

## EDI Statement – V.N. Vimal Rao

நான் யார்? [naan jaar] In Tamil, this question famously asked by the Saint Sri Ramana Maharishi simply asks, “Who am I?”. Together with the answer from the Yajur Veda, अहम् ब्रह्मास्मि [aham brahmaasmi], “I am Brahman”, this question fuels my drive to try to see myself in everything and everyone, and share my knowledge to help empower my fellow human beings. These values and beliefs govern my actions in my classroom, my scholarship, and my service.

**EDI in my classroom** These values are perhaps most distinctly manifested in my classroom. In order to see myself in everyone, I must be able to ‘see’ everyone. Thus, an important part of my teaching is focused on teaching students to consider who they are not able to ‘see’. To achieve this, I teach them a critical habit of mind towards inclusivity. For example, every semester, the teaching team for EPSY 5261 Introductory Statistical Methods at the University of Minnesota uses a graph on perceptions of food healthiness from the New York Times’s What’s Going On in This Graph (see Appendix A). The scatterplot includes many common foods such as pizza, peanut butter, and granola. It wasn’t until my fourth time teaching with the graph that I realized, prompted by a colleague, that my favorite foods weren’t represented. Where are sambar, gulab jamun, and dosai on the graph? What about eba, mole, or khao swe? Someone looking at the graph wouldn’t be able to ‘see’ me. I want my students to ask “what’s not here?”, or more generally “who’s not here?”, and to use the question to consider issues of power and equity, and to fuel new exposure to the diversity of human culture. This experience led to me creating a series of 5 minute activities to develop students’ habit of mind to ask “what’s not here?” based on the cognitive apprenticeship framework. At the beginning of each class, we examined visualizations together, asking “who’s not here?”, and talking about diversity and inclusivity. By the end of the semester, students were able to recognize gaps in representation, and seek out information in order to create a more inclusive picture. I am currently working with Nina Bailey (UNC Charlotte), who has developed a Critical Statistical Literacy Habits of Mind (CSLHM) framework to plan a research study in which we will evaluate the design and implementation of these activities utilizing design-based research methods. But I am particularly proud of when one of my students came to me and with a smile on their face said, “I’m not on that graph either”. In that moment, I knew that I had helped everyone ‘see’ this student.

Beyond simply ‘feeling seen’, I want my students to begin to see themselves as statisticians, and as like statisticians. To achieve this, I use names of real life statisticians from underrepresented demographic groups. For example, I profile both Professor Gertrude Cox and

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Professor David Blackwell as characters in assignments about study designs utilizing random sampling and random assignment. I also recorded a podcast about Professor P.C. Mahalanobis's contributions to area sampling. Students learn these statisticians' names and read short biographies, so that they know that statisticians come in all shapes and sizes, so to speak, rather than the common presentation of the history of statistics with a focus on English statisticians. These simple acts, I hope, will slowly help people 'feel seen' in mainstream statistics and research, and to expose them to a broader human experience.

***EDI in my scholarship*** To demonstrate the way data can empower individuals and groups, I design activities to promote and center on social justice initiatives, especially to show students the role that statistics can play in social action. For example, I have designed an activity to (1) connect statistical 'randomness' to socially 'fair' selections, (2) model historical statistical analyses used to identify (historical and ongoing) discrimination such as jury selection processes and wage discrimination, (3) highlight the social action taken on the bases of such analyses such as the passage of the Voting Rights Act and the passage of the Equal Pay Act, and (4) have students apply this knowledge and procedure to the analysis of a current issue of their choice. In the coming years, I will build on these activities, and formally study outcomes through a social cognitive theory framework. My goal is to continue integrating social justice standards and initiatives into statistics courses to show students how the collection and analysis of data can serve to help make a change in the world, and to provide students with the skills to do so and the confidence that such efforts can make a difference.

My experience talking about the diversity of humanity and disparities individuals and groups face have led me to create resources for teachers interested in doing so, as many teachers might feel uncomfortable having such conversations in the classroom. For example, I am working to create activities that focus on non-cisgender individuals, as well as activities that focus on sociocultural issues for residents of India. Additionally, in the 2022 Electronic Conference on Teaching Statistics, I hosted a session on the environmental factors teachers must consider when attempting to incorporate social justice initiatives into their classrooms (see <https://raovnv.github.io/SJinStats/> for more). The attendance and response was so overwhelming that my co-presenters and I have decided to work to submit a grant proposal to continue creating resources to support teachers interested in incorporating justice initiatives into their classrooms, and conduct professional development activities to support and empower teachers in the extracurricular aspects of such initiatives.

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**EDI in my service** In order to share my knowledge, and learn from others', I believe in the value of social and academic collaboration. While a graduate student, I founded the Statistics Education: Engaging and Developing Students (SEEDS), a nationwide community to support students interested in statistics education. I recruited students with the assistance of my faculty connections in the field, growing the group to a membership of 30 students, and empowered and encouraged each student in SEEDS's social and academic events. I also co-founded The Link Tank, a community of graduate students at the University of Minnesota interested in building cross-disciplinary connections and tackling thorny problems in education. But the achievements I am most proud of are the relationships I form with students, helping them achieve things they did not think they could, as exemplified by the following student feedback:

"He was right there with me on this statistics learning journey – I had a couple minor meltdowns (on my own, not asking for help soon enough) and every time I reached out to ask for help, he was right there and encouraging me to reach out sooner and supporting me on my steep learning edge. I really enjoyed getting a chance to connect with Vimal 1:1 to get to know more about who he is, what his research interests are and I felt that he was just as curious about my PhD journey and research interests as well – it felt like he really cared and that helped me to grow my confidence in learning these new language, technology, skills, practices, ways of thinking and working with data." *Summer 2022 EPSY 5261 Introductory Statistical Methods Course Evaluations*

By trying to see myself in everyone and everything, I strive to be kind and compassionate towards all my students. I invest in them the way I would want someone to invest in me. I try to help them 'feel seen', and to teach them how to notice when others remain 'unseen'. I show them the power of statistics as a tool to describe the rich diversity and variability of existence, and also as a tool for equity and justice. I form communities to support and include individuals. All this I do, and will continue to do, to help people see each other as 'like them', to see oneness through the great variability of existence, and to reason about variability in a way that does not engender categories, groups, and divisions, but rather equity and inclusion through diversity.

## Appendix A

