Sarah Engel
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Professor Broder
Linux

Summary of Process: Semester Project

My hypothesis was that there is a higher percent increase of voter turnout among 18-19 year olds in Ohio in the 2008 general election that had an increase in funding in their school districts in the previous general election year of 2004. Although I ultimately received negative results, for there was no real correlation between district percent budget increase and percent young voter increase, this result reaffirms the fact that the quality of education our students are receiving is less contingent on budget increases, and instead most likely dependent on the teaching strategies employed in the classroom.

I started by taking the raw Ohio State voter records, and extracting the fields with the date of birth, school district, and whether or not their participated in the 2004 elections. I then generated an identical set of files, just extracting participation record for 2008 instead. Then, using a "grep" on birthday dates that would set the records at age 18-19 for that given year's election (i.e. "1990" or "1989" for 2008 election, and "1986" or "1985" for the 2004 election) I created two composite files of raw voter data containing only the young voters who participated in the given years election. Then, I applied a Python script which two produced a pipe-delimited files by school district of number of young voters participating in that given year's election. I then created a Python script to emit a pipe-delimited file of the percent young voter increase, using the two files created above to produce one file with each district, and then the correlating increase of 2008/2004.

Moving to the budget side of things, I downloaded data from the Ohio Department of Education which recorded the per pupil expenditures in each district for each of the fiscal years going back until the 1990s. This data was incredibly unwieldy, as it was a comma delimited, but the expenditure values also had commas between the numbers, so a simple cut was ineffective. I had to write a Python budget_parser script using regexs to splice out the number values, and reattach them back together creating a clean version of the exact same data. Once I had this clean raw data, I was able to create two files, one with just the data per county for the 2000 fiscal year, and one with just the data per county for the 2004 fiscal year. Finally, I created a Python script to emit a pipe-delimited file of the percent spending increase of 2004/2000 per each district.

Using these two reduced files, one of the voter increase per county, and one of the budget increase per county, as well as data on the size of each twelfth grade class in each county in the 2004-5 school year, I emitted a final data set with each line containing the district (only if the district appeared both in the voter data, budget data,

and enrollment data), the voter increase, the budget increase, and the twelfth grade enrollment size. Using this data set, I was able to generate my graph, with each circle representing a district and the relative size of that district's 2004-5 twelfth grade class, across the axes of budget increase and young voter increase. (Note: I scaled my graph, for readability purposes, to exclude one or two outliers which did seem to have some increase in voter participation. The comments of the graph.py file explain how to adjust the scale to view the outliers as well, though it limits the readability of the rest of the graph.

As noted above, while technically I did not prove my hypothesis, for there was no correlation between budget increase and young voter participation increase, this result reaffirms much of what is current in educational research, that the quality of our students' education rests primarily on *how* we are implementing educational strategies to maximize classroom effectiveness, as opposed to how much money we are pouring into our school districts. It's not purely about the resources, but rather about how we manage and capitalize on those resources with intentionality to ensure a meaningful educational experience for our students.