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Class: Math 156 General Statistics I

# Statistics and Privilege

**Brief Introduction and Motivation.**

Being a mathematician (half statistician, half probabilist) myself, I find myself at the very beginning of the journey to expand my teaching style and to view my subject as something more than just a framework to interpret and understand the world we live in. The beauty I see in a theoretical---and often abstract---mathematics is a thing that is challenging to express and communicate to somebody else, especially if they are a student. And it is also quite hard---at least for me---to connect and relate to the Ignatian values.

Teaching at a Jesuit school, one should seek to expand their views and embrace the opportunity to provide more to their students than merely the subject they teach (however abstract and seemingly disconnected from "real" life). In that respect, I am quite lucky---especially with my core-level classes---as statistics is a topic that shows up in virtually every aspect of our everyday routine.

**Idea and Implementation.**

Driven by the ideas of encouraging deeper reflection, understanding of the injustices and disparities of the world outside, and striving for the common good, my mentor and I have decided that incorporating a project specifically tailored to promoting those values into my core-level statistics class seemed like a reasonable idea.

Having investigated various avenues for targeting the goals at hand, I decided to go with the data provided by the World Bank Group (an organization whose mission is to "end extreme poverty and promote shared prosperity in a sustainable way"). I compiled the data about two distinct characteristics of various low-income countries of the world, as well as that of the United States. Including the USA in the dataset was meant to contrast how people from privileged countries do not realize the full extent to which basic needs they take for granted aren't, in fact, universally accessible.

Specifically, I offered two datasets spanning the past several years---life expectancy at birth, and percentage of people using at least basic drinking water services---as the basis for a statistical project they were supposed to work on. Skipping a little bit ahead, I would like to mention that I seem to have not put enough care and guidance into how the project was structured. In

retrospect, having a more explicit language and emphasizing the underlying motives of the project over its mathematical side would have probably achieved a better effect.

**Reflection and Afterthoughts.**

A month after the semester ended, I asked my students to reflect on the project, and provide some feedback regarding the lingering effects and impressions (if any) it had on them. Although the response rate was quite low---and this is something I definitely intend on working on in the future---some of the comments were quite encouraging (especially the ones regarding the project itself). Some of them are presented below.

Before I proceed, I would like to point the reader's attention to the fact that response bias is obvious here. The students whom this project did not affect much probably did not bother to respond. The *only* statistical evidence one can get from this---I am a statistician after all---is that at least it reached *some* of my students. And this is a reasonable starting point.

> *-- I found it interesting to have a more real-world application of statistics. It helped me to better understand the concepts.*
>
> *-- Outside of it being helpful practice of application for what we had learned it class, I found it interesting to see these statistics about other countries.*
>
> *-- I really appreciated this project because it helped me to apply the concepts we had been learning in class. It gave me time to sit down and understand what we had been learning, and I feel that it really helped me boost my grade.*
>
> *-- Personally I thought it was good for both real world application of statistic as well as a good way to use what we learned in class.*

As is apparent from the comments above, I still have ways to go. Although the original purpose was to open the students' eyes on the way the world as we know it is---with all the disparities, privileges, things we take for granted that others do not have access to---their takeaway was more of an "interesting real-life example". Incorporating a more continuous process of reflection for the students seems to me at the moment to be the next logical move. Rather than relying on them to come up with a philosophical leap in an otherwise quite mathematical class, shifting the emphasis from theory (and even application) to the human aspect of the context of the data is my next step toward building a stronger sense of community and engagement among students, and becoming a better representative of Ingnatian pedagogy.