with a common springboard from which to launch our January co-working experience. In particular, it attempted to unpack the current state of gender inclusivity and expansion within computing education research, policy, and practice. The panelists brought expertise in engineering, labor organizing, computer science, linguistics, education, information science, and, of course, gender. The first half of this 90-minute panel presented panelists with a pre-planned set of questions and the second half focused on questions from the audience.

### ***Panel Two***

The second panel was held on December 8, 2022 and followed the same format of the first panel. This panel was the second activity in the TNB-CER workshop series and attempted to dig deeper into the framework of intersectionality as it is currently used and misused in computing

education research, policy, and practice. These panelists brought expertise in computer science, learning science, disability studies, data science, copyediting, and gender.

### ***Workshop Day One***

The focus of the first day of the workshop was to form the individuals that we had brought together from a variety of backgrounds into a cohesive group. As such, we began with a plenary orientation that set the expectations for our time together. We then quickly moved into three breakout rooms to give participants the opportunity to get to know one another. Participants self-selected into one of three breakout rooms based on whether they wanted to discuss policy, practice, or research. We began with an icebreaker where they were asked to discuss a piece of TNB media with which they had recently engaged. Then, we asked each group to consider what barriers we currently face and what opportunities are present in their selected focal area (research, policy, and practice). We then brought the participants back to plenary where we shared our discussions from our small groups and worked to make connections between these three arms of our work. After a short break, we spent time discussing the importance and challenges of performing TNB focused work — and, for many participants, existing as TNB individuals — in an environment that is often politically hostile. This involved recentering on why we perform this work, with a major motivation being to provide a safe and nurturing environment for TNB learners in computing. We closed out the day with a discussion of our aspirations for the rest of the workshop.

		Understanding the Context for Trans, NB, and Gender Expansive Youth in the US	Session Type	Engagement Mechanism
<b>DAY ONE</b>	2:00 – 2:15	Opening orientation	Opening remarks	Chat
	2:15 – 3:00	Get to know each other! Participant-choice breakout groups: Policy, Research, Practice	Breakout Rooms	Jamboard
	3:00 – 3:30	Facilitated conversation: Building on the Breakouts, Stacey Sexton	Large-group Shareout	Chat/ Jamboard
	3:30 – 3:45	<i>Break</i>		
	3:45 – 4:45	Doing equity work in a politically charged environment: Dynamics between the personal and systemic	Facilitated Discussion	Chat
	4:45 – 5:00	Closing Reflections: Applying the policy landscape to research and practice	Closing Remarks	Chat

Table 1. Workshop Day One Schedule.

## ***Workshop Day Two***

The focus of the second day of the workshop was to learn and practice how to assess the intersectionality of a research design. We began by sharing a project proposal that we had recently submitted to a funding agency that focused on TNB learners. We asked participants to assess whether it was or was not an intersectional study. We felt that it was important to model self-criticism and reflection instead of asking participants to share work that they had not created with intersectionality in mind. After this exercise, Dr. Christina Harrington, of Carnegie Mellon University, joined us to lead a facilitated conversation focused on the process of taking a well-intentioned study and putting effort into turning it into an intersectional study. After this, we returned to the earlier project proposal and asked participants to reflect and discuss it again with this additional context and information. In retrospect, we would have asked participants to reflect on their own work at this juncture.

<b>Building an Intersectional Research Agenda Around Trans, NB, and Gender Expansive Learners</b>		<b>Session Type</b>	<b>Engagement Mechanism</b>
<b>DAY TWO</b>	2:00 – 2:20	Check in and agenda review; reflections (in the chat) and grounding	Opening Remarks Chat
	2:20 – 2:50	Applying it: real time research critique using a work example from Stacey and Amanda (pt. 1). Is this intersectional?	Show & Tell Jamboard
	2:50 – 3:00	<i>Break</i>	
	3:00 – 4:00	Facilitated conversation: from studies of intersectionality to intersectional studies, <b>guest speaker:</b> Christina Harrington	Facilitated Conversation Chat
	4:00 – 4:45	Applying it: real time research critique using a work example from Stacey and Amanda (pt. 2). Now, thinking more deeply, how could we take this further?	Breakout Rooms Jamboard
	4:45 – 5:00	Closing Reflections	Closing Remarks Chat

Table 2. Workshop Day Two Schedule.

