# The Long and the Short of It: Correlations between Word Count and Paper Score

## by John Fallon

**Quick Exercise:** You have been given a handout with a sample paper and directions on how to score the paper. Please take 3 or 4 minutes to score the paper.

## BACKGROUND INFORMATION

The writer of the paper is a high school junior who had 25 minutes to read the prompt; pre-write as desired; and compose the essay (same constraints as SAT).

## FIVE TRAITS TO CONSIDER AS YOU READ THE PAPER:

**Critical Thinking**—How thoughtful is the paper?

**Organization**—To what extent is the paper structured?

**Development**—What is the quality of details in the paper?

**Style**—How clear and sophisticated is the language used in the paper?

**Mechanics**—To what extent is there correct punctuation and grammar?

# Genesis of the research

1  "Cracking the code" of the SAT

2.  Dr. Les Perelman

> "I have never found a quantifiable predictor in 25 years of grading that was anywhere near as strong as this one is."

# Were the code cracker and Perelman correct?

**Just write more to score higher?**

# Verifying the claims

- **We needed someone to write the essay**
    - 42 HS juniors from Ohio Hi Point HS

- **We needed someone to grade the essay**
    - 8 college English faculty
    - 12 HS language arts teachers

Note: All the evaluators were English teachers.

# Procedures

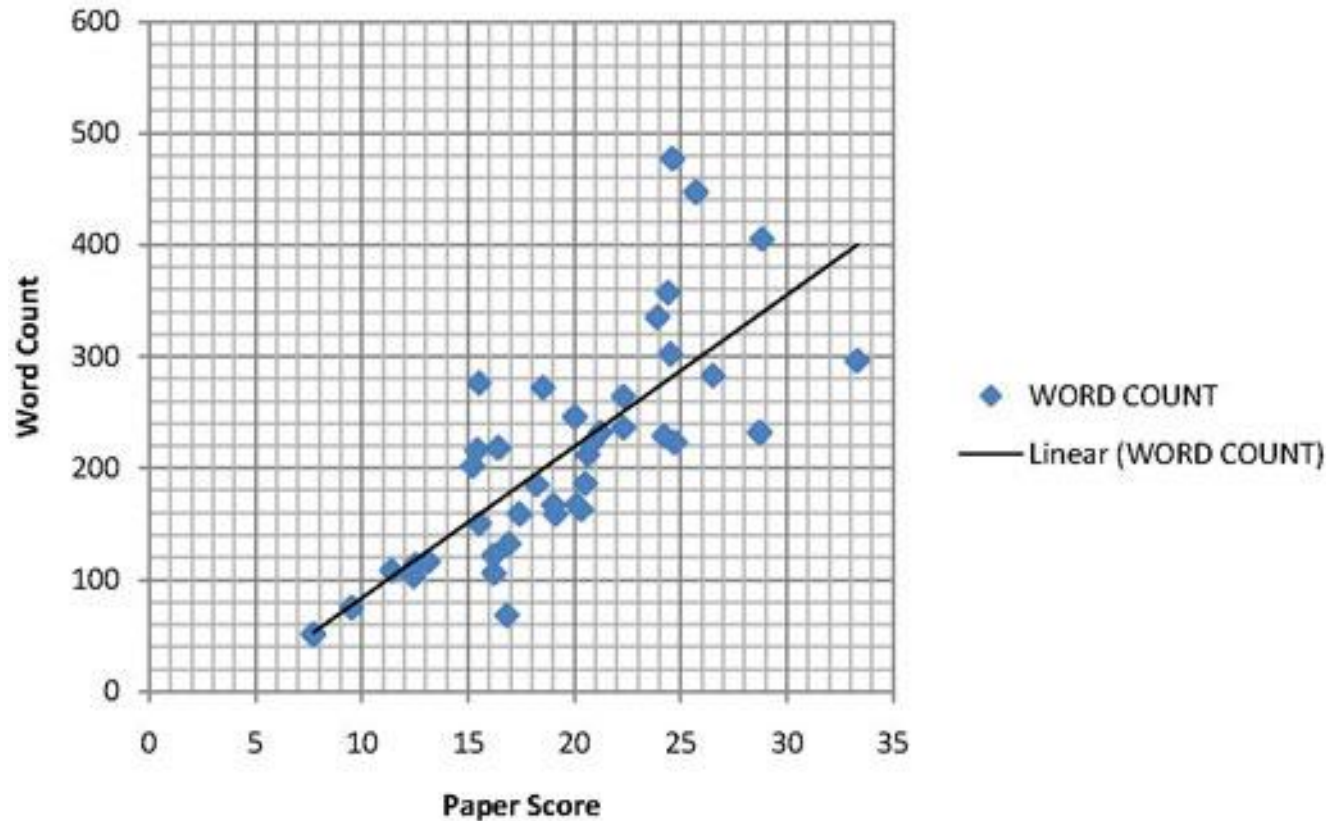All 20 evaluators scored all 42 papers. (That's 840 paper readings!)

