Exploring TIMSS With R

The IEA and Boston College publicize the amazing TIMSS dataset every 4 years. The study shows how students from different countries perform on the same math and science questions. The dataset comes with guides that explain how to explore and visualize the dataset in SPSS and SAS. However, I will show how easily TIMSS can be explored using packages found in the R ecosystem.

Once data is imported into R it can then go through the 'Exploration Loop'. That is, the data is manipulated, then visualized, and then interacted with. The goal of manipulation is to format the data in a way that is ideal for testing a particular hypothesis. The goal of visualization is to help understand how different datapoints relate to each other. The goal of interaction is to dig even deeper into the relationships found and to come up with new insights and new hypotheses.