## ***Workshop Day Three***

After the second day, we met as a team and discussed the tensions that we felt remained unresolved throughout the first two days of the workshop. Those tensions are described in more detail later in this document. We also decided to alter our original plan for the third day by shortening the amount of working time. We held one breakout session where participants returned to the focal areas of policy, practice, and research to think about what we could do in the future, after reflecting on these topics for several hours over the course of a few days. Unlike on the first day, we intended for all groups to discuss all the focal areas. Afterward, we shared out our responses as a group. Finally, we closed in a plenary session that briefly summed up our

collective achievements during the course of the workshop and then held space for individuals who wished to stay beyond the end of the session to ask us questions.

DAY THREE	Research on Practice and Practicing Research		Session Type	Engagement Mechanism
	2:00 – 2:30	Check in and agenda review; reflections (in the chat) and grounding	Opening Remarks	Chat
	2:30 – 3:30	Where do we go from here? Three breakout rooms with rotating participation: one each for policy, practice, and research: half-hour each. Ask participants to build from one topic area to the next. Same group, different topics	Facilitated Discussion	Jamboard
	3:30 – 4:00	Share Out	Share Out	Chat
	4:00 – 4:15	Closing: Where do we go from here?	Closing Remarks	Chat

Table 3. Workshop Day Three Schedule.

### ***Workshop Participants***

We were able to draw participants from a range of demographic and disciplinary backgrounds, including computing, education, engineering, social science, data science, copy editing, labor organizing, and curriculum development. We were particularly happy to have a relatively high percentage of graduate students participate, and we look forward to seeing the excellent scholarship and advocacy that they will produce in the future. While we did not explicitly decide to exclude senior scholars from our event, we realized afterward that a benefit of not having high-profile scholars was that the junior scholars and students may have felt more comfortable sharing their perspectives. Although a wealth of disciplines were represented, the majority of our participants came from public research universities located in the United States, which likely limited many of our conversations. In retrospect, we would have recruited more heavily from K–12 practitioner spaces and policy advocacy organizations.

### ***Workshop Outcomes***

We found the workshop to be an invigorating and enlightening experience. We were truly in awe of the varied and nuanced perspectives brought by our guest speakers, panelists, and participants. A key success was bringing together individuals from different fields who, though working on broadly similar projects, do not get to regularly interact due to the academic pressure to specialize. We are glad to have been able to foster those connections and look forward to following the work of these scholars and practitioners in the future. We were also able to

crowdsource an incredible reading list<sup>2</sup> that we are currently hosting online. These new perspectives gave us and our participants a greater sense of context in order to better understand how to approach the issue of TNB student inclusion as we work in this space. One thing that we heard, especially from cis allies whom we had invited to participate because of their related BPC/BPE work, was an initial sense of apprehension about how their expertise would relate to the issue of TNB students in computing and engineering. By the end of the workshop, we heard that these allies were able to better appreciate the commonalities faced by TNB students and other BPC/BPE populations. We as well were able to learn more about applied computing fields and the nature of the pressures on educators, scholars, and practitioners in these fields.

In what follows, we will attempt to highlight some of the key takeaways from this workshop experience. First, we will lay out the research, policy, and practice intentions that we feel should be put into place in the future. Then, we will describe the tensions that we feel are essential as barriers to progress in this field that we were (unsurprisingly) unable to resolve in 12 clock hours together. Next, we will offer some conclusions we reached about how to better approach our BPC/BPE work to keep it intersectional instead of merely focusing on intersecting populations. We also provide some insights for BPC/BPE and inclusion work in general. Finally, we offer some notes on what went well and not-so-well in terms of logistics for readers who may be considering holding a workshop of their own in the future.

