



Engaging Communities and Classrooms through Mathematics



Nathan Alexander, Assistant Professor, Department of Curriculum and Instruction, Howard University

Omayra Ortega, Associate Professor, of Mathematics & Statistics, Sonoma State University

Felisha White, Graduate Student, Applied Data Science & Analytics, Howard University



Kagba Suaray, Professor, Department of Mathematics and Statistics, California State University

Moderated by Shakiyya Bland, Director of Educational Partnerships, Just Equations

Mathematics for Insight & Impact

We invite you to

- reimagine math as a community tool *not just an academic discipline*
- connect statistics to lived experience *using data to tell human stories*
- carry these ideas forward *into your classrooms and communities*
- help us answer the question, *How can math drive meaningful change?*



How Mathematics Drives Insight & Impact

01

Center Lived Experience

Participatory research treats community members as co-investigators. Their stories become the data. Math becomes a lens for justice, not just abstraction.

02

Amplify Through Statistics

Statistical tools reveal patterns hidden in plain sight — inequities in health, education, housing. Numbers give community voices the weight of evidence.

03

Turn Insight Into Action

Findings shared back to communities spark advocacy and change. Math is not the endpoint — it is the catalyst for transformation and self-determination.

How can mathematics be a driver of insight and impact in your community?

Resources to Understand & Embrace This Work

Foundational Reading

Radical Equations: Civil Rights from Mississippi to the Algebra Project — Robert “Bob” Moses

The Brilliance of Black Children in Mathematics — Danny B. Martin

Power in Numbers: Rebel Women of Mathematics — Talithia Williams

AMS Notices Feb 2022 p.213 — Christopher C. Jett on Black mathematicians & HBCUs

Curriculum & Projects

Radical Math curriculum resources

Ethnomathematics readings (Marcia Ascher)

Photovoice methodology for student research

Resources to Understand & Embrace This Work



Organizations & Networks

The Hesabu Circle — Black mathematicians & educators, pre-K to post-doc

TODOS: Mathematics for All

Benjamin Banneker Association

Institute for Justice & Democracy in Math Education

Bob Moses Research Center — FIU (mosescenter.fiu.edu)

NAM: National Association of Mathematicians

trubel&co

Data Culture Group



Talks & Documentaries

Dr. Talithia Williams — TED:
'Own Your Body's Data' ·
NOVA Wonders (PBS)

Talks by Uri Treisman on
equity in math

'Counted Out' PBS
documentary on census
undercounts and community
impact

Resources to Understand & Embrace This Work

Participatory Research

Community-Based Participatory Research (CBPR) guides · Youthful Statistics toolkits · PRIA handbook on community data

Statistical Tools

R / Python for community data analysis

CODAP (free browser-based stats)

CensusReporter.org for accessible public data



How can mathematics be a driver of insight and impact in your community?