Did longer papers receive higher scores?

**Yes.**

# Results: Scores by Word Count

| | |
|---|---|
| 51-159 Words | Average score 15 |
| 160-267 Words | Average score 21 |
| 268-375 Words | Average score 24 |
| 376-477 Words | Average score 26 |

# Results: Positive Correlation



The more the points cluster tightly about the line, the higher the magnitude of the correlation between word count and score.
** We have a tight cluster!

# Results from Today's Exercise

| Paper #1 (long) | Paper #2 (short) |
|---|---|
| _____ | _____ |

**NEWSFLASH:  Paper #1 and paper #2 are the same paper!**

# Paper #9 / 42

Interpretation of the difference in scores on the exercise paper:

**If a paper even "looks" longer, it will receive a higher grade.**

# Another interesting factoid about the paper you just scored (paper #9)

Four teams without rubric training scored this paper:      27.85     (out of a possible 40)

Six teams with rubric training  scored this paper:      22.75     (out of a possible 40)

Teams without rubric training graded higher, on average, for **ALL THE PAPERS** (not just paper #9)

## Mean score by team

| Mean paper score | Team |
|---|---|
| 26 | HS Untrained |
| 24 | HS Untrained |
| 19 | C   Untrained |
| 19 | C   Untrained |
| 18 | HS   Trained |
| 17 | C    Trained |
| 16 | C    Trained |
| 16 | HS   Trained |
| 15 | HS   Trained |
| 15 | C    Trained |

Average paper score:

