**EDLD 652 Proposal for Final Project**

**Due:** By midnight Monday, January 24

**Group members:** Ksenia Gordeeva, Rebecca Gordon, Amy Warnock

**Proposal GitHub:** <https://github.com/amynwarnock/edld652-proposal>

**Research Questions**

1. (Rebecca) How do high school students’ subgroup makeup (i.e., Race/ethnicity, Male vs. Female, economically disadvantaged, Limited English, Migrant status, Disability status, and Homelessness) differ among states/regions?
2. (Ksenia) What drives current expenditure on education? How is funding allocated by state and how do the funding allocations correlate with eh student performance (graduation rates and/or test scores)? Does cross-state variation in expenditure explain the cross-state variation in education outcomes?

More specifically, I might look at the following:

* + what percentage of expenditure accounts for instruction/ textbooks/ technology-related equipment & services/ instructional equipment?
  + What are the gross amounts spent on those categories?
  + How do those percentages/ gross amounts correlate with the diversity of the student population/portion of white students in school?
  + Does increased spending on any of the categories correlate with increased students’ performance?
  + Can higher teachers’ salaries result in better test scores?
  + What amount of funding is spent on special education programs and how that correlates with performance of students with disabilities?

1. (Amy) What is the relationship between districts’ local revenue and students’ literacy outcomes on statewide assessments in 2010? I plan on exploring more specific questions that may impact the direction of my final focus and data visualization, including (a) total local revenue vs. local revenue from property taxes, (b) outcomes for specific grades vs. overall, (c) outcomes for specific student race/ethnicity subgroups vs. overall, (e) examining the relationship between funding and outcomes by state, and (e) average local funding (in dollar per student) per state and/or district.

**Preliminary Ideas of Different Visualizations (Organized by Lead/Research Question)**

1. (Rebecca) (1) Geographical mapping by country/region, (2) scatterplots (facet wrapped) to assess the correlation between achievement and subgroup identifier, and (3) a line plot of each subgroup by state/region. Further analyses can be done if regional patterns emerge.
2. (Ksenia) Scatterplots to reflect the correlation between funding allocation and student performance. Bubble charts to show the proportion of individual categories that compose the total expenditure. Flipped bar charts to compare the expenditure on certain categories by state (alternatively: geographical mapping with gradient coloring). Bivariate maps to compare the racial diversity and the proportion/amount of funding allocated to certain categories.
3. (Amy) Preliminary histograms/bar charts of distribution of funding (local revenue variables from fiscal district file(s)) and distribution of student outcomes (% proficient from rla\_achievement\_lea\_2010 file). Scatterplots between overall local revenue or local property tax revenue (x) and % proficient in reading (y). When examining outcomes by race/ethnicity subgroups, I may facet by subgroup or use color overlay for the groups. To examine relationship by state, facet by state. I may also play with geographical mapping (e.g., state or district) of average dollar per student in local funding.

**Some documentation that you have played with the course data some**

* See link to repo at top

**Names of the Datasets That Will Be Used and the Keys for Joining the Datasets (Organized by Lead/Research Question)**

1. Rebecca
   * Datasets: EDFacts\_math\_achievement\_lea\_2010\_2019, EDFacts\_rla\_achievement\_lea\_2010\_2019, EDFacts\_rla\_participation\_lea\_2013\_2019, EDFacts\_math\_participation\_lea\_2013\_2019
   * Key(s): LEAID
2. Ksenia
   * Datasets: EDFacts\_rla\_achievement\_lea\_2010\_2019, EDFacts\_math\_achievement\_lea\_2010\_2019, NCES\_CCD\_fiscal\_district\_2010
   * Key(s): LEAID
3. Amy
   * Datasets: EDFacts\_rla\_achievement\_lea\_2010\_2019, NCES\_CCD\_fiscal\_district\_2010
   * Key(s): LEAID

**Intended Audience for Each Visualization (Organized by Lead/Research Question)**

1. (Rebecca) Department of Education
2. (Ksenia) Policy makers, potential donors
3. (Amy) Researchers, policy makers.

**Intended Message to be Communicated for Each Plot (Organized by Lead/Research Question)**

1. (Rebecca) Compare and contrast subgroup diversity in states/regions and decide which states need more funding to address students’ needs.
2. (Ksenia) Determining whether funding needs to be reallocated to benefit the students. Determining which category needs to be prioritized when making spending decisions.
3. (Amy) A positive relationship between district income from local revenue sources, such as property tax, and the academic outcomes of students could provide evidence for new, more equitable funding policies or strategies. Every student deserves a high-quality education and access to resources that help them succeed. Should the socioeconomic resources of a public school district play a part in the outcomes of its students?

