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AN ANALYSIS OF READABILITY OF THREE NOVELS OF DIFFERENT PERIODS

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Abstract:

Novel is a form of literature, narrative fiction normally written in prose form. It derives Italian Novella for "new" "News" or short story of something new. In its genres are fictional, tragedies, horror, Realistic, Historic, epics and others. Further personal views, intimate feelings, secret anxieties, conduct and gallantries spread with novels.

The novel is today the longest genre of narrative prose followed by novella. Readability opens a book to a wider audience. What makes a commercial fiction appealing for almost all ages? Readability is the answer. Readability refers to how easy or enjoyable your writing is for the reader. Readability formulas are calculations which are written to assess the reading level necessary for the reader to understand your writing easily. For instance "Harry potter" sells so well because it is extremely readable. The present study analyses three literary luminaries of different periods with respect to readability.

The justification to choose these three writers is that this writers started their carrier as journalists later became renowned literatures.

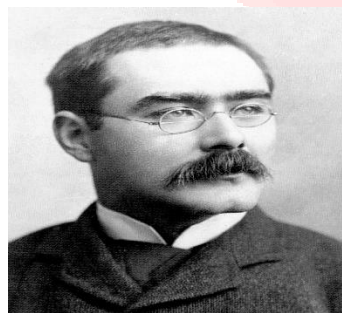
A Brief profile of three Novelists:

Charles Dickens



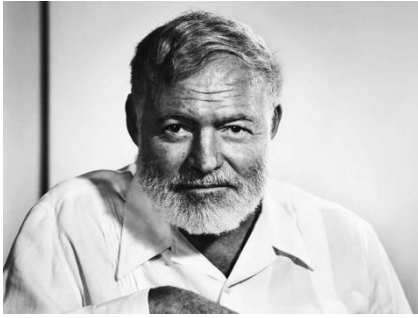
Charles John Huffam Dickens emerged on the literary scene in the 1830's. He was an English writer and social critic. He created some of the world's best-known fictional characters and is regarded by many as the greatest novelist of the Victorian era. He began his career as a parliamentary shorthand reporter. Dickens' early political reporting and sketch work for London periodicals nurtured the investigative and entrepreneurial skills that drove his literary career. His reporting experience not only gave him the material for some of his most memorable characters, but also honed his skills as a writer with which he made his novels thrive-through serial plotting and publication. He wrote vividly about London life and the struggles of the poor which was accessible to readers of all classes. Dickens began contributing stories and descriptive essays to magazines and newspapers in 1833, which attracted attention and were reprinted as *Sketches by Boz* in the year 1836. A few months later, during the same year, the first instalment of *Pickwick Papers* appeared and made Dickens the most popular author of the day.

Rudyard Kipling



Rudyard Kipling's writings depict a sense of realism that goes with colonial mentality. Kipling, a British, had spent nearly a decade in the 1880s, in British India, working for the local newspapers such as *Civil and Military Gazette* (Lahore), which he called "mistress and most true love" "Something of myself" and the *Pioneer* (Allahabad). He has set his novel 'Kim' in India, a country he adopted. *Kim* portrays a cross – cultural viewpoint of Kipling, as an Englishman depicting the diversity of India, his knowledge of India, warm and tolerant people as characters, beautiful portrayal of the landscapes etc. We see in Kipling's writings his journalistic tendencies.

Ernest Hemingway



Ernest Hemingway was a Modernist, and among the Modernists, there was a variety of perspective. Hemingway, a war correspondent was deeply influenced by the situation around him. His novel 'For Whom the Bell Tolls' is set against the backdrop of war. Hemingway was one amongst the 'American Modernists' who rejected traditional institutions and forms. His protagonists are all rebels unlike Dickens heroes who are victims. Hemingway's early work in journalism greatly influenced his creative writing style, one epitomized by short sentences, short paragraphs, and vigorous language. Hemingway acknowledged this influence, later in his life.

Basic Readability Measures

Average Sentence Length : The Sentence Factor (length vs. complexity). The most obvious second factor to consider as major contributor to readability is the sentence. Evidence for this comes from two sources: the use of sentence factor in virtually all readability formulas (and the appearance of a sentence factor in the two factor analysis precisely described) (George R.Klare, 1963, p.169) of the two characteristics viz., length and complexity or structure, length has been used much more often, the measure virtually always involving a count of the number of words in the sentences of a passage.