Untrained Teams

**22**

Trained Teams

**16**

# Strength of the Relationship between Word Count and Score: MODERATE

## Pearson Correlation Coefficient

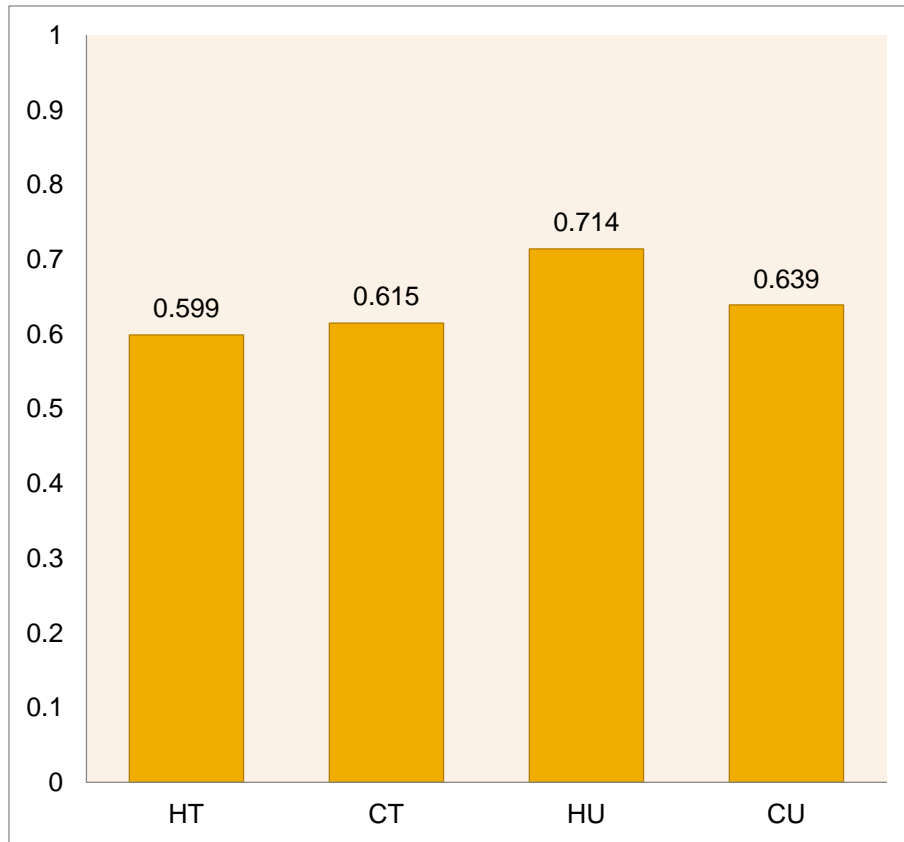| Group | Value |
|-------|-------|
| HT | 0.599 |
| CT | 0.615 |
| HU | 0.714 |
| CU | 0.639 |
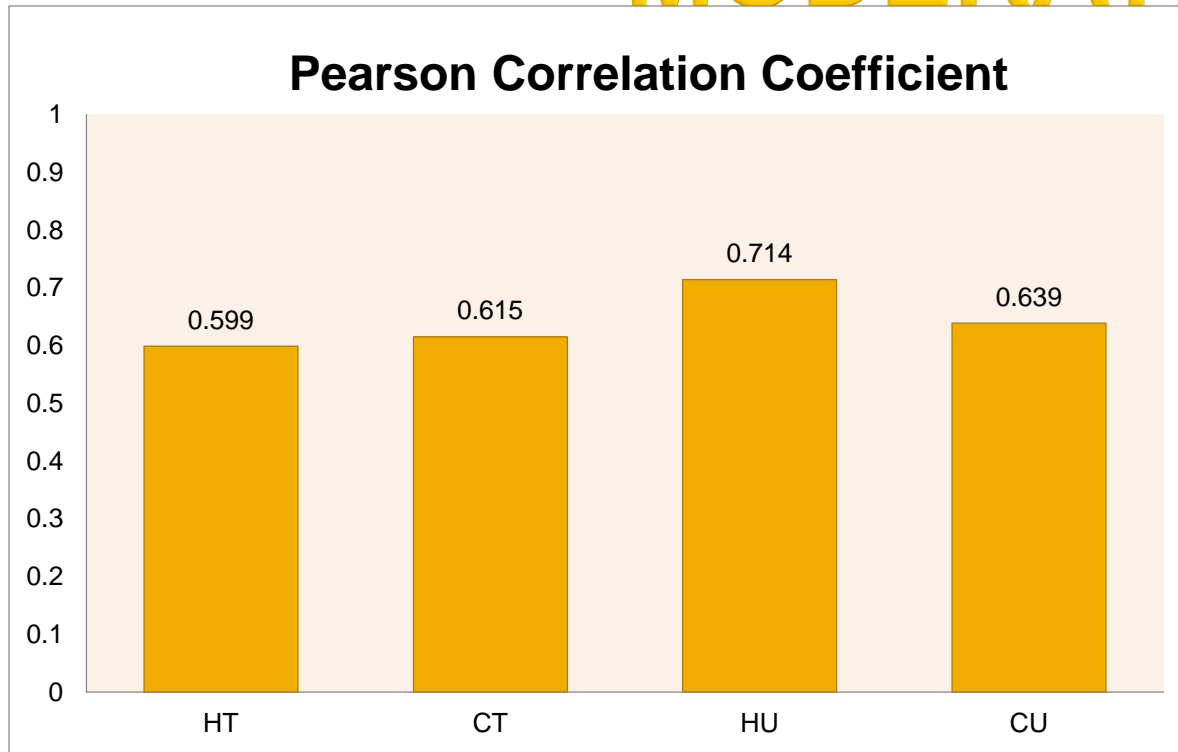
**Levels of Magnitude**