## **Synthesis**

In the interest of transparency, we would like to take a moment to describe how we collected these various themes and tensions that we describe below. We used our personal reflections as facilitators in combination with the artifacts co-produced with participants such as shared notes documents and Jamboards. This was conducted in three main phases. First, before the final day of the workshop, we met to discuss what we saw as the unresolved tensions that we had yet to adequately address during our working sessions. This would set the foundation for the working sessions of the third day in which we encouraged the participants to elaborate more on why these might be unresolved. Second, we framed our collective conversation about what the next steps toward an inclusive TNB research, policy, and practice agenda might be. Next, after the workshop, we engaged in a detailed collaborative debrief in which we took the artifacts generated by the participants (and ourselves), and discussed them in detail, creating our own annotations on the Jamboards and distilling additional themes from the content. Finally, in the production of this workshop summary report, we turned an additional lens onto the material as we were able to better situate it in the larger BPC/BPE context once we were removed from the endorphin rush of participation in a generative and enriching community. In this way, we cannot fully claim the ideas presented in this section as solely the product of our analysis. However, we also cannot say that this work is the product of a consensus process with the participants, because

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<sup>2</sup> Reading list available at <https://bit.ly/tnbcer-resources>



we did not go through such a formal process. We think it is best to describe these findings as a reasonable presentation of the themes collectively co-produced in the course of the workshop, mediated through the value-judgements and biases of the facilitators as to what is noteworthy, novel, and worthy of sharing with the BPC/BPE communities.

### **Future directions**

One of our main goals for the workshop was to produce a body of suggestions for future research, practice, and policy that would expand the work already being done for and by TNB folks in computing and engineering. While we have sorted our collective thoughts into these categories, we want to be clear that the boundaries between these types of efforts are fluid. Practice and research inform each other and are influenced by the policy environment within which they occur. None has greater intrinsic importance than another, though we may have our personal preferences for working in a particular domain.

### **Research**

One thing we discussed at length during our time together, which now seems obvious after the workshop sessions, is that when we talk about moving TNB research forward, we need to consider not only the subject of our research, but also the practice of research. For example, we discussed how we can best make use of citational practice to elevate the work of others, especially in allied fields. This may also require making use of the acknowledgements field when bringing outside work into technical fields that might not otherwise have space for that type of practice in the run of the paper. This might be particularly true for something like a positionality statement, which may now be easily added to a social science paper, but which may not be accepted by reviewers in applied computing or engineering spaces. Some of this work may require advocacy for positionality statements to be included in other fields, just as a conflict of interest statement might be appended to disclose potential financial entanglements.

Within the confines of a conference such as this one, enacting a new practice might look like creating multiple tracks for diversity work — one that focuses on introductory materials designed to educate potential allies and other interested parties and another for advanced work that speaks to those people already thoroughly immersed in the subject matter. Beyond this, we must also consider how different methods and methodologies might become more common in our work. A key theme was making sure that the people who will be impacted by the research are present in planning and administration of research. As such, using a method like participatory action research might be of greater benefit, and more fair, to TNB communities.

## **Practice**

When we speak of practice, we refer to the day-to-day ways in which we interact with and enact gender in our organizations and lives. In the classroom context, we must remember that TNB instructors will need to navigate the disclosure of their identities. As a group, we discussed our desire not to simply create another mental heuristic for gender by creating another discrete category to make an action plan for and nothing more. We consider this approach to be inherently limited in its effectiveness, as it once again reduces gender to preconceived categories that do not reflect the diversity of experiences within broader categories and the shared experiences across those same categories.

We respect and value the amount of prior work that has focused on including diverse learners in the classroom [8]–[11]. What we’re trying to do here is to build upon these prior studies and use them and our personal experiences to think deeply about the surrounding systems and underlying values that create the need for inclusion-driven interventions. For example, we know belonging is important [12]. Our workshop participants questioned this concept by asking “belonging to what?” Is it a win for BPC/BPE if students feel like they belong in an oppressive, sexist, racist, ableist culture? So if pure inclusion is not the answer — not to devalue the important inclusion work, which is absolutely necessary — then what is? We appreciate the way that inclusion/belonging research has called out parts of the system, but we disagree with the focus on acculturating students to bad systems. We recognize that due to the way research is funded and promoted, many of these foundational works may also have similar goals and values, which have been constrained by a self-reinforcing system and therefore cannot be changed without thinking about the ecosystems in which these practices occur, and how we might be able to influence them through policy.

