DataHaven
Classroom Materials

Title of Material: The Value of Data

Topics Discussed: Data usage

Skills Utilized: Reading skills, annotations, reflective questions, data collection

Format: Small groups

In Person or Online: In person

Procedure/Instruction Suggestions:
This is the long version of the "Value of Data", there is also a short version available where the students do not collect their own data.

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The Value of Data

Directions: Read the excerpt below and analyze what it is saying about data and data collection. Then, answer the thought questions and complete the "Your Own Data" section.

Data are never truly objective, either. They might help identify patterns and connect bits of information, but every decision that goes into how data are defined, measured, interpreted, and acted upon is subject to the same bias we know exists in our society. In a time of climate change denial, re-politicization of the Census, and fake news (both the accusation used to deflect criticism and the actual, webclick-optimized phenomenon) dry facts are not enough in pushing for a more just, equitable, and sustainable society. Data are even used in ways that deepen inequality. Mortgage approvals and bail amounts are made by black-box algorithms that their subjects do not even know about. Data tools, such as the Constitutionally-mandated Census count or the geographical demarcation of where you vote and how much your vote matters, can be used to include and support people, or to render them uncounted, unheard, and invisible. The fact that data can be used in these ways shows just how powerful they can be, and why it is important to understand that social prejudice is often reflected in something presented as impartial.

Thought Questions

1. What in the article stuck out to you the most? It can be something you learned, something that surprised you, something that made you upset, or something you have heard of before.

2. What is a bias? Give an example of one.

3. How can bias impact data collection?

4. What does the quote, "The fact that data can be used in these ways shows just how powerful they can be, and why it is important to understand that social prejudice is often reflected in something presented as impartial" mean?

5. How can *you* use data to help create a more equitable society, rather than deepen inequality?

Your Own Data

Data can be a very valuable tool in creating a more equitable society. Think of a social issue, concern, or phenomenon that you can collect data on to help confront inequalities. For example, collecting data on the gender-based wage gap and showing that women are paid, on average, less than their male counterparts, can shed light on this issue, give us pathways to solutions, and provide the opportunity to make permanent change that will help women in the workforce and close the wage gap.

Your Topic: _____

Data is collected through various methods, think of a way that you can best achieve given your time, your resources, and your comfort. There is both *qualitative data* and *quantitative data.*

Qualitative data describes **qual**ities. It includes characteristics and opinions rather than measurable numbers. Qualitative data are often collected through asking questions in an interview or survey. Here are a few examples of qualitative data:
- What color is your hair? *Black*
- What is your favorite dish on the menu? *Fried fish*
- What is your experience being a female in the workplace? *I am more qualified than my male co-worker, but I receive less pay. I also get frustrated with gender-based discrimination from my boss.*

Quantitative data describes **quant**ities. It can be counted and measured using numbers. Quantitative data can also be collected through interviews and surveys. Once multiple data points are collected, you can compute sums, differences, and averages. Here are a few examples of quantitative data:
- How many people in the classroom have black hair? *12 students*
- What is the average number of customers on a Tuesday at this restaurant? *56 customers*
- In Connecticut, for every dollar an average male makes, how much does the average female make? *69 cents*.

You will need to collect both types of data, and use both in your conclusions. While planning your method, figure out how you will obtain both qualitative *and* quantitative data. What questions will you ask? What data are you looking for (personal stories, group responses, etc)? How will you obtain this data (interviews, recording numbers, etc)? How will you record it (handwritten, video recording with permission, etc.)? Who will you be asking (family, friends, teachers, etc)?

You must also keep your *hypothesis* in mind, or what you think your data will show. For example, you can hypothesize that the women you interview make less than their male counterparts due to already available data for Connecticut. However, do not let your hypothesis influence the way that you ask questions to a respondent. Ensuring that your data is unbiased is always important.

While you are formulating your method, and obtaining your data, you must keep this essential question in mind: how will your data be used to help create a more equitable society, rather than deepen inequality?

Your Method:

Hypothesis: _____

                   _____

Qualitative Data to be Collected:
   Questions you will ask:
     1.
     2.
     3.

How will you obtain this data?

How will you record this?

Who will you be asking?

Quantitative Data to be Collected:

   Questions you will ask:
     1.
     2.
     3.

How will you obtain this data?

How will you record this?

Who will you be asking?

Reflection:

1. Why do you think these inequalities exist?

2. How will you ensure this data is used to help create a more equitable society, rather than deepen inequality?

3. What barriers could you face in helping create a more equitable society? How can you overcome those barriers?