TRANS RIGHTS AND QUANTITATIVE JUSTICE EDUCATION

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(any pronouns)
Stevenson University
(and many others)

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ICERM

Educating at the Intersection of Data Science & Social Justice Workshop July 17-21 2023

Workshop participants chose projects to work on during the week

I worked on the Anti-Anti Trans Legislation group led by Dr. Bianca Thompson

THE TEAM

Our team consisted of:

- **Bianca Thompson**
- Mark Branson
- Voula Collins
- Carrie Diaz Eaton
- Rachel Frisbie
- Patti Hamerski
- Jakini Kauba
- Drew Lewis
- Victor Piercey
- Rachel Roca

In Memoriam: Kenan İnce

M4TP & QR4SJ

QR4SJ

Quantitative Reasoning for Social Justice is a textbook project started by Kenan Ince which employs an active learning approach.

M4TP

Math for the People is a textbook project started by myself & Whitney George to emphasize QR content in social justice topics.

GOAL

The goal of both texts is to introduce a Social Justice concept - like Anti-/Pro-Trans Legislation, Student Loans, or Reproductive Healthcare Access - and encourage students to explore these issues through accessible mathematics.

The social justice issue is centered with a focus on how mathematics can expose hidden patterns, biases, and injustices.

OBJECTIVES

use qualitative and quantitative data to present stories about people harmed by legislation targeting specific identities.

describe fundamental processes for analyzing textual data

assess and articulate the limitations of a data set's potential to answer formulated questions.

storytell through visualization of text analysis with legislative text.

formulate questions based on available data and extract the data needed to make informed and justified claims

justify the choice between absolute and relative frequency when communicating with count data.

identify calls to action and empower themselves and others to actively participate in their community.

ANTI- AND PRO- TRANS LEGISLATION AND QR

Cleaning Data

Obtaining data from publicly available sources (https://translegislation.com/) and cleaning it.

Visualizing

How can we visualize the data? How do these visualizations help us to see patterns and fight for our rights?

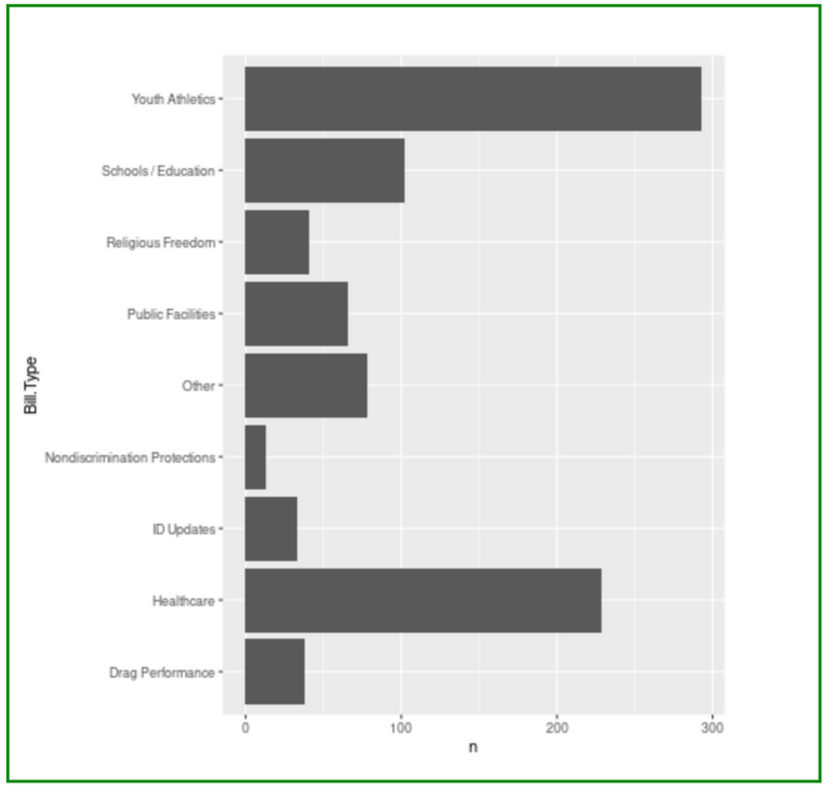
Frequency Analysis

What more advanced data science methods can be brought to bear on this problem? We initially look at word frequency.