## **Policy**

Policy can sound like a daunting prospect — and it may be if we only consider policy to be state- or national-level legislation. A key takeaway from our workshop discussions, however, is that policy is much broader than that. We all have institutional policies that we must follow and it is likely that much of the audience has a service obligation that results in them sitting on a committee or task force that is responsible for making recommendations or policies within a certain domain. What we would like to emphasize is that we can and should make use of the power we have in the spaces in which we have it to make “small p” policies that make those spaces more hospitable to TNB students. This might be as simple as a classroom policy on respecting pronouns or advocating for gender-neutral (and accessible) restrooms. These local policies can have an outsize impact when added together, and we should remember that we often have more control over our personal spaces than we think.

But we must keep state and national level policy in our sights as well. We notice the tendency for policy to be created reactively or defensively (when it's not being created with hostile intent). For example, waiting until a TNB student shows up before crafting a bathroom access policy, or creating an anti-harassment policy after a TNB student is targeted. When possible, we should be creating policy structures to protect TNB students before they have a negative experience — even if there are no TNB students that we are aware of at the time. To these suggestions, we would like to add the caveat that TNB community involvement or sufficient expertise will be needed to implement these in a way that does not create unexpected harms for those students. Further, both allies and community members need to recognize that there is no monolithic transgender experience and having one token representative is not enough.

### **Tensions remaining**

While we were able to articulate many of the ways that we could do better research, practice, and policy for and by TNB folks in computing, we were (unsurprisingly) unable to resolve critical tensions that may act as a barrier to progress. One such tension is the balancing of effort between earning *interpersonal victories* by changing hearts and minds about the worth of TNB students, and struggles for *justice at the system level*. As we know from the works of others in justice-oriented spaces, an unjust system will still produce unjust outcomes even if there are no bigots involved. While our goal is systems change, we know that that is unlikely to occur without one-on-one conversations. This is further complicated by the tension that arises from having to *operate within our current social and cultural context while we are trying to change it*. While we were planning this workshop, we were very cognizant of the wave of transphobic laws that aim to limit the ability of TNB people to access affirming medical care, access information about themselves (e.g. via book bans), or exist authentically within educational spaces. While this is not currently an issue in our home jurisdiction, we recognize the immense personal risk that many educators and TNB folks take on to try to improve their lots.

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| <ul style="list-style-type: none"><li>● Operating within a current social/cultural context while trying to change that context</li><li>● Needing/wanting to use research as a tool to advance justice while recognizing the many ways that current approaches to doing research are not set up to do this</li><li>● Keeping the human in mind, including ourselves</li><li>● Ensuring the people we are doing the work for have a say in its design and implementation, while not overburdening people or limiting them to their identities</li><li>● Critical consciousness vs. critical competence</li></ul> |
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Table 4. Tensions present in the TNB computing and engineering ecosystem

*Even when we have the safety necessary to carry out this work, we are still beholden to a research paradigm that was not created to advance justice*, but instead to communicate expertise and gather prestige. We recognize that in many ways, we have a privileged position to

be writing about TNB students from the computing and engineering fields, which are valorized as “good” areas of study that produce practical skills. By utilizing the thirst for an expanded workforce, we were able to secure funding to hold our workshop. We imagine that we would not have been able to get the same funding if we had proposed work to expand the number of TNB students in the visual arts or gender studies departments.

