



Word Complexity on Memory

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Intro

According to campusreform.org, the average reading level for college freshman is at a 7th grade level.

However, after graduation many students are required to take some kind of specialized test (GRE, MCATS etc.) and must acquire an extensive vocabulary of complex words.

Many studies have showed that list of shorter words have higher recall rates than lists of complex words (Word Length Effect WLE)

Other studies have examined the interaction between language comprehension and working memory in children with specific language impairment (SLI)

Marton and Schwartz (2012) targeted the functions of different memory components (phonological loop and the central executive)

Results showed that increased word length and complexity resulted in decrease in performance in nonword repetition

Intro Continued

Tehan and Tolan (2007)

Studied word length effect in words with different complexities.

Found that short words had an advantage in immediate recall

There was no difference when words of different complexities were recalled after a long amount of time..

Intro Continued

This study aims to examine word complexity and difficulty on one's short-term memory

Hypothesized that the “easier” word list containing words with 1-2 syllables would produce higher recall rates

Taken from a single syllable random word generator

Hypothesized that the “harder” word list of complex words containing 3-4 syllables would produce lower recall rates

Taken from a SAT word list

Methods

Participants

40 participants from the ages of 19-64 years old ($M=32.60$, $SD=9.31$)

Collected by convenience from UNCW and surrounding area

67.5% Female 32.5% Male

Materials

Coin

PowerPoint

Sheet of paper with lines numbered 1-20

Timer/Stopwatch

Methods Continued

Procedure

Instructions

You will watch a PowerPoint that will show a series of words that will appear every 4 seconds

Try to remember as many words as possible, do not worry about spelling or order

After you have seen all of the words you may begin writing any words you remember

After seeing all of the words timer was started

Participants were given 2 minutes to write as many words as they could remember

After 2 minutes they were stopped and the paper was collected

Table 1
List of Words

Condition	
Control (Easy)	Experimental (Hard)
Cloud	Laboratory
Bone	Thermometer
Cheese	Condominium
Bus	Planetarium
Cup	Vigorous
Hand	Disproportionate
Boat	Comprehension
Whale	Phenomenon
Ball	Homicide
Carrot	Transitive
Eye	Infinity
Ring	Literature
Swing	Superior
Monkey	Resistant

Figures/Tables

Table 2
Mean and Standard Deviation for Words
Remembered or Not Based on Condition

Condition				
	Control		Experimental	
	M (SD)	n	M (SD)	n
Remembered	11.40 (3.65)	20	7.20 (2.55)	20
Not Remembered	8.60 (3.65)	20	12.75 (2.51)	20

Results

According to the Levene's test we did not find a significant effect ($p > .05$).

Meaning we can assume equal variance in the words remembered.

However, when looking at the data for a two-tailed t-test, $t(38)=4.2$, $p < .05$, we did find that there was a significant difference between the words remembered in both hard and easy word conditions.

More easy words were remembered in comparison to the hard words.

Discussion

Purpose was to study short term memory by looking at the number of words remembered in two different conditions

Hypothesis: people will remember more easy words compared to hard words [ACCEPTED]

Discussion

Implications: overall this shows that when it comes to remembering words, it is easier for people to remember short, easy words than it is to remember long, harder words

Limitations: choice of participants, word choice (“easier” hard words), environment
experiment was done in

Future Research: more controlled environment, different word choice