.5 and below is weak

.8 and above is strong

This chart looks at the **strength of the relationship** between word count and paper score by evaluation group.
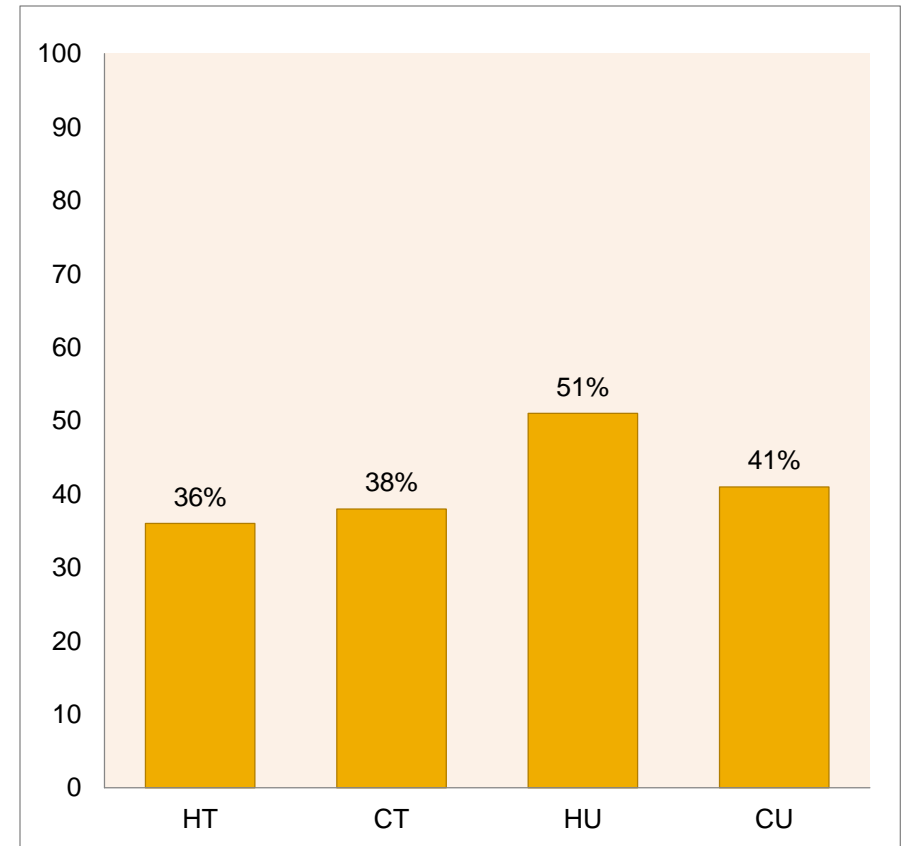
We have between .55 and .71 (moderate magnitude)

# Interpreting Pearson's

**CORRELATION COEFFICIENT MAGNITUDE:  0.5 LOW AND 0.8 HIGH**

**COEFFICIENT OF DETERMINATION ($R^2$) TO WHAT EXTENT DOES WORD COUNT EXPLAIN PAPER SCORE?**

# What it all means

Perelman and the SAT code cracker were right. Paper grade is explained by word count, but also by rubric training:

- 36% HS teachers trained
- 51% HS teachers untrained

- 38% College teachers trained
- 41% for College teachers untrained

# The Long and the Short of It

1. As a WAC leader at y0ur school, consider training teachers to use a rubric rather than just providing them with a rubric.

2. Remind your students to develop their essay answers—word count matters to their paper scores.

Questions / Comments?
Thank you