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Helpful Info:

* Repo on GitHub:
* Project description: <https://dataviz-2022.netlify.app/assignments/#proposal>
* Course data info: <https://dataviz-2022.netlify.app/2021-12-10-accessing-the-data/>
* State info to link with ‘FIPST’ variable (instructions on course data webpage): <https://github.com/kjhealy/fips-codes/blob/master/state_fips_master.csv>
* ‘LEAID’ and ‘LEANM’ helpful for joining datasets

Abbreviations:

* acgr = average cohort graduate rate
* lea = local education agency (i.e., district)

Ideas:

* Graduation outcomes based on school staff (psychologists, guidance counselors)
* Graduation outcomes based on funding variables
* Change in demographics by school district
* Reading/math scores change from 8th to 12th grade
* Outcomes (math and/or reading) by locale, such as rural/urban (would require a dataset we didn’t get), and state
* Eligibility for free or reduced-price lunch
* Subgroup score analysis:
  + Race/ethnicity
  + Male vs. Female
  + Economically disadvantaged vs. Not
  + Limited English
  + Migrant status
  + Disability status
  + Homelessness
* Federal vs. State vs. Local funding (with student outcomes?)
* Technology or salaries vs. Student outcomes Z33
* Program funding vs. Student outcomes

**Datasets:**

[1] "EDFacts\_acgr\_lea\_2011\_2019"

[2] "EDFacts\_acgr\_sch\_2011\_2019"

[3] "EDFacts\_math\_achievement\_lea\_2010\_2019"

[4] "EDFacts\_math\_achievement\_sch\_2010\_2019"

[5] "EDFacts\_math\_participation\_lea\_2013\_2019"

[6] "EDFacts\_math\_participation\_sch\_2013\_2019"

[7] "EDFacts\_rla\_achievement\_lea\_2010\_2019"

[8] "EDFacts\_rla\_achievement\_sch\_2010\_2019"

[9] "EDFacts\_rla\_participation\_lea\_2013\_2019"

[10] "EDFacts\_rla\_participation\_sch\_2013\_2019"

[11] "NCES\_CCD\_fiscal\_district\_2010"

[12] "NCES\_CCD\_fiscal\_district\_2011"

[13] "NCES\_CCD\_fiscal\_district\_2012"

[14] "NCES\_CCD\_fiscal\_district\_2013"

[15] "NCES\_CCD\_fiscal\_district\_2014"

[16] "NCES\_CCD\_fiscal\_district\_2015"

[17] "NCES\_CCD\_fiscal\_district\_2016"

[18] "NCES\_CCD\_fiscal\_district\_2017"

[19] "NCES\_CCD\_fiscal\_district\_2018"

[20] "NCES\_CCD\_nonfiscal\_district\_2017\_2021\_directory"

[21] "NCES\_CCD\_nonfiscal\_district\_2017\_2021\_disabilities"

[22] "NCES\_CCD\_nonfiscal\_district\_2017\_2021\_english\_learners"

[23] "NCES\_CCD\_nonfiscal\_district\_2017\_2021\_membership"

[24] "NCES\_CCD\_nonfiscal\_district\_2017\_2021\_staff"

[25] "NCES\_CCD\_nonfiscal\_school\_2017\_2020\_lunch\_program"

[26] "NCES\_CCD\_nonfiscal\_school\_2017\_2020\_school\_characteristics"

[27] "NCES\_CCD\_nonfiscal\_school\_2017\_2020\_staff"

[28] "NCES\_CCD\_nonfiscal\_school\_2017\_2021\_directory"

[29] "NCES\_CCD\_nonfiscal\_school\_2017\_membership"

[30] "NCES\_CCD\_nonfiscal\_school\_2018\_membership"

[31] "NCES\_CCD\_nonfiscal\_school\_2019\_membership"

[32] "NCES\_CCD\_nonfiscal\_school\_2020\_membership"

[33] "NCES\_CCD\_nonfiscal\_state\_2017\_2020\_directory"

[34] "NCES\_CCD\_nonfiscal\_state\_2017\_2020\_staff"

[35] "NCES\_CCD\_nonfiscal\_state\_2017\_2021\_membership"