The Achievement Gap in Tennessee’s Public Education System

R Shiny Project Proposal

# Abstract

In this Project I will be using publicly available data from Tn.’s Department of Education and State Government to explore how the “Achievement Gap” (the correlation between the allocation of financial resources, education outcomes, and social mobility in the U.S.) can be measured in Tennessee and how, if at all, it is changing in relation to Tennessee’s growing economy.

# Motivation

Nashville in general and Davidson County in particular have experienced significant economic growth in the last few years, and they are also home to Tennessee’s Capitol. This growth has included growth in the amount and accessibility of publicly available data from Tennessee’s state government. Is this economic growth affecting the “Achievement Gap” in Tennessee? Is the proverbial “rising tide” lifting all “ships?” Are the economic benefits being distributed unevenly, equally, equitably? And how readily available and transparent is the data required to answer these questions?

# Data Questions

1. Is the data released by Tennessee’s State Government sufficient to determine how each Tn. School district is funded?
   1. If not, then, why does the state not provide clear information on the funding of each school district?
2. Considering results published by ACT[[1]](#endnote-1), The Washington Post[[2]](#endnote-2), and The Huffington Post[[3]](#endnote-3): how well can the correlation between a school district’s financial variables and its ACT-composite scores be measured in Tennessee?
   1. Are there any other salient correlative factors affecting Tennessee student’s access to higher education?
3. How well can the correlation between a Tennessee student’s academic outcomes and their income, both historically measured and projected, be measured?

**Initial Hypothesis:**

Considering Tennessee’s history of racial segregation and discrimination, especially in the education system and real-estate systems, I expect to find disparities in financial resources, and thus their corresponding repercussions on educational outcomes and social mobility to correlate to racial demographics (but also to white economically disadvantaged white populations). However, how much this correlation and its evolution can be measured longitudinally remains an open question at this time.

# Schedule (February 15 – March 10)

1. Get the Data **(February 22nd, 2018)**
2. Clean & Explore the Data **(Mar. 1st, 2018)**
3. Build & Deploy your Shiny App **(Mar. 8th, 2018)**
4. Document/Pitch your Shiny App with a Presentation **(March 10th, 2018)**
   1. Individual presentations (includes presentation & demonstration of your app)

# Data Sources

Publicly Available Data from Tn.gov/education/data[[4]](#endnote-4) Including the geospatial, academic, demographic, and financial data at the school-district level.

# Known Issues and Challenges

I anticipate finding each school-district’s funding to be structured very differently, in part due to the fact that well-funded districts need not seek alternative funding sources whereas underfunded districts do. However, simply being able to clearly describe what is preventing school-district funding from being fully transparent is one of the primary goals of this project; overcoming this difficulty and thus enabling insightful analysis being an added bonus.

# Works Cited

1. *ACT Composite Scores by Family Income*, KRISTA MATTERN, PHD, JUSTINE RADUNZEL, PHD, AND MATT HARMSTON, MA, ACT, 2016, <http://www.act.org/content/dam/act/unsecured/documents/R1604-ACT-Composite-Score-by-Family-Income.pdf>, consulted Feb. 16, 2018 [↑](#endnote-ref-1)
2. *‘We didn’t know it was this bad’: New ACT scores show huge achievement gaps,* Nick Anderson, Sep., 7, 2017, The Washington Post, <https://www.washingtonpost.com/local/education/we-didnt-know-it-was-this-bad-new-act-scores-show-huge-achievement-gaps/2017/09/06/c6397f36-9279-11e7-aace-04b862b2b3f3_story.html?utm_term=.13995630f5e3>, consulted Feb. 16, 2018 [↑](#endnote-ref-2)
3. *If You Want A Good ACT Score, It Really, Really Helps To Be Rich,* Rebecca Klein, 07/18/2014 04:23 pm ET **Updated** Dec., 06, 2017, Huffington Post, <https://www.huffingtonpost.com/2014/07/18/act-score-family-income_n_5600065.html>, consulted Feb. 16, 2018 [↑](#endnote-ref-3)
4. <https://www.tn.gov/education/data.html>, consulted Feb. 16, 2018 [↑](#endnote-ref-4)