INTERACTIVE CODE

```
1  graph_type = geom_bar(stat = "identity")
2  anti_trans_bills_type <- anti_trans_bills_clean %>%
3  graph_1 <- anti_trans_bills_type %>% ggplot(aes(x =
```

Evaluate (R)

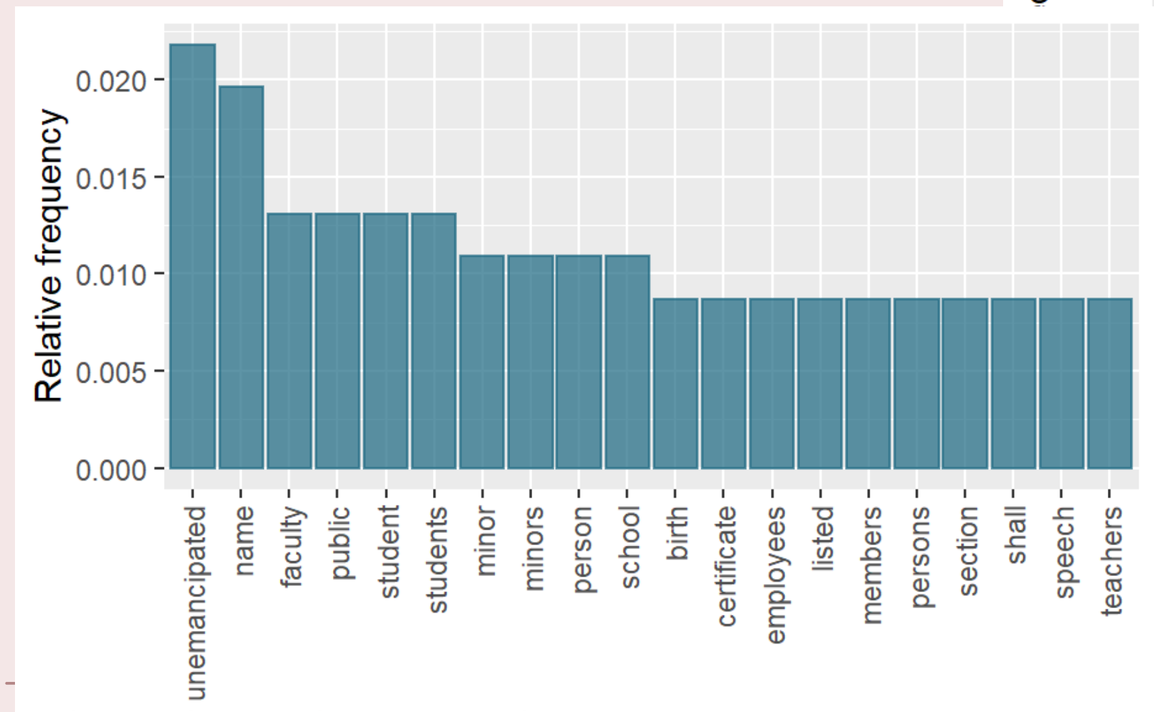


Help | Powered by SageMath

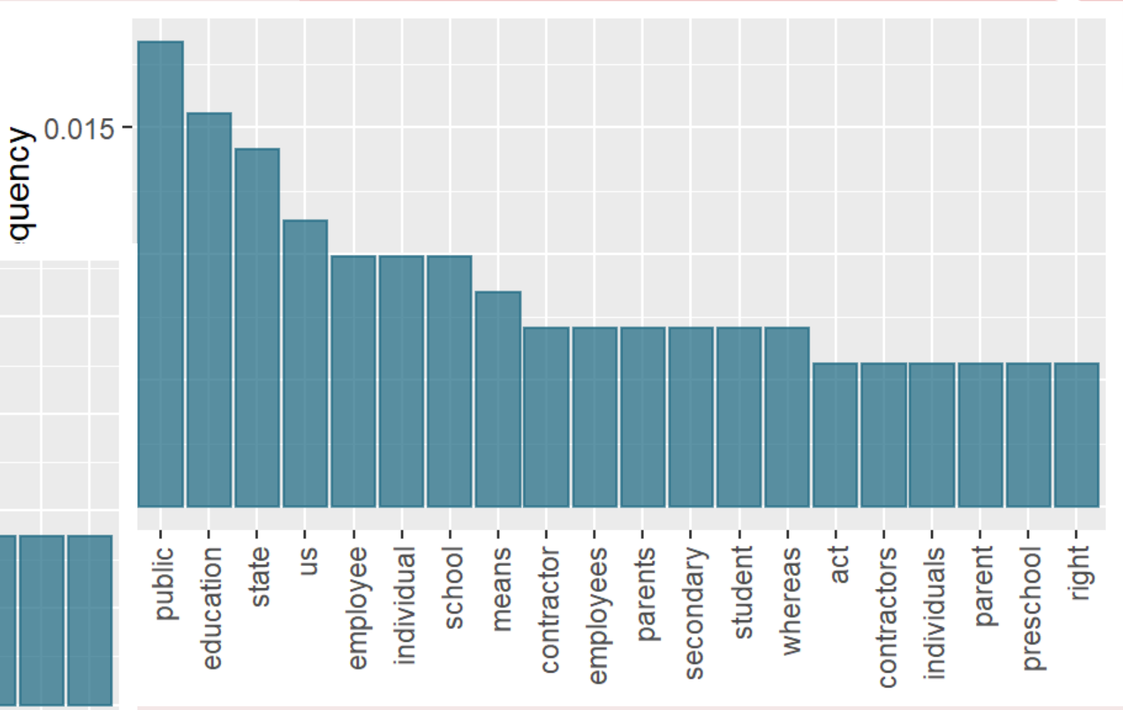
Students are invited to examine the data directly using R code embedded in SageMath cells

TEXTUAL ANALYSIS

AK passed



Heritage template



EXERCISES & ACTIVITIES

Interpretative

Activity 17. Consider how else you might be able to use a wordchart like this, or how else you could visualize the distribution of words in a bill that might bring some other obscured feature to light.

1. What is a research question that you can answer with a wordchart alone?
2. How can you combine a wordchart with other data sources or visualizations when making an argument?
3. What is a different way you can imagine to visualize word frequency or textual features of a bill?

Quantitative

Activity 5.

