

For the Longest Time: Continuity and Change in One Teaching-Related Subreddit

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Contents

Get set up	1
Analysis and Results	1
Figure 1. Contributions over time	1
Table 1. Overall contributions in r/Teachers	2
Table 2. Descriptive Statistics of Posts per Poster and Responses per Responder	2
Table 3. Content Interaction by Posts, Threads, and Responses	2
Table 4. Descriptive Statistics of Voting Scores of Posts and Responses	3
Table 5. Social Interaction: Network Statistics by Year	3
Take sample of posts for qualitative content analysis	3
Version/dependencies	3

Get set up

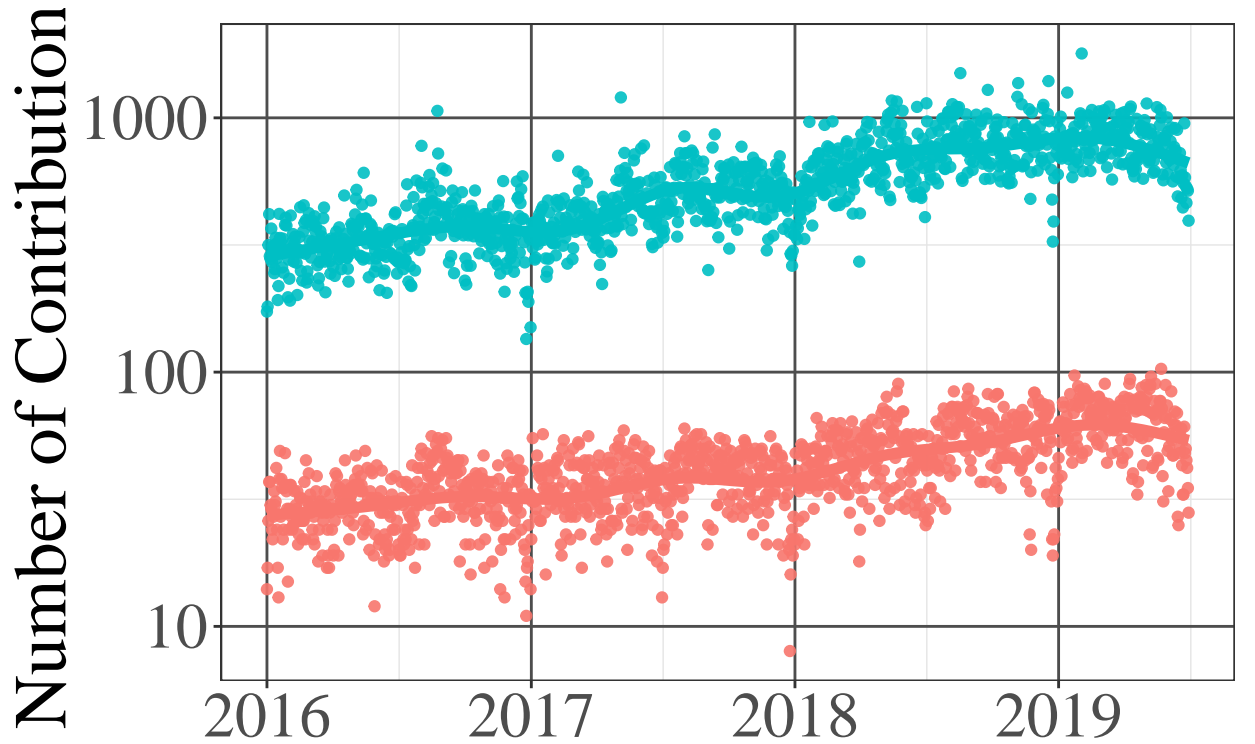
This section loads the data and packages and starts to process the data, but doesn't calculate any statistics or create any results.

1. Load packages
2. Set up settings for sharing
3. Set timeframe
4. Load subreddit posts
5. Load subreddit responses
6. Create a merged dataframe of both posts and responses.

Analysis and Results

Figure 1. Contributions over time

```
## [1] "In total, we collected 696660 contributions from 52408 contributors"
## [1] "dated between 2016-01-01 and 2019-06-30 (41.98 months),"
## [1] "a total of 54933 posts and 641727 responses to those posts,"
## [1] "to one teaching-related subreddit: r/Teachers."
## `geom_smooth()` using method = 'gam' and formula 'y ~ s(x, bs = "cs")'
```



Type of Contribution: — post — respo

```
## [1] "The slope of the `post` linear regression is 0.03 (p=0),"
## [1] "and the slope of the `response` linear regression is 0.49 (p=0)."
```

Table 1. Overall contributions in r/Teachers

Year	Contributors	Posters	Responders	Multiple Posts	Multiple Responses
2016	14736	6715	12613	81.53	63.58
2017	18022	7971	15704	84.19	63.42
2018	25997	10411	23100	82.25	61.75
2019	18368	7062	16241	78.58	61.92

