Health Literacy Innovations™ Newsletter

Volume 2, Issue 1

Considering the Flesch-Kincaid (F-K) Grade Level?

Introduction

When you think about it, comparing different readability indices is similar to comparing apples to oranges-easy to do, yet not very practical.

Both are round fruits and share other similar characteristics. But when it comes to additional likenesses, they are just not the same and should not be compared.

Would we ever fault an apple for not being a good orange? Or try sliced oranges in old-fashioned apple pie? Never.

The same holds true with readability indices. When using them to test consumer health materials, there are many things to consider. Writers should only compare like readability scores to each other. There is great danger in comparing different indices and there can be great progress when comparing the same.

One big risk is to compare the F-K's results from one program to another. It is found in the HLA, and Word, and in other programs, but may produce different results. They are similar in name, yet different in construction. For example, Word's F-K version has a box that contains a readability score that disappears, while the HLA's F-K results stays as long as you like. Word's F-K also requires the writer to complete a spell check to receive a readability score, while the HLA's produces the score at any time. And there are many other differences due to variation in programming.

Because we understand the risk of comparing similarities in things that are different, Health Literacy Innovations invites you to read Volume 2 newsletter as we discuss some things about the F-K.

About Readability Indices

Readability Indices

Many communication experts believe that matching a reader's reading level with the level of the material is important to determine the effectiveness of the document. To help, many writers use reading tools called readability indices or readability formulas to measure readability.

What Are They?

Readability indices are based on mathematical calculations that estimate the understandability or difficulty level of text:

Since the 1920s, writers and editors have used them to assess documents. Today, there are more than 300 readability indices, with many named after their author and specific focus.

The Fog index, named after a man named Fog focuses on the measurement of the percentage of words of a certain length.

How Do They Work?

While there are variations, most readability indices measure the readability of a document by calculating one or a combination of two factors: word length (semantic or meaning difficulty) and sentence length (syntax or sentence structure and complexity.) Some indices are designed for hand calculation, while others are exclusively electronic or both.

Why Using Them?

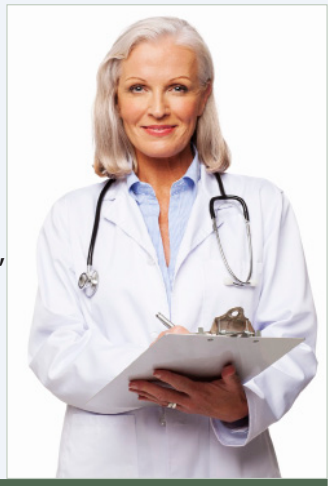
Although readability indices alone do not paint the entire readability picture, they are a first step and a good guide to tell the writer if the text is too difficult or needs simplification.

In Health Care They Are Important

Research shows the average reading level of health instructions continues to be written at a 10th grade reading level, one too difficult for almost half of adult readers in the U.S.

And because readability formula scores correlate with comprehension levels of readers, experts believe that using them in health care can help predict the understandability of health care information.

This is a crucial component of consumer health and one directly related to consumer health, outcomes, safety, and delivery.



About the Flesch-Kincaid

The F-K grade level readability index is one of the most commonly used readability indices. It was created by Rudolf Flesch in the 1940s and later enhanced by John P. Kincaid. It calculates the grade level of a particular document based on one or more passages within a document. The number of sentences and number of syllables contained in the passage are first counted. Then, the average number of words per sentence (average sentence length or "ASL") and the average number of syllables per word ("ASW") are calculated.

$$0.39\left(\frac{\text{total words}}{\text{total sentences}}\right) + 11.8\left(\frac{\text{total syllables}}{\text{total words}}\right) - 15.5$$

The F-K is most commonly known and often favored as a quick tool to assess the readability of documents. But it operates differently in each program and may produce different readability scores.

The Challenges Using Flesch-Kincaid

Here's a look at some perceived weaknesses in F-K and what to watch out for when assessing documents:

Use of the Period

- F-K assesses the readability based on each period it finds. For example:

  1. F-K assumes a period is the end of a sentence, even though it may be part of other punctuation such as abbreviation, colon, semi-colon, question, exclamation mark, or in a bulleted list. For example:

     "Welcome Mr. Gray, thank you for enrolling in our health plan. Let me know if you need additional help."

     F-K believes the period in "Mr." is the end of a sentence. Then, it will read after the next "." in the word "plan." and count this as another sentence.

  2. It also "reads" all words in between two periods as part of a sentence, even if they may not be. For example:

     "Many people have no signs or symptoms of diabetes. Some symptoms may include:

     • increased thirst

     • fatigue

     • increased urination, especially at night

     • blurred vision

     Many people do not find out they have the disease until they experience diabetes complications."

Here F-K counts all the words after the ":" and until the period after "complications."

In these examples, F-K may give a false reading in a number of short or long sentences.