When we talk about research or policy, it can be *difficult to keep the actual humans that this work will impact in mind. This includes ourselves*. We must remain mindful that there are real people who will benefit — or suffer — from the quality and depth of the work we produce. We must also keep in mind that for those of us who are in this community and doing this work, we are subject to the additional weight of representing and fighting for this community in a way that can often feel like we are arguing with others that we ourselves have value. We recognize that having TNB community members involved in this work is essential to ensure fairness and applicability, but also recognize that this can create an unfair burden on TNB folks to be the go-to person for everyone else’s projects and can also make them feel reduced to their identity. This may be especially an issue for folks in technical disciplines who become tokenized as “only” being a diversity researcher and not seen as a technically competent person in their field.

Finally, we would like to point out that *critical consciousness does not automatically bestow critical competence*. Mere awareness will not remove the issues of marginalization. Instead, we also need to build our toolkits to better engage with potential allies and resist potential detractors. Awareness does not teach us how to navigate complex bureaucracies, or understand who wields power in a given arena. We could write the most persuasive essay ever, and it would be for naught if it languished in obscurity. To push forward, we will need to learn how to make the changes we want to see. Additionally, we know that expertise does not magically confer confidence or courage (though wouldn’t it be great if there were a correlation). Being able to speak and make oneself vulnerable for the greater good does not come naturally to everyone, even if they are oriented toward justice.

### **Keeping it Intersectional**

A key goal of the workshop was to champion the prospect of producing intersectional studies instead of studies that focus on intersecting populations. STEM and Computing Education studies which draw on the framework of intersectionality studies do valuable work by highlighting the differential impacts or experiences that members of intersecting groups face, but they often do not consider the intersectional framework that includes power, relationality, and other social, historical, economic and political factors that create those differential conditions that studies focused on intersectionality include [13]–[15]. Researchers who have exposure to this area already will likely recognize that one Crenshaw citation [16] that is used to signal that intersectionality is being considered. We ourselves are guilty of including just this citation as a

signal that we are trying to do something more than just examining our population data, but we fall short when we do not prioritize reading and theorizing beyond that shallow attribution.

We call on ourselves and our fellow researchers to recognize that intersectionality is an entire field and one which we must approach with some humility. We encourage our fellow researchers to recognize (y)our own positionality and limitations, and know when you need to invite someone(s) else. We do want to caution that these should be partnerships and not just takings from intersectionality experts, else we risk recreating a system where some researchers must do all the intersectionality labor for the entire field, and shirk our responsibility to become competent professionals in this aspect of our work. Though we respect and wanted to honor the principles of intersectionality in this workshop and in our research in general, we felt that it would be disingenuous for us to present ourselves as the experts in this field. Therefore, we structured our workshop advisory board to include this expertise and brought in a guest speaker to facilitate a conversation with attendees on how to make better intersectional studies.



Figure 1. Our layered approach to intersectionality and TNB computing and education learners.

At the workshop, we discussed the following practical steps that intersectional novices could pursue to improve their studies. We came up with these directives: First, make the commitment to invest time into thinking about this part of the study up front. This will likely require thinking deeply about the underlying values that inspire and constrain the study, and perhaps more broadly, considering axiology more deeply in the field overall [17]. These might include foundational assumptions about the limitations of your ability to change the situation and the importance of “objectivity” when conducting research. Methods like participatory action research might provide a way to better engage with the individuals your work is focused on and may introduce people to the research process who can help you challenge many of the assumptions that you uncovered in the prior step. We also suggest practicing linguistic shifts to remove the language of violence from your research. For example — no more targets! Research ought not be violent in the way we describe it, especially as it regards our participants. Some will

roll their eyes at this, but we often use these words automatically, with little regard for what we actually mean or what our actual relationship to our studied population will be.

