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The measure of all things

From school closures to quantifying obesity: What can only reducing social issues tell us?

Carlos Nicolas Gómez Marchant, Alexandra Aguilar, Emma Gargroetzi and Carolynn Campbell Reed

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Numbers are an essential part of how we communicate information on a day-to-day basis; consequently, we expect them to form part of conversations around policy. Sociologists Wendy Espeland and Michael Sauder describe the power of using quantitative measures as providing a guise of objectivity. But numbers cannot exist abstractly in social or political spaces. Once invoked within a context, numbers are neither neutral nor objective; numbers can make a difficult and complicated sociopolitical issue, such as desegregation, school closures or health, appear to have a mathematical solution.

These mathematised versions of complex matters are intended to help policy-makers with decision-making, providing the illusion of a straightforward mathematical solution or measurement of a phenomenon (for example, school test scores or health metrics, such as body mass index (BMI)). However, it is important to understand what qualitative experiences are erased when we take numbers as authentic representations of a sociopolitical issue.

In our research, we refer to the quantitative silencing of qualitative experiences as “flattening”: the process of considering a complex three-dimensional world as a two-dimensional mathematical model. This idea of flattening emerged from the work of education researchers William Tate, Gloria Ladson-Billings and Carla Grant’s 1993 article, *The Brown Decision Revisited: Mathematizing Social Problems*.

School principles

Tate and his colleagues used critical race theory to look back at the decision and consequences of the 1954 US Supreme Court case, *Brown v Board of Education*. From their analysis, the Supreme Court’s decision pushed for the mathematising of school desegregation – such that the process of desegregation became a flattened mathematical problem focused around shifting school populations. There was no consideration of the safety and well-being of Black learners, nor the impact on Black teachers and their communities.

As part of our research, we examined the effects of flattened information on school policy decisions in the state of Texas. School boards in the United States are responsible for making policy decisions for their local school districts. In Texas, members of the community can provide public comments on agenda items during school board meetings. However, at a meeting in 2019, a group of parents used these comments to push their own agenda by weaponising numbers.

Wilhelm Elementary is located in an area that has experienced a significant population spike. The district administration presented a proposal to the school, endorsed by many parents, to change the school zone of a majority South Asian apartment complex so that the children living there would move to a different school.

When the school board opened the floor to public comments, some white parents, who owned property in the attendance zone, used quantitative mathematics to flatten the issue of rezoning Wilhelm to a numeric solution of moving 300 students.

Elementary mathematics?

In the video of the district school board meeting, Adrian, a white parent, waits to speak to district personnel about the plan to change the attendance zone. To Adrian and other parents, the school their children attended is simply overcrowded. When his name is called, he walks confidently to the microphone:

“We’re asking you to make a simple decision here that removes emotion and all the other class, culture considerations. We ask you to do the math. It’s first grade math. There are almost 300 students too many at Wilhelm Elementary. There is capacity for 300 students at Nuno Pereira.”

Adrian pushed the school board to consider a flattened version of the issue, erasing considerations of race, language and socioeconomic status. Joy, another white parent, speaking after Adrian, continued this push: “That this has anything to do with race, ethnicity or socioeconomic status just simply isn’t true. This is a logistical numbers problem...” These and similar comments from other parents flattened the issue to a mathematical problem, ignoring its racial and economic implications.

Flattening the community

At Brass Bell Elementary School, also in Texas, community members refuted district personnel’s flattening of their experiences, resisting the use of numbers alone to describe their community. Sunny Field School District (SFSD), a neighbouring community, was facing a financial crisis.

In 2022, SFSD administrators shared proposals to close at least two elementary schools to help balance the budget. The administration organised community meetings throughout the district to collect public comments on the proposed plans.

At each meeting, district personnel justified the school closures based on data-driven arguments such as the school's age, efficiency percentage (number of students enrolled/school's student population capacity), standardised test scores, and predicted population growth. At the Brass Bell Elementary School community meeting, Marissa, a teacher at the school, slowly approached the microphone, motivated to refute the district's plan by countering the dehumanising numbers used to flatten her community. She said:

"I know you provided us with money numbers, business statistics, but I don't think you humanized us... So I'm going to provide some more stats about our school that will show why we should stay open... We're the only campus in the district to have a campus food pantry, a clothing closet, and a school supply closet. [audience applause]... Last year on... a survey from teachers we had 100 per cent staff voting in support of our principal. We have spent almost \$7,000 on the garden outside to use as an outdoor learning space and to use for science learning and community events."

