

Project Proposal: Relationship between Local Finance, Education, and Poverty

Date: 2017/10/16

Group Members:

1. Michael Wu
2. Angie Mejia
3. Pranav Bhasin
4. Sara Wu

A brief report (2-4 pages) that analyzes the problem and provides a detailed design for the system

Required elements:

1. The topic/problem being addressed

We are addressing the common notion that people who come from lower socioeconomic parts of the country usually do not advance far in terms of education. There is a stereotype of what someone who drops out of school looks like, but we want to try and see if there is really a connection. We believe that this information could prove to show different results since there could be more motivation than ever for lower classes to achieve a higher education because of their situation. A second part of the research is looking at how much help those students get if they continue towards college, which is seen as rare. Scholarships and other forms of financial aid are a necessity for groups like first generation students or those who come from a single parent household where the parent cannot afford schooling on their own. Specifically, we would look at help they would receive financially through FAFSA.

2. The motivation behind your topic choice

Socioeconomic status encompasses not just income, but also educational attainment, and subjective perceptions of social status and social class by differ in quality of life attributes as well as the opportunities and privileges afforded to people within the society. It is a common belief that people from a lower socio-economic background will be more likely to be in poverty as well as having a lower education level. The school systems in low socioeconomic communities are often under resourced, negatively affecting students' academic progress and outcomes. Inadequate education and increased dropout rates affect students' academic achievement, perpetuating the low socioeconomic status of the community. Improving school systems and intervention programs may help to reduce some of these risk factors; therefore, having a closer look at the correlation between Socioeconomic status, geographical demography, and education distribution is essential.

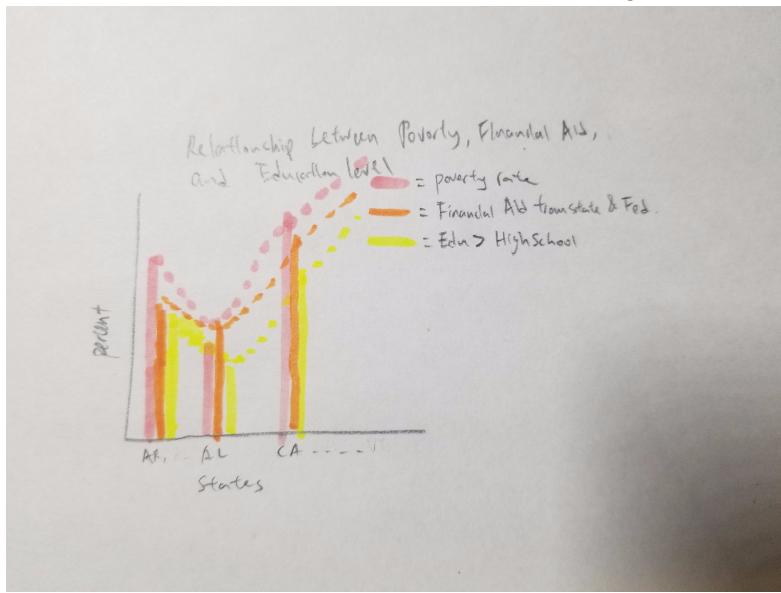
3. A description of the dataset and its sources

The FAFSA dataset can give us insight in how many students are receiving how much grants from State and Federal level. Also, the Education dataset provided by the United State Department of Agriculture -- Department of Economic Research would give us specific knowledge about how many people are attaining which level of education at which county. Combining both the FAFSA and the Education dataset, we can gain insight in whether having financial aid has any correlation with the highest education level attained in a specific location or the highest degree one can get.

On the other hand, we also want to compare the Education dataset with the Poverty Dataset provided by the US Department of Economic Research. We want to see whether financial aid actually help poorer county/state to in the average education level. Since the Poverty dataset is mostly by percent, we believe it might be helpful to also take a look at the Population dataset, which, if combined with the Poverty dataset, can give us the amount of people at each county/state who are in poverty. And using that number, compared with the Education and Financial Aid dataset, we can clearly see whether Financial Aid is actually effective.

These data sets all have solid, trustworthy background because they are all government based datasets.

4. A simple sketch or mockup of a potential design



5. A list of development tools you plan to use

We will use Jupyter Notebook as our main Integrated Development Environment(IDE). We will also use libraries such as Panda, datascience from Data8.org, and Numpy to manipulate data. Matplotlib, ggplot, and Seaborn will be our tools for data visualization.

6. An initial task division among group members

- Michael Wu:
 - Creating different visualizations to have a better perspective about the datasets collected.
 - Looking for relevant observations from the created visuals.
- Sara:
 - Collection of data from various sources and selection of relevant material for review.
 - Creation of slides for the presentation
- Pranav :
 - Looking for additional data for reaffirming the observations. Looking for relevant work done in ten past. Looked for relevant tools for the project to be utilized.
 - Created and presented the opening pitch for the project.
- Angie:
 - Reviewing content and looking for interesting observations arising from the same.
 - Creation of slides for the presentation

7. A proposed timeline for completing the project

- October 31st: Information obtained from the Department of Economic Research over the last two years, specifically on education levels and which county they are from
- November 4th: Have information of poverty levels from Department of Economics ready to analyze over the same time frame
- November 10th: Obtain FAFSA information and have it saved
- November 14: Analyze data and having visual aids ready such as graphs and maps that point to specific data in specific states. We would also want to cross tabulate data for any correlations between poverty levels and income.
- November 28th: Final Presentation due