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### Text Types, Computers, and Teaching: How Do They Work Together?

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TEXT TYPES,  
COMPUTERS,  
AND  
TEACHING:  
HOW DO  
THEY WORK  
TOGETHER?

ESRA CEKER



# TEXT TYPE ANALYSIS PROJECT

- A genre/text type was chosen, and its most important grammatical features were found.
- A sample of the text type, emphasizing the most significant grammatical features was written.
- An essay was written to describe how the chosen grammatical elements 'work together' to convey the text type's communication purpose.

CORPUS  
AND  
CORPUS LINGUISTICS

- CORPUS

A large body of naturally-occurring language.

- CORPUS LINGUISTICS

Corpus linguistics is a science that conducts computer-based quantitative and qualitative analyses of language usage.



## HOW WAS THE CORPUS COLLECTED?

- Digital based/on computer.
- Little over 100,000 words.
- News reportage- New York Times Economy section.

# GRAMMATICALLY TAGGED CORPUS

CORPUS WAS TAGGED WITH  
A POS (PART OF SPEECH)  
TAGGER DEVELOPED BY  
THE UNIVERSITY CENTRE  
FOR COMPUTER CORPUS  
RESEARCH ON LANGUAGE  
AT LANCASTER.

Debate\_NN1 Weighs\_VVZ Price\_NN1 of\_IO Bidens\_NP2 Big\_JJ Plan\_NN1 vs\_II .\_.  
Not\_XX Acting\_VVG Democrats\_NN2 are\_VBR debating\_VVG whether\_CSX doing\_VDG  
nothing\_PN1 will\_VM cost\_VVI more\_DAR than\_CSN doing\_VDG something\_PN1 to\_TO  
deal\_VVI with\_IW climate\_NN1 change\_NN1 ,\_, education\_NN1 ,\_, childcare\_NN1  
,\_, prescription\_NN1 drugs\_NN2 and\_CC more\_RRR .\_.

The\_AT argument\_NN1 among\_II lawmakers\_NN2 over\_II what\_DDQ affordable\_JJ  
really\_RR means\_NN will\_VM ultimately\_RR shape\_VVI the\_AT final\_JJ  
collection\_NN1 of\_IO spending\_VVG programs\_NN2 ,\_, tax\_NN1 cuts\_NN2 and\_CC  
revenue\_NN1 raisers\_NN2 in\_II a\_AT1 package\_NN1 that\_CST is\_VBZ likely\_JJ  
to\_TO cost\_VVI \$1.5\_NNU trillion\_NNO to\_II \$2\_NNU trillion\_NNO .\_.  
Credit\_NN1 ...\_...

T.J.\_NP1 Kirkpatrick\_NP1 for\_IF The\_AT New\_NP1 York\_NP1 Times\_NNT2 By\_II  
Jim\_NP1 Tankersley\_NP1 Published\_VVD Oct.\_NPM1 17\_MC ,\_, 2021Updated\_FO  
Oct.\_NPM1 19\_MC ,\_, 2021\_MC WASHINGTON\_NP1 As\_CSA lawmakers\_NN2 debate\_VV0  
how\_RGQ much\_DA1 to\_TO spend\_VVI on\_II President\_NNB Bidens\_NP1 sprawling\_JJ  
domestic\_JJ agenda\_NN1 ,\_, they\_PPHS2 are\_VBR really\_RR arguing\_VVG about\_II  
a\_AT1 seemingly\_RR simple\_JJ issue\_NN1 :: affordability\_NN1 .\_.

Can\_VV0 a\_AT1 country\_NN1 already\_RR running\_VVG huge\_JJ deficits\_NN2  
afford\_VV0 the\_AT scope\_NN1 of\_IO spending\_VVG that\_CST the\_AT president\_NN1  
envisions\_VVZ ?\_?



QUANTITATIVE ANALYSIS  
(FREQUENCY-BASED)

# KEYNESS ANALYSIS

- *Finding significant differences between corpora.*





## WHAT DOES IT COMPARE?

- Once controlled for size, the specific text type is compared to a general corpus of written English, which contains a very large number of text types.
- The frequency of grammatical features in the chosen text type is compared to the frequency of grammatical features in the general corpus of written English.