1. What are some types of graphs you have seen before? For each, what do you think that type of graph is useful for?
2. The data set includes the status of each bill. Review the dataset. What are the different statuses?
3. Let's generate a graph showing how many bills there are with each status. To generate a graph, replace the [INSERT_GRAPH_TYPE] with one of the following in the code cell below:
   a. A bar graph: `geom_bar(stat = "identity")`
   b. A histogram: `geom_histogram(binwidth = 1)`
   c. A boxplot: `geom_boxplot()`

OPPORTUNITIES TO PARTICIPATE

Use it

These materials are currently in the authoring phase, but will be released in the M4TP/QR4SJ projects soon!

Join Slack

Author

If you want to help us finish the chapter, email me!

CONTACT

EMAIL

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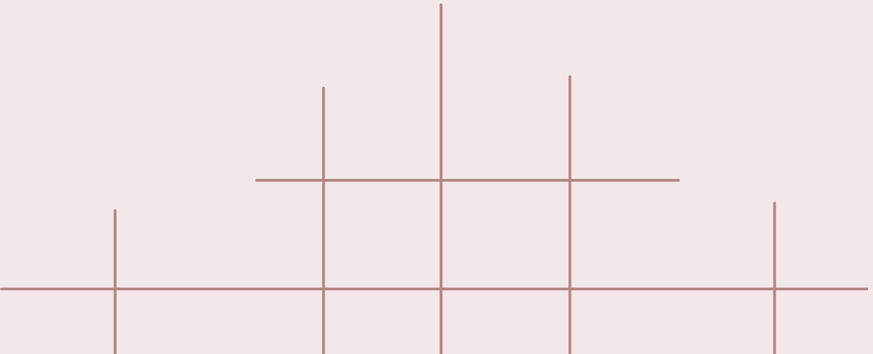
GITHUBS

electrichobbit/math-for-the-people
Zibiana/QR4SJ

PROJECTS

Math for the People
Quantitative Reasoning for Social Justice