

The most difficult school subject (according to Jeopardy)

ERHS 535

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Overview

Research question

What are the most important and most difficult school subjects according to Jeopardy?

Introduction

- ▶ Initial data investigation showed subject bias
- ▶ Prompted us to consider traditional school subjects
- ▶ Decided to compare “Jeopardy-based” education to public school education

Methods: Overview

- ▶ Created a dataframe of school subjects and related terms (from Quizlet)
- ▶ Separated Jeopardy dataset into 6 subjects (science, math, history, english, geography, and art) by “joining” it with the Quizlet dataframe

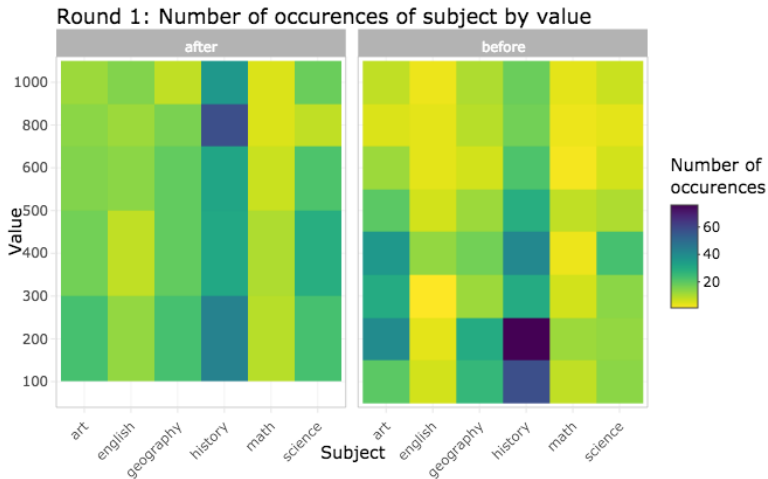
Methods: Joining dataframes

- ▶ Converted all Jeopardy data and school subject data to lowercase and removed all special characters
- ▶ Randomly sampled 155 vocab terms from school subject data
- ▶ Used `inner_join` from the `dplyr` package to match a the “question” to a specific vocab term
- ▶ Grouped the “questions” by subject

Methods: Determining subject importance and difficulty using joined dataframe

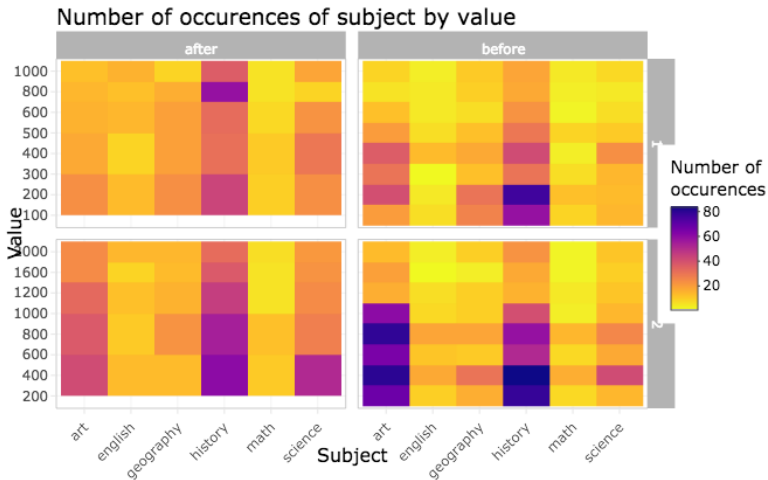
- ▶ Discovered answer value changes after November 26, 2001 and decided to separate data into two categories
- ▶ Calculated number of occurrences of each school subject (most important subject)
- ▶ Calculated average value of all “answers” for each school subject (most difficult subject)
- ▶ Graphed results using interactive heat map faceted by round and date

Results: Heat map for round 1

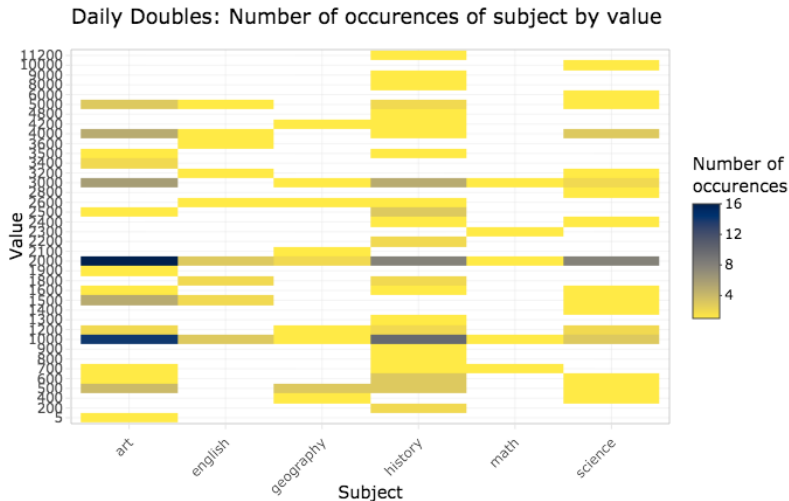


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Results: Merging round 1 and 2 heat maps



Results: Daily Double heat map



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Conclusions

Tutorial

Overview: Approach in R

Packages and techniques

Lessons learned

References