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
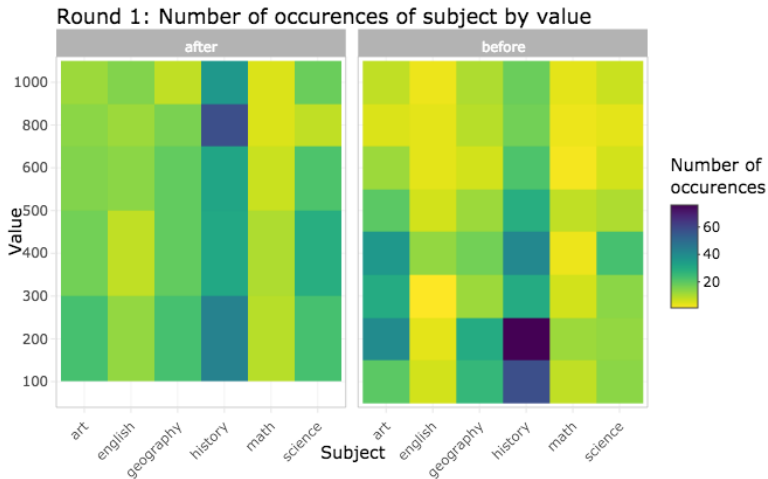
Methods: Joining dataframes

- 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` pacakage to match a the "question" to a specific vocab term
- Grouped the "questions" by subject

Methods: Determining subject importance and difficulty using joined dataframe

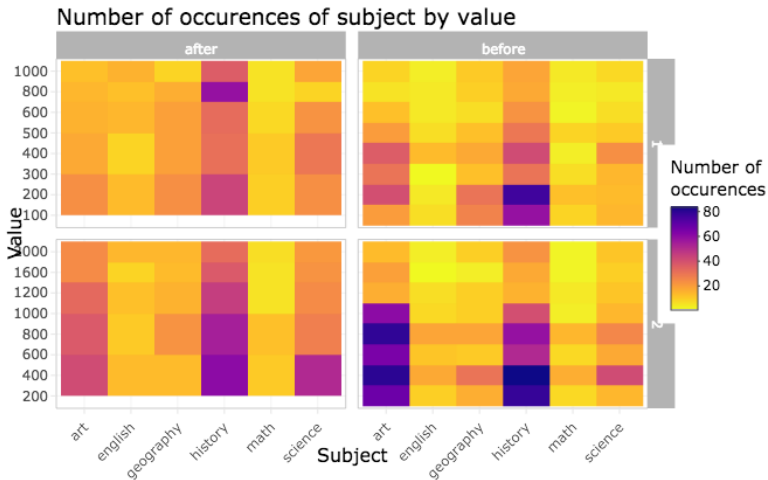- Discovered answer value changes after November 26, 2001 and decided to separate data into two categories
- Calculated number of occurances of each school subject (most important subject)
- Calculated average value of all "answers" for each school subject (most difficult subject)
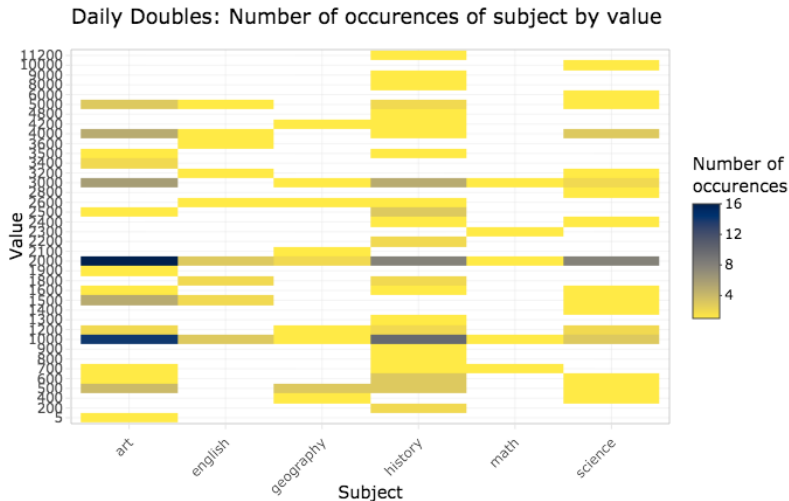- Graphed results using interactive heat map faceted by round and date

Round 1: Number of occurences of subject by value

Results: Merging round 1 and 2 heat maps

Number of occurences of subject by value

Results: Daily Double heat map

Daily Doubles: Number of occurences of subject by value

Conclusions: before November 20, 2001

subject	Before November 26, 2001	
	mean_value	subject_total
history	679.62	471
art	782.87	397
science	746.59	249
geography	563.98	236
english	645.60	125
math	574.29	105

Conclusions: after November 20, 2001

subject	After November 26, 2001	
	mean_value	subject_total
history	965.05	309
science	925.00	280
art	1034.51	226
geography	842.44	172
english	1007.35	136
math	803.85	78

Tutorial

Overview: Approach in R

Packages and techniques

Lessons learned

References