As the most complex sentences tend to be lengthy it can be observed that the structure (as usually measured) and length are themselves related. (George R.Klare, 1963, P.170) Average Syllable per Word: The basic unit of analysis both as a formula factor and as a measure of length of standard passage is the word (p.159). A smaller unit is the letter, or to be somewhat more general, the type space. (p.159)

Word is a natural unit of analysis in written material. It is the most often used of all factors in readability prediction; it accounts for the greatest amount of variance in available factor analysis of readability elements (George R.Klare, 1963, p.164,165).

Gunning (1952) and Flesch (1962) recommend that a sentence should have average 19 or 20 words. Both observe that the reading difficulty arises as words are added to a sentences length, but they differ slightly on the rate of increment.28

The complexity of written language or readability has been measured periodically in newspapers around the world since 1940s using variety of formulae or indices. The results tend to be expressed as number of years of schooling required to comprehend a piece of written material. Three of this most commonly used readability measures applied to newspaper stories by researchers have been Gunning FOG index, the Flesch Kincaid (Grade level) formula and the Flesch Reading Ease Formula. 29

The first two [Gunning FOG index and the Flesch-Kincaid (Grade Level) formula] provide an estimate of the reading level, by grade level, calculated from elements including the number of words, syllables, for each word, average sentence length and number of sentences.

The third, also known as the Flesch-Kincaid Reading Ease score, indicates the percentage of average readers likely to be able to comprehend the material. (a high value) indicates the material would be readily understood, a low value indicates few people would understand understood by Trina MC Lellan and Grant Dobinson (2004)30

Sentence Length : Both Gunning & Flesch related the number of words in the sentence to the number of years of the reader's education. Those with more education could read longer sentences. Gunning figured that reading difficulty increase by one grade level each time two words were added to sentence length. Flesch figured that was true in grades 5-8, but he specified that reading difficulty went up with each word increase in grades 5-8, and one word in grade 13 and above31.

What the Reading Grade Level Means : The reading grade level of a text depends on the use of the text. If the text is used for independent, unassisted or recreational use, the reading grade level will be higher than a text destined for classroom use and optimum learning gain. In other words the same text will be easier for those with more advanced reading skills (with a higher grade level) and harder for these with less (and with a lower grade level). (p.7) The grade of completed education is no indications of one's reading level.

Average high school graduates read at the 9th grade level, which means a large number reads below that level. Those who pursue special domains of knowledge may develop higher levels of reading skill in general reading. Thus college graduate, who prefer to read general materials at the 10th grade level, may prefer more difficult text within their own specialty. Students who are prior readers of general classroom material are often able to master difficult treatments of subjects that appeal to them (William H Dubay (2004). (p.7)

Readability formulas

The following are the some of the formulas used to measure the readability of printed texts; In order to measure the readability of the news reports taken for analysis the following tools and techniques are used:

1. Flesch-Kincaid Reading Ease Score
2. Gunning-Fog Score
3. SMOG index
4. Text statistics
 - a) Average sentence length (ASL) which is obtained by dividing the total number of words in the text by the total number of words.
 - b) Average Number o of syllables per word – (ASW) – This is obtained by dividing the total numbers syllables by the total number of words

Flesch Kincaid Reading Ease Formulas : The original Flesch-Kincaid Reading Ease formula was modified and the formula given below has been used here to calculate the Reading Ease score. Where,
 Reading Ease Score = $1.599 \text{ nosw} - 1.015 \text{ SL} - 31.517 \text{ Nosw}$
 Nosw = Number of one-syllable words per 100 words
 SL = average sentence length in words

This formula correlates better than .90 with the original Flesch-Reading Ease

Formula and 0.70 with 75% comprehension of 100 word samplings of the Mc Call Crabbs readings lessons. The Flesch reading Ease score can be interpreted by Flesch (1949), PP 149-150 the following way.

Flesch Kincaid Reading Ease

Flesch-Reading Ease core	Style
90-100	Very easy
80-90	Easy
70-80	Fairly Easy
60-70	Standard
50-60	Fairly Difficult
30-50	Difficult
0-30	Very Difficult

Gunning Fog score

In “The technique of clear writing”, Gunning (1952) published his own readability formula developed for adults, the FOG Index which became popular because of the ease of use. It uses two variables (i) average sentence length and (ii) the number of words with more than two syllables for each 100 words.