Table 2. Descriptive Statistics of Posts per Poster and Responses per Responder

Year	Mean	SD	Median	Min	Max	Mean	SD	Median	Min	Max
2016	17.98	53.75	7	1	2169	9.44	39.67	2	1	2186
2017	20.08	64.71	7	1	3811	10.10	50.21	2	1	3480
2018	22.83	91.93	7	1	6581	10.19	48.50	2	1	3033
2019	18.49	62.33	6	1	2567	7.93	33.40	2	1	1906

Table 3. Content Interaction by Posts, Threads, and Responses

Year	Posts	Threads	Responses	Response Rate	Responses per Thread	Words per Post	Words per Response
2016	11413	9761	119091	85.53	12.20	159.44	63.34
2017	13564	12066	158591	88.96	13.14	166.85	62.41
2018	18473	16055	235279	86.91	14.65	156.38	56.56
2019	11483	9649	128766	84.03	13.35	161.45	54.61

Table 4. Descriptive Statistics of Voting Scores of Posts and Responses

Year	Mean	SD	Median	Min	Max	Mean	SD	Median	Min	Max
2016	9.72	56.97	2	0	5074	3.54	13.32	2	-235	2620
2017	15.22	131.14	3	0	10471	4.66	14.81	2	-238	1954
2018	21.85	137.32	2	0	8383	6.10	26.32	2	-530	4843
2019	29.86	134.61	2	0	3636	7.01	23.96	2	-156	1264

Table 5. Social Interaction: Network Statistics by Year

Year	Nodes	Edges	Transitivity	Reciprocity	Mean	SD	Median	Min	Max
2016	13934	117765	2.65	0.52	8.59	30.48	2	0	1368
2017	17332	156861	2.53	0.64	8.65	33.38	2	0	1819
2018	24878	231474	2.43	0.82	8.86	37.81	2	0	2247
2019	17496	126277	1.84	0.38	6.99	26.10	2	0	1352

Take sample of posts for qualitative content analysis

Version/dependencies

```
sessionInfo()

## R version 3.5.2 (2018-12-20)
## Platform: x86_64-apple-darwin15.6.0 (64-bit)
## Running under: macOS Mojave 10.14.6
##
## Matrix products: default
## BLAS: /Library/Frameworks/R.framework/Versions/3.5/Resources/lib/libRblas.0.dylib
## LAPACK: /Library/Frameworks/R.framework/Versions/3.5/Resources/lib/libRlapack.dylib
##
## locale:
## [1] en_US.UTF-8/en_US.UTF-8/en_US.UTF-8/C/en_US.UTF-8/en_US.UTF-8
##
## attached base packages:
## [1] stats      graphics  grDevices  utils      datasets  methods   base
##
## other attached packages:
## [1] ggraph_1.0.2    igraph_1.2.4.1  lubridate_1.7.4 anytime_0.3.3
## [5] forcats_0.4.0   stringr_1.4.0   dplyr_0.8.0.1  purrr_0.3.2
## [9] readr_1.3.1     tidyr_0.8.3     tibble_2.1.1   ggplot2_3.1.1
```

```
## [13] tidyverse_1.2.1 knitr_1.22
##
## loaded via a namespace (and not attached):
## [1] ggrepel_0.8.0      Rcpp_1.0.1         lattice_0.20-38
## [4] clisymbols_1.2.0  assertthat_0.2.1   rprojroot_1.3-2
## [7] digest_0.6.18     ggforce_0.2.2      R6_2.4.0
## [10] cellranger_1.1.0  plyr_1.8.4         backports_1.1.4
## [13] RApiDatetime_0.0.4 evaluate_0.13       highr_0.8
## [16] httr_1.4.0        pillar_1.3.1       rlang_0.4.0
## [19] lazyeval_0.2.2    readxl_1.3.1       rstudioapi_0.10
## [22] Matrix_1.2-17     rmarkdown_1.12     splines_3.5.2
## [25] polyclip_1.10-0   munsell_0.5.0      broom_0.5.2
## [28] compiler_3.5.2    modelr_0.1.4       xfun_0.6
## [31] pkgconfig_2.0.2   mgcv_1.8-28        htmltools_0.4.0
## [34] tidyselect_0.2.5  gridExtra_2.3       viridisLite_0.3.0
## [37] crayon_1.3.4      withr_2.1.2        MASS_7.3-51.4
## [40] grid_3.5.2        nlme_3.1-139       jsonlite_1.6
## [43] gtable_0.3.0      magrittr_1.5        scales_1.0.0
## [46] cli_1.1.0         stringi_1.4.3       farver_1.1.0
## [49] viridis_0.5.1     fs_1.2.7           xml2_1.2.0
## [52] generics_0.0.2    tools_3.5.2        glue_1.3.1
## [55] tweenr_1.0.1      hms_0.4.2          yaml_2.2.0
## [58] colorspace_1.4-1  rvest_0.3.3        haven_2.1.0
## [61] usethis_1.5.0
```