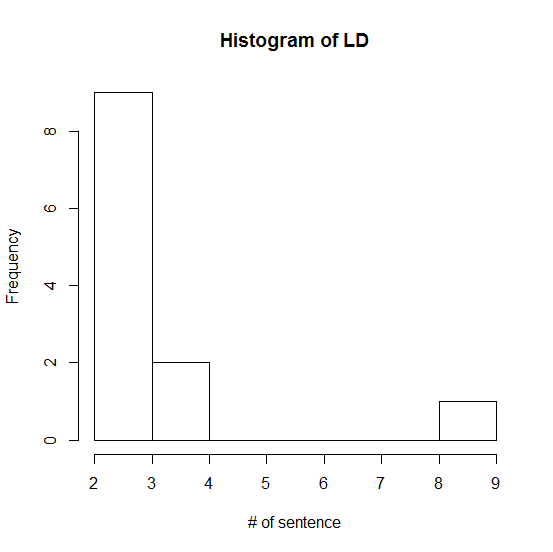
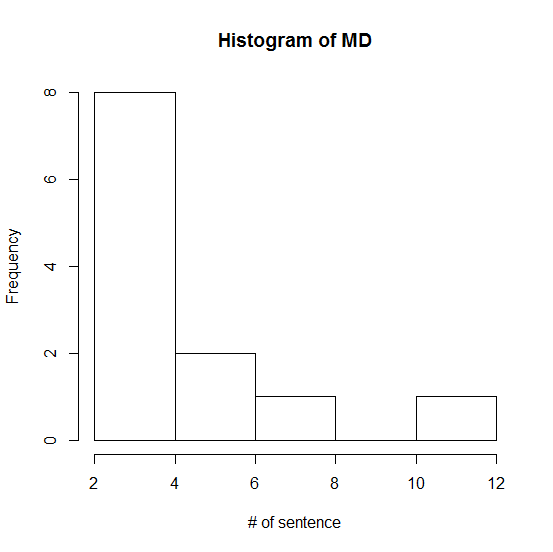
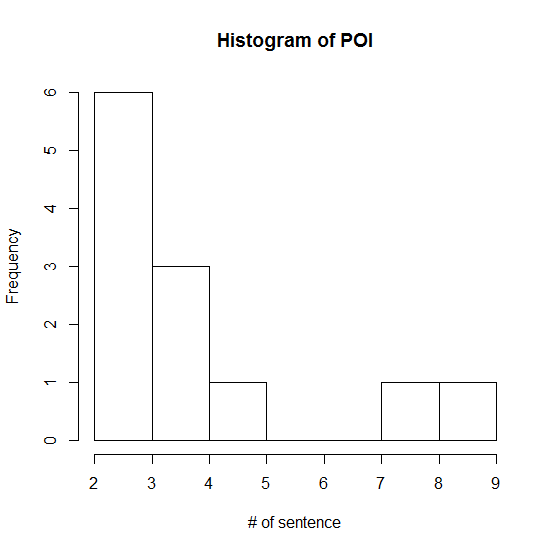
# Summary Report (07/17/2014)

## Distribution of the length of TA’s summary



Most of them are 2 sentences or 3 sentences.

## The length of Mead’s Summary: # of words

The # of words in Mead’s summary is significantly smaller than TA’s summary (p-value is less than 0.001 using paired t-test)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | word count | | | word count | | |
| Week | TA:POI | TA:MP | TA:LP | Mead:POI | Mead:MP | Mead:LP |
| 1 | 19 | 12 | 15 | 76 | 85 | 46 |
| 2 | 15 | 30 | 11 | 91 | 93 | 62 |
| 3 | 30 | 25 | 40 | 62 | 68 | 125 |
| 4 | 17 | 31 | 17 | 62 | 70 | 67 |
| 5 | 19 | 45 | 25 | 51 | 85 | 76 |
| 6 | 17 | 19 | 24 | 50 | 49 | 46 |
| 7 | 27 | 31 | 10 | 56 | 72 | 71 |
| 8 | 27 | 32 | 15 | 65 | 70 | 48 |
| 9 | 59 | 83 | 13 | 97 | 131 | 61 |
| 10 | 35 | 55 | 22 | 66 | 81 | 72 |
| 11 | 95 | 111 | 84 | 127 | 141 | 153 |
| 12 | 65 | 45 | 15 | 95 | 78 | 74 |

## The Average word per sentence in Mead’s summary

### Mead prefers longer sentences

* The average word length per sentence in a mead’s summary is significantly bigger than the average word length in the students’ responses.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Response Average Word Count | | | Mead's Average Word Count | | |
| Week | POI | MP | LP | POI | MP | LP |
| 1 | 10 | 9 | 9 | 25 | 28 | 15 |
| 2 | 11 | 11 | 10 | 30 | 31 | 20 |
| 3 | 9 | 10 | 13 | 20 | 22 | 41 |
| 4 | 7 | 7 | 8 | 20 | 23 | 22 |
| 5 | 7 | 9 | 7 | 17 | 28 | 25 |
| 6 | 6 | 7 | 7 | 16 | 16 | 15 |
| 7 | 9 | 7 | 11 | 18 | 24 | 23 |
| 8 | 6 | 8 | 6 | 21 | 23 | 16 |
| 9 | 11 | 10 | 8 | 32 | 43 | 20 |
| 10 | 6 | 7 | 12 | 22 | 27 | 24 |
| 11 | 11 | 12 | 9 | 42 | 47 | 51 |
| 12 | 8 | 10 | 8 | 31 | 26 | 24 |
| 13 | 7 | 7 | 6 | 16 | 20 | 20 |
| 14 | 6 | 7 | 6 | 17 | 16 | 12 |
| 15 | 7 | 9 | 6 | 14 | 23 | 16 |
| 16 | 7 | 8 | 4 | 12 | 17 | 13 |
| 17 | 9 | 6 | 8 | 19 | 19 | 25 |
| 18 | 6 | 7 | 6 | 19 | 20 | 19 |
| 19 | 6 | 8 | 6 | 17 | 21 | 20 |
| 20 | 6 | 7 | 6 | 14 | 20 | 18 |
| 21 | 6 | 8 | 7 | 17 | 11 | 30 |
| 22 | 6 | 7 | 6 | 20 | 18 | 21 |
| 23 | 6 | 6 | 6 | 14 | 22 | 19 |
| 24 | 6 | 5 | 6 | 15 | 13 | 28 |
| 25 | 13 | 9 | 12 | 36 | 23 | 34 |

## Multiple-document Summarization

Instead of concatenating all the students’ responses into one single document, each of the responses are one single document. Thus, it is a multiple document summarization task instead of single document summarization. The evaluation results are shown in the following sessions.

## Evaluation metric

### ROUGE-2 (N=2)



### ROUGE-SU4

ROUGE-S is a skip-bigram version of ROUGE-2. And ROUGE-SU4 is an extension of ROUGE-S by including unigrams and skip-bigram by up to four words.

## Results

All the evaluations are performed with the official ROUGE software [1] with the same setting used in [2].

### Single-doc summarization vs. multi-doc summarization

## TODO

## Reference

1. Lin, Chin-Yew. "Rouge: A package for automatic evaluation of summaries." *Text Summarization Branches Out: Proceedings of the ACL-04 Workshop*. 2004.
2. Wang, Lu, et al. "A Sentence Compression Based Framework to Query-Focused Multi-Document Summarization." *ACL (1)*. 2013.