Grade level = 4 (Average sentence length + Hard words)

Where, Hard words = number of words of more than two syllables (for each 100 words).

Here the use of 90% correct score with Mc Call Crabbs reading tests made this formula a higher grade criterion than other formulas except for Mc Laughlin’s SMOG formula.

SMOG Index

The SMOG formula was published by G. Harry MC Laughlin in 1969. He counted the number of words of more than two syllables (poly syllables count) in 30 sentences and came out with his new formula.

SMOG Grade = 3 + (Square root of poly syllable count)

This formula was validated against the MC Call-Crabbs passages and used a 100 percent correct-score criterion.

The Dale and Chall original formula

Edgar Dale, was one of the first critics of Thorndike's vocabulary-frequency lists. He claimed that they did not distinguish between the different meanings that many words have. He created two new lists of his own. One, was called "short list" and has 769 easy word. This list was used by Irving Lorge in his formula. The other was his "long list" of 3,000 easy words, which were understood by 80% of fourth- grade students. In 1948, he incorporated this list into a formula he developed with Jeanne S. Chall.

To apply the formula:

- 1 Select several 100-word samples throughout the text.
- 2 Compute the average sentence length in words (divide the number of words by the number of sentences).
- 3 Compute the percentage of words NOT on the Dale–Chall word list of 3,000 easy words.

Edgar Dale, besides developing a word list, worked with Jeanne Chall of Harvard Reading laboratory and developed a formula for assessing readability in 1948. This formula uses Dale–Chall long list of 3000 words in defining ‘hard words’, a variable (PDW) used in their formula. The other variable used is average sentence length (ASL).

The formula is $\text{Raw Score} = .1579 \text{ PDW} + .496 \text{ ASL} + 3.6365$

Where, Raw Score = Uncorrected reading grade of an examinee who can

Answer one-half of the test questions on a passage.

PDW = Percentage of difficult words ASL = Average Sentence length.

All reading formula of the early classic period correlated 0.70 with the multiple choice test scores on the Mc Call Crabbs reading lessons. (Dale, E & J.S.Chall 1948)

Finally, to compensate for the "grade-equivalent curve," apply the following chart for the Final Score:

Table to be used for the interpretation of Dale-Chall formula score:

Table: 1.3 Interpretation of Dale-Chall formula score

Raw Score	Final Score (Grade)
4.9 and below —	Grade Grades 5–64 and below
5.0–5.9	Grades 7–8
6.0–6.9	Grades 9–10
7.0–7.9	Grades 11–12
8.0–8.9	Grades 13–15 (College) Grades
9.0–9.9	16 and above.
10 and above	

Correlating 0.93 with comprehension as measured by reading tests, the Dale–Chall formula is the most reliable formula and is widely used in scientific research. In 1995, Dale and Chall published a new version of their formulas with an upgraded word list, the New Dale-Chall Readability Formula. Studies show that there is high analyst reliability with the Flesch Reading Ease and Farr Jenkins Paterson formulas

Interpretation of the 3 novels Kim, For Whom the Bell Tolls and Pickwick papers

	Kim	FWBT	Pickwick Papers
Readability Grade Levels			
Readability Formula	Grade		
Flesch-Kincaid Grade Level	2.9	3.5	4.6
Gunning-Fog Score	5.2	5.9	7.3
Coleman-Liau Index	9.2	7.6	11.7
SMOG Index	7.6	7.5	8.6
Automated Readability Index	2	2.6	4.1
Average Grade Level	5.4	5.4	7.3

Readability Scores

Readability Formula	Scores		
Flesch-Kincaid Reading ease	86.7	88.4	74.3
Spache Score	4.6	3.3	4.3
New Dale-Chall Score	15.7	15.7	15.6

Text Quality

Sentences >30 syllables	31	54	57
Sentences <20 Syllables	20	111	71
Words > 4 letters	7	9	28
Words >12	2	4	15
Passive Voice Count	9	59	33
Adverb Count	81	476	137

Interpretation of the result: After administering the readability scores by using online readability test software www.readability-score.com, the three famous novels of Rudyard Kipling's Kim, Earnest Hemingway's For Whom the Bell Tolls and Charles Dicken's Pickwick papers the readability of For Whom the Bell Tolls is having highest reading ease i.e., 88.4, where, Rudyard Kipling's Kim is having 86.7 in reading ease compare to these two Pickwick papers is having fairly easy in readability i.e., 74.3.

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