# RESULTS

Type/token of the text: 74%

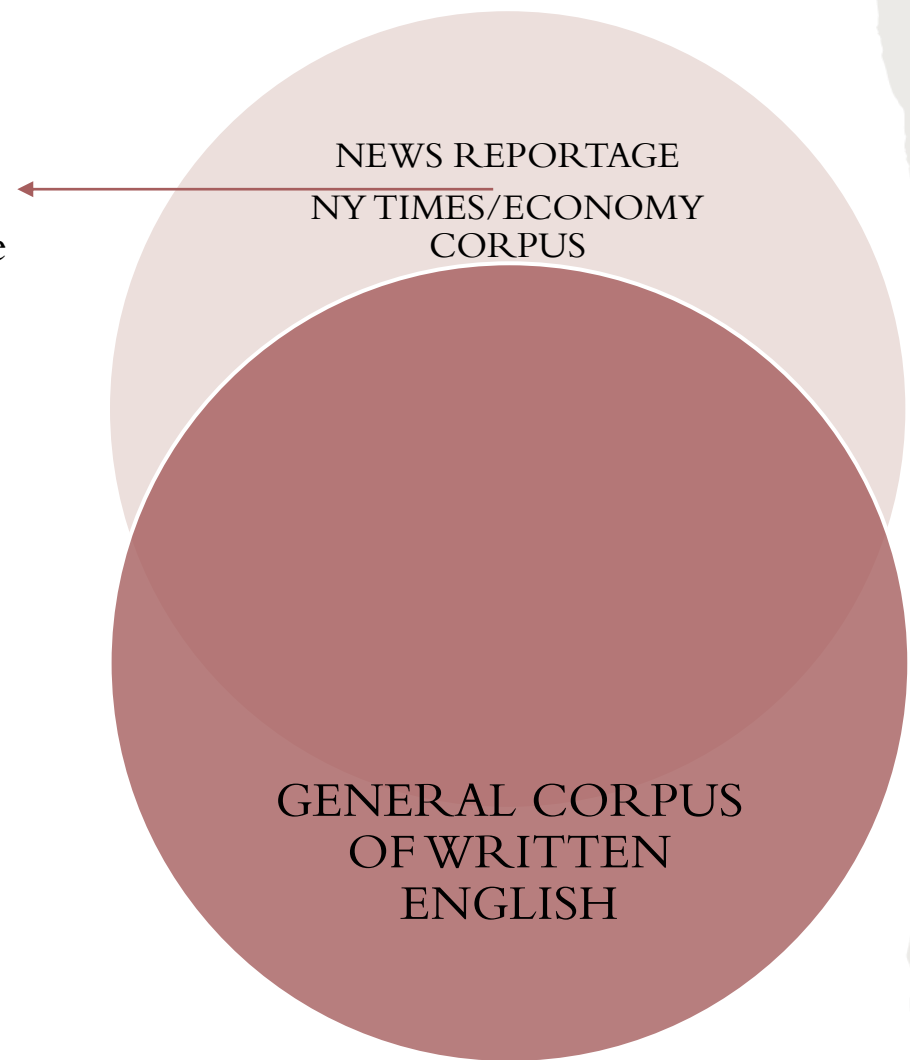
Overused items relative to a *general corpus of written English*

(ALL items are statistically significant with a degree of confidence of 99.99%.) Log-likelihood Statistics

