Diversity in Participation: Transforming Teamwork and Organizations for Justice and Creative Excellence

I am committed to diversity, to the equal representation of heretofore underrepresented peoples in computing, STEM, and more broadly, in society. I commit to diversity as a matter of justice. I commit to diversity as a matter of excellence. I commit to diversity through creativity theory, which identifies diversity of ideas, and of their sources, as an ideation metric. The field of human-computer interaction is based in understanding, imagining, responding to, and fulfilling "user" needs. How can user needs be fulfilled without the participation of diverse, representative users and leaders? Diversity is a key to human-centeredness.

Addressing diversity runs throughout my life and work—as parent, program director, teacher, advisor, and researcher—in concert with my research focus on participation and creativity. Serving as as a the single father of an 8-year old, in the pandemic, has put me in touch with inclusion issues in a new way. When the press began publishing articles about moms not being alright in the pandemic [1, 2, 4], I began to identify as a mom. I face all the issues of a primary caregiver, writ solo. Usually, primary caregivers are women. I became more aware of the privileges I had previously experienced, even as an active parenting dad. Widowed in the pandemic, I was directly put in touch with issues that moms face. This provokes me to confront other aspects of my privilege and, as a result, to be more empathetic.

As program director, I've worked on diversity in the funding process. I work to incorporate inclusion into how I direct funding panels and my lab. At NSF, 58 % of my panelists have been women. When I counted, I found that 68% of my awards happen to have gone to women. In panels, I have consistently worked generally to build community and specifically to take care of the needs of parents. In a plurality of cases, women have more parenting responsibility. I tell panelists that building community includes creating safe space and that all participants' voices count equally. One way I model this is to work to not apologize when my son occasionally interjects himself into the Zoom. Through this process, along with assurances of understanding and safety, I have been successful in recruiting and including mothers of young children as panelists.

As teacher, I felt compelled to initiate a set of participatory workshops, titled Teamwork: Gender + Race, when I observed that the already small cadre of young women in my half capstone course, Programming Studio, were disproportionately having trouble with their teammates. My position began: underrepresented people will not become discouraged about careers in computing on my watch! I am developing connections with Undoing Racism organizers to deepen my involvement in this work.

The Teamwork: Gender + Race workshops that I began, in 2016, to design and facilitate are presently based in articulating, understanding, and extending a set of supremacy culture problems [6] and their antidotes:

- power hoarding $\longrightarrow$ power sharing
- perfectionism $\longrightarrow$ space to experiment
- defensiveness $\longrightarrow$ creative vulnerability
- paternalism $\longrightarrow$ participation
- fear of open conflict $\longrightarrow$ safely debate + resolve
- individualism $\longrightarrow$ shared goals

In the workshops, students articulated feeling safe to work on their own problems, as well as those they encountered. One said, "It was at once valuable and uncomfortable to talk about my own problems and issues we had with each other." Another said, "The skills we are learning [in the workshops] are also relevant to organizations and personal relationships." They said they had not encountered this kind of material before.

I intend to incorporate this workshop into other courses involving teamwork, my own and those taught by others. I recognize that panels and student projects serve as lenses into underlying issues of racism and sexism

that pervade our personalities and experiences. We must work on undoing racism and sexism in ourselves in order to transform ourselves, our organizations, and society to fundamentally become more participatory and democratic.

I work to incorporate inclusion in how I direct the Interface Ecology Lab. As an advisor, I've had the privilege to work closely with amazing students from groups underrepresented in STEM. These include 3 PhD students, 3 masters, and 16 undergraduates. The result is that I am fortunate to have 58 co-authorships with advisees underrepresented in STEM on published research papers. In the lab, I work to foster an environment of mutual respect and support, in which people are accountable and open. I'm able to gently but firmly confront lapses. This has included addressing respecting and fostering collaboration with a spectrum of gender identities and disabilities, as well as race.

In creative cognition, diversity serves as an ideation metric [3, 7, 5]. Diversity is understood as a means for the creative generation and development of new ideas. We measure the diversity of their sources and topics. Recontextualizing this principle, a diverse group of people has the potential to develop stronger creative ideas than a homogenous group, because more perspectives, understandings, viewpoints, cultures, and life experiences become involved. Diversity of participation is thus a principle both for justice and for excellence.

Avenues for improving diversity emerge across academic life. Courses, hiring, research, and funding are all involved. Feedback loops can be beneficent or pernicious. Building community is key. Intention, energy, and humility are required for creating and sustaining transformation.

References

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