### **Workshop Lessons Learned**

For people who are interested in holding their own workshop in the future, we would like to add some logistical notes, so that you can learn from our experience. For folks who might look to focus on TNB issues, we mention that we very purposefully chose to limit the workshop participants to individuals who already had a basic understanding of TNB identities. This allowed us to skip the “Trans 101” that is common when participants with all levels of experience will be participating. We found that this helped us attract experts to the workshop who would have otherwise skipped it. This lesson likely applies to other affinity groups, so consider your purpose and audience. In terms of the actual content, we discovered that less is more when it comes to workshop activities. We had to adjust the third day on the fly to avoid overwhelming participants and to make sure that we were making good use of participant time, not just filling time because we originally scheduled it that way. In retrospect, we probably could have covered all our material satisfactorily in two days instead of three. Also, when planning the time when this virtual workshop would take place, we wanted to be mindful of potential west-coast or Hawaiian participants, so we chose 2:00 p.m. to 5:00 p.m. Eastern time. What we hadn’t considered was that some participants would be in Europe, and they would be participating late into the evening. We also found that several people had to leave early for various essentials such as picking up children from school. We are not sure what the ideal solution to this would be, but it is food for thought.

Drawing from our experience as workshop attendees, we made the decision to make breakouts longer than they usually would be in other sessions we have attended. We found that we personally never felt like we had enough time to get a really deep conversation happening. To this effect, we allotted at least half an hour, and sometimes over an hour to breakout sessions to ensure that this wouldn’t be the case. We were slightly concerned that this could backfire, but instead, it worked well to stimulate conversation and allow participants to get to know each other. We thought this was especially important as we brought together individuals from different disciplines and we wanted there to be time to examine the topics from different perspectives.

Although we wanted very much to focus on intersectionality and disability issues, we feel like we could have been more intentional with the way that we integrated these concepts. We are the first to admit that we could have done more in both arenas. For example, we didn’t budget for professional captioning or a sign language interpreter in case these were needed by our participants. We did use an auto captioning service, but we know that those are flawed. Another area where we could have planned to dedicate more resources was to communications. We severely underestimated the effort that it took to reach out to the different communities that we

wanted to invite, especially since we were not insiders in those fields. Partway through the planning we brought on one of our colleagues as a communications specialist, but this would have been more effective if we had done it earlier in the process. Though we reached our recruitment goal, participation was less than we expected. In the future we would try to gather double the RSVPers to try to ensure a larger attendance. Another limitation in this regard was our decision to be rather quiet about the workshop outside of communities that we knew well or knew were TNB-positive. We wanted our workshop to be a comfortable place so that we could tackle uncomfortable issues and we wanted to do everything that we could to keep potentially hostile crashers out. In retrospect, we may have been too protective in terms of sharing, and not protective enough when it came to actual plans for dealing with a potential interruption, of which we had none.

## **Conclusion**

As we continue to advance this work, we face the challenge of improving the environment for TNB computing and engineering students while also not needlessly recreating the work of prior BPC/BPE initiatives. We also must continually remind ourselves that TNB issues are not entirely unique and we stand to gain from allying ourselves with other groups who need many of the same things, such as meaningful community representation without overtaxing the time and cognitive load of community members.

We continue to fight for institutional recognition of transgender and nonbinary students. This includes practical action for representation, such as ensuring that existing databases and data collection systems are modified to include gender options beyond male/female/other. Additionally, this fight includes championing changes to campuses to create more inclusive facilities and cultures of belonging, such as having gender neutral restrooms available in every building. We encourage faculty to use inclusive classroom practices such as volunteering their own pronouns during introductions, respecting when students request a different name than that which may be listed on the course registration list, and using examples with a variety of differently gendered folks, if examples are necessary.

However, we do not encourage a one-size-fits-all approach. The goal is not to simply add another heuristic for transgender and nonbinary people — the ultimate goal is to release us all from the confines of gender. It should not matter if someone is a woman, a man, both or neither, or something else entirely in order to be afforded basic human dignity and respect. To be clear, we are not advocating for a “gender blind” approach to sexism and transphobia. Much like how a “race blind” approach to racism obscures the material and social impacts of racism by seeking to impose a false meritocracy, an orientation to “not seeing gender” would have very little to say about the ongoing harassment and targeting of transgender youth. Instead we advocate an

approach to gender that allows for differences among transgender and nonbinary people and doesn't ascribe a "one best way" to meet their needs.

We call on you to join us in this fight, linking our struggles against all forms of domination and oppression.

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