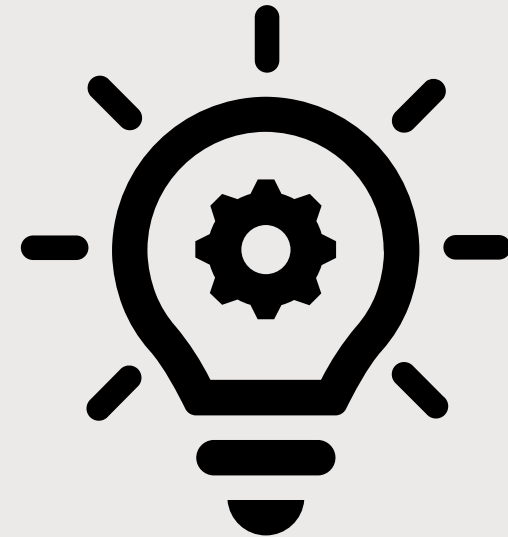
**Overused POS:**

| POS  | Count | Ratio | Count | Ratio | Significance | Log-likelihood | Ratio |
|------|-------|-------|-------|-------|--------------|----------------|-------|
| NN2  | 7497  | 7.94  | 55665 | 5.75  | +            | 636.74         | 0.47  |
| NPM1 | 467   | 0.49  | 1231  | 0.13  | +            | 492.94         | 1.96  |
| CST  | 1248  | 1.32  | 6409  | 0.66  | +            | 427.16         | 1.00  |
| VVG  | 2161  | 2.29  | 13564 | 1.40  | +            | 399.57         | 0.71  |
| DAR  | 294   | 0.31  | 875   | 0.09  | +            | 267.91         | 1.79  |
| NNB  | 687   | 0.73  | 3390  | 0.35  | +            | 259.49         | 1.06  |
| CSN  | 283   | 0.30  | 981   | 0.10  | +            | 208.56         | 1.57  |
| NPD1 | 161   | 0.17  | 408   | 0.04  | +            | 177.62         | 2.02  |
| VVI  | 3103  | 3.29  | 24649 | 2.55  | +            | 168.98         | 0.37  |
| TO   | 1892  | 2.00  | 14041 | 1.45  | +            | 161.16         | 0.47  |
| VHZ  | 531   | 0.56  | 2901  | 0.30  | +            | 153.93         | 0.91  |
| JJR  | 412   | 0.44  | 2061  | 0.21  | +            | 150.56         | 1.04  |
| NNO  | 78    | 0.08  | 129   | 0.01  | +            | 127.45         | 2.63  |
| RRR  | 244   | 0.26  | 1066  | 0.11  | +            | 120.30         | 1.23  |
| NNO2 | 73    | 0.08  | 139   | 0.01  | +            | 106.36         | 2.43  |
| NP2  | 92    | 0.10  | 231   | 0.02  | +            | 102.53         | 2.03  |
| VV0  | 1428  | 1.51  | 11012 | 1.14  | +            | 95.82          | 0.41  |
| NNT2 | 336   | 0.36  | 1905  | 0.20  | +            | 87.38          | 0.86  |
| VVZ  | 1023  | 1.08  | 7602  | 0.79  | +            | 86.47          | 0.47  |
| VH0  | 470   | 0.50  | 2971  | 0.31  | +            | 84.63          | 0.70  |
| DA2  | 268   | 0.28  | 1477  | 0.15  | +            | 75.78          | 0.90  |
| IF   | 1102  | 1.17  | 8765  | 0.91  | +            | 59.44          | 0.37  |
| NNT1 | 577   | 0.61  | 4177  | 0.43  | +            | 56.48          | 0.50  |
| NN   | 427   | 0.45  | 3059  | 0.32  | +            | 44.18          | 0.52  |
| JJT  | 172   | 0.18  | 1011  | 0.10  | +            | 39.95          | 0.80  |
| RGR  | 172   | 0.18  | 1087  | 0.11  | +            | 31.00          | 0.70  |
| NPD2 | 15    | 0.02  | 23    | 0.00  | +            | 25.93          | 2.74  |
| VBR  | 653   | 0.69  | 5435  | 0.56  | +            | 24.17          | 0.30  |
| II21 | 292   | 0.31  | 2182  | 0.23  | +            | 23.88          | 0.46  |
| RGQ  | 50    | 0.05  | 241   | 0.02  | +            | 19.96          | 1.09  |

The frequency of these grammatical features was significantly higher in the NYT economy section corpus.



**QUALITATIVE ANALYSIS**  
MAKING  
'COMMUNICATIVE SENSE'  
OF GRAMMATICAL  
FREQUENCY



TOP FEATURES  
FROM NEWS  
REPORTAGE:  
NY TIMES  
ECONOMY MINI  
CORPUS

Plural nouns: (informational discourse)

Prepositions – prepositional phrases (informational discourse)

3<sup>rd</sup> person singular– simple present tense :explanations

General comparative adjective (e.g., older, better, stronger)

Superlative adjectives

# USE IN TEACHING

- Students become aware of the connection between text type and grammar.



# CONSCIOUSNESS RAISING ACTIVITY

Plural nouns   Prepositions   3rd person singular present tense   General comparative adjective   Superlative adjectives

People, **businesses**, and **investors** are all concerned. They believe the economy is likely to worsen rather than improve. The currency **fluctuations** have **the greatest** impact **on** **enterprises**. Some **business owners** stated that they will store their **commodities** since they expect **higher** sales prices **by** the end **of** the year and may not have the money to purchase those **products** the following year. **From** **the largest organizations** **to** **the smallest** businesses, those who do not want to experience the year's **largest** loss have adopted **safeguards**. Following the currency's devaluation, Apple ceased selling electrical products. They know that currency collapse **benefits** dollar earners and **results** **in** looting. Furthermore, some **gas stations** closed because they were afraid **of** being negatively impacted since a **higher** price increase **in** this situation **does** not benefit the prior sale. Nonetheless, while **measures** have been taken to prevent **larger** losses, they will not be sufficient **in** the long run. **Businesses** may downsize and begin to terminate **employees**, which will not help the tight labor market, as there has already been a significant problem **with** unemployment.

QUESTIONS?

THANK YOU FOR LISTENING!