Marissa's comment revealed strategies for refuting quantitative silencing of the experiences of her community. Like Marissa, many other community members found the district's numbers to be "cold". Raquel, a parent at the school, believed the district used mathematics to dizzy the community:

"Eso fue lo que intentaban hacernos; marearnos porque OK, tanto porcentaje de estudiantes, esto, esto y esto OK... Fue una – demasiada información en muy corto tiempo. [That was what they attempted to do; make us dizzy. Because OK, so much percentage of students, this, this and this OK.... It was a – too much information in a very short time.]"

These caregivers refuted the flattening used by the district to describe their school communities. They saw beyond the dehumanising of reducing their lives to numbers and demanded the district see school closures as part of their complex three-dimensional reality.

An anti-fat narrative in numbers

Biometric averages (for example, BMI or calorie counts) can force the abstraction of an individual's experience and perpetuate an anti-fat discourse. The numbers are calculated based on sample populations, but for no one individual in particular.

Flattening individuals to single numbers and valuing those outputs over the qualitative experiences of their humanity, can have serious consequences for their wellbeing.

In her podcast, Fresh Out the Cocoon [<https://anchor.fm/fotcpodcast/episodes/Episode-4---Worry-Bout-Yourself--The-Toxicity-of-Healthism--the-Importance-of-the-HAES-Paradigm-elkoph>], advocate and researcher Dr Joy Cox demonstrated how these numbers can dominate someone's life by showing how flattened perspectives of the self (for example, weight) can perpetuate and internalise anti-fatness narratives:

“I had a graduation party... Healthism was like running my life in some ways. And I had [fruit]. I ate [a fruit] for my graduation party. Man, I got on the scale afterwards, I had gained like [number] pounds. And I was like pissed, okay? Angry and upset... I couldn't fathom it...”^[1]

In the context of quantification and anti-fatness, a celebration with friends and family can become an output of a single number (of pounds in weight) that has the potential to overshadow the qualitative celebration. The assumed objectivity of numbers can make statements regarding food and body appear neutral but can have devastating consequences at the intrapersonal level.

Lived experiences count

Cox's example is one of many that demonstrate how experiences with food and bodies cannot be flattened in a neutral way. Quantification often relies upon abstraction from lived experiences, overshadowing and creating distance from lived experiences.

Understanding the pervasive phenomenon of flattening demonstrates the importance of disrupting the myth of mathematics as objective and neutral and shows us how this myth is weaponised. By highlighting the phenomenon of flattening, our work aims to encourage a different way of thinking about how we use numerical information in decision-making. These stories show how data is manipulated for the benefit of those in power and how we can better advocate against those flattening our lived experiences.

When we use quantitative measures, some level of simplification and reduction is inevitable. But these stories demonstrate the power flattening has in policy-making and over lived experiences.

Acknowledging the concept of flattening provides us with new ways of seeing how numbers are neither neutral nor objective once placed in context. Recognising these strategies can help us resist flattening and learn to value qualitative experiences politically – as we do quantitative ones.

Footnotes

1. Cox includes content warnings in her public work, however this article does not have those same warnings. The specific fruit was censored in this quote to avoid creating a harmful relationship between the reader and the specific fruit.

References and further reading

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About the authors

Carlos Nicolas Gómez Marchant

Carlos Nicolas Gómez Marchant is Assistant Professor in the Department of Curriculum and Instruction at the University of Texas at Austin. His current work explores the experiences of Latinx learners in navigating the whiteness of mathematics learning and how caregivers use mathematical ideas to engage in school policy conversations. Twitter/X: @GomezMathEd

Alexandra Aguilar

Alexandra Aguilar is a graduate student in STEM Education at the University of Texas at Austin. Her research explores how students resist the dominance of school mathematics within and outside the classroom. She is currently learning how to create a sense of community between researchers and collaborators through sharing and leveraging stories of resistance to quantitative silencing of qualitative experiences.

Emma Gargroetzi

Emma Gargroetzi is Assistant Professor of STEM Education in the Department of Curriculum and Instruction at the University of Texas at Austin. Her research focuses on identity, power and educational justice in the mathematical lives of youth. Twitter/X: @egroetzi

Carolynn Campbell Reed

Carolynn Campbell Reed is a graduate student in STEM Education at the University of Texas at Austin. Her research examines the impact of higher education developmental mathematics policies on educational equity and justice for students.

Cite this work

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