

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?”. The answer might best be expressed by the great saying from the Yajur Veda, अहम् ब्रह्मास्मि [aham brahmaasmi], meaning “I am Brahman”. Brahman, in the advaita (non-dualistic) tradition, is the infinite all-pervading consciousness without which there is nothing (what we might call ‘The Holy Spirit’ or ‘God’). This seemingly simple question and answer, asking us to see God in everything and everyone, are at the core of my beliefs, and govern the way I interact with all others, whether they be students, colleagues, friends, or family. I strive to see a oneness in all creation and in the omnipresence of variability in that creation, and use my skills to support and empower my fellow living beings however I can.

EDI in my classroom These values are perhaps most distinctly manifested in my classroom, where I strive to ensure my students ‘feel seen’ and learn to ‘see’ each other, learn to recognize and identify issues and persons that are ‘unseen’, and see the social value of data and statistical analyses. One small change I made was to use names of real life statisticians from underrepresented demographic groups. For example, I profile both Professor Gertrude Cox and 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 also 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. Similarly, in my qualitative research, I strive to generate participant pseudonyms that are ethnically diverse. I downloaded a list of the most popular names in the world, along with their frequency, and generate a probability-proportionate-to-size (PPS) sample of names whenever I need to use pseudonyms. Similarly, I strive to utilize contexts that expose my students to the diversity of human experience. I am working with my colleague Dr. Eric Friedlander to create a series of activities utilizing data sets that exclusively focus on individuals who do not identify as cis-gender. I am also working with my college Dr. Kaushik Jana, a professor of statistics in India, to create activities relevant to local contexts in India. I will use these activities, and continue to partner with international statistics educators, to create a global set of activities that I can use in the American classroom. 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.

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Not only do I want my students to ‘feel seen’, but I also want them to consider who they are and 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 my colleague, Nina Bailey, 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.

EDI in my scholarship I also explicitly design activities to promote and center on social justice initiatives, especially to show students the role that data and 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.

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My experience talking about disparities, oppression, and power in the classroom, something which many teachers might feel uncomfortable doing, have led me to create resources for teachers interested in doing so. 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 colleagues Nina Bailey, John Bartucz, and I have decided to submit a manuscript to the Journal of Statistics and Data Science Education about our experiences incorporating justice initiatives into our classrooms and to provide recommendations for teachers interested in doing so. Additionally, we are working to submit a grant proposal to (1) create resources to support teachers interested in incorporating justice initiatives into their classrooms, and (2) conduct professional development activities to support teachers in the extracurricular aspects of such initiatives.

EDI in my advising My classroom and scholarly efforts related to EDI are a function of my values, and I do the work I do simply because I believe in it. But the greatest reward I receive is from the relationships I make with students. 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. But the achievements I am most proud of are the impacts I make on individual students, when I can help them to achieve something they did not think possible, 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*

To me, the connections we make with people are the most important thing we can do in life. If I can help someone, I will help them. If I think I might be able to help someone, I will offer my help. If I can bring a smile to someone's face, I will do whatever I can to help make it so. My values based on अहम् ब्रह्मास्मि means that I try to see others 'as me'. I want to bring them joy, happiness, and pride however I can, whether that be through scholarship or simply being kind.

Appendix A

