Summary

This Tableau story visualizes student data from the 2012 PISA assessment. Some data cleaning was involved, including changing the variables to human readable names (CNT -> Country code 3-character), consolidating city / state data into country data (Florida (USA), Massachusetts (USA), United States of America -> United States) and changing unrecognizable country codes into recognizable ones (Korea -> South Korea, Chinese Taipei -> Taiwan, etc.). The dashboards cover the overall scores, student survey responses and gender differences for the reading, math and science sections.

Design

I chose a choropleth map of each country’s average score on the first dashboard to give readers an overview of how each country’s performance. Countries are colored using a brown to blue divergent gradient to make the data accessible to a colorblind audience. I also included a web frame so readers could learn more about each country’s educational system by clicking on the map.

The survey response data shows the distributions of scores for each question as well as the composition of responses for the top 5 and bottom 5 countries. Again, I chose a brown to blue gradient to include people who may be red-green colorblind.

The final chart was used a choropleth to show score differences among males and females. This time I used pink to represent countries where females scored higher and blue for countries where males scored higher. I included a scatter chart in the bottom right to show how out of school study time affected males and females. Based on the feedback I received, I added a subheading letting the audience know that the size of each bubble represented how much time they spent on the internet.

Feedback

I received feedback from two friends. The first had trouble viewing the story on his phone, but once he switched to a desktop he did not have any issues. He did ask me what the sizes of the bubbles meant in the last dashboard and after realizing I did not make this explicit in the original visualization, I decided to edit it. The second friend offered a few helpful suggestions:

**Lee**: I like it. I noticed that China has the highest score. The one thing that was a little wierd was the graph started with all rows being dark blue but then they where blank until you clicked on them

**Courtney**: Thanks Lee, I appreciate the feedback. Could you send me a screenshot of what you're seeing? It's supposed to highlight countries by clicking on the map or the bar in the first story point, but if that feature's not working, I might have to debug or remove it.

**Lee**: looks like it's working. Its just very slow on my phone. It good on pc. Btw, what do the sizes of the bubbles mean on the last chart?

**Courtney**: Good to hear it! Each bubble is supposed to represent the number of minutes each student spent on the internet. I should probably add that. Thanks for the feedback, Lee!

Resources

<https://www.tableau.com/learn/training>

<http://www.oecd.org/pisa/pisaproducts/PISA-2012-technical-report-final.pdf>

<http://www.ipi.lu.lv/fileadmin/_migrated/content_uploads/Datu_analizes_rk.pdf>

<http://www.oecd.org/pisa/>

<http://mi2.mini.pw.edu.pl:8080/SmarterPoland/PISAcontest/>