Content

- F-K does not clean documents whereas most health literacy experts traditionally "clean" a document before a reading assessment. This means they will delete:
  - periods "." in:
    - symbols "?, !, :"
    - abbreviations "Mr., Dr."
    - decimal numbers "1.50"
    - URLs and e-mail addresses ".com"
  - headings and subheadings
  - phone numbers

  Because F-K does not clean the document, (as described above), but includes this information in the readability assessment, there may be a variation in the readability results.

Amount of Text

- F-K is designed to evaluate several sentences in a paragraph of running text. If it is used in a single or a few sentences, the score may be inaccurate.

Document Type

- F-K may not be ideal for text in forms, tables, and/or charts because many times, even when needed, there is no punctuation in this type of text. Writers using F-K will need to add missing periods at the end of full sentences before the assessment or the scores could be altered.

Cursor Placement

- With Word's F-K, the score may vary in each assessment due to the location of the cursor.

Readability Score

- F-K was designed to assess materials from upper elementary (4th grade) level to college. As a result, it may not give accurate scores for text written below 4th grade reading level.

Score Capture

- The F-K captures readability scores differently in each program. For example, Word's F-K gives the writer a readability score only after a spell check is complete.

  This requires the writer to either:

  - complete a spell check each time they want to receive a readability score
  - copy and paste and save the score to another document to save the results
  - complete a spell check of the entire document even to assess a short graph or one section

Conclusion

- Writers using the F-K readability index must be aware of the limitations of this readability index and how it may result in 1.5 to 3 grades lower than the scores given by other indices.

The Advantage of Using the Health Literacy Advisor vs. Other Readability Programs

Cleans Documents

- The HLA produces better scores by ignoring punctuation and other style elements listed below:
  - bullets
  - phone numbers
  - URLs, and e-mail addresses
  - headings and subheadings
  - periods in semicolon, colon, question and exclamation marks, in decimals and other symbols

Promotes Efficiency

- At any time, the HLA can assess and score a portion or an entire document.
- Writers can evaluate readability of documents of any size.
- There is no need to use a spell check to get a readability score.
- Scores do not disappear after the reading assessment.
- Writers do not have to cut and paste the text from boxes, tables, and forms and paste them into running text for an assessment.
- Writers can calculate readability of one section of the document at any time.

Offers a Style Guide

- The HLA's "Style Guide" for materials development offers tips for layout, formatting and designing materials as well as writing in plain language.

Creates Detailed Reports

- The HLA marks the document with the "ReadsEasy" stamp when the readability meets the writer's desired reading level.
- Stamps documents with scores, date, time, assessment statistics, and name of readability indices used.

HLA Readability Indices

Nine Readability Indices in English

- Fry-based Electronic Formula
- Precise SMOG
- Gunning-Fog
- Automated Readability Index (ARI)
- Flesch-Kincaid Grade Level
- Flesch Reading Ease
- New Dale-Chall Formula
- FORCAST Readability Formula
- Coleman-Liau Index

Six Readability Indices in Spanish:

- Fry-based Electronic Formula (Gilliam-Peña-Mountain)
- Läsbarhetsindex (LIX)
- Rate Index (RIX)
- Crawford Grade Level
- Flesch Reading Ease (Huerta-Fernandez)
- SOL Index (Spanish SMOG)

Offers Scan and Highlight Feature

- The HLA's scan-and-highlight feature shows users all the hard-to-read, long words, medical jargon, and long sentences.

Offers Search and Replace Feature

- The HLA's search–and-replace feature offers plain language replacements for hard-to-read words, with no need to search the Internet or other vocabulary sources.

Summary

Besides readability, understanding the motivation and knowledge of the reader and effective use of plain language principles will help to create better documents for all audiences, especially those with low literacy skills.

Most importantly, understanding readability indexes, how they work, and differences between them helps to produce accurate scores.

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The Health Literacy Advisor and Organizational Change

The HLA, the nation's first interactive health literacy software tool, saves health care organizations time and money by:

- ☑ Promoting health literacy awareness within organizations and industry wide
- ☑ Improving health communications
- ☑ Reducing the time needed to comply with Medicaid requirements and other industry standards
- ☑ Automating the entire document simplification and review process
- ☑ Reducing the risk of lawsuits, due to poor communication, saving companies thousands or even millions of dollars
- ☑ Reducing the time and effort to assess and produce health materials in plain language
- ☑ Eliminating laborious online and dictionary searches for health care glossaries in plain language

The Health Literacy Advisor Features

Scan and Highlight

- Finds hard-to-read health and non-health language
- Highlights long sentences with more than 15 words and words with three syllables or more

Search and Replace

- Finds difficult terms such as medical jargon, diseases, medications, health insurance terms, treatments and procedures and offers plain language alternatives or definitions

Calculate Readability

- Includes nine English and six Spanish readability electronic formulas
- Taps into a database of more than 118,000 words divided in syllables for a reliable counting.
- Measures readability of prose text and text in boxes
- Cleans documents--ignores bullets, headings, phone numbers, URL's, text symbols and some punctuation--saving time in the calculation of document readability

Create Detailed Reports

- Marks the document with the "Reads Easy" stamp when the readability meets the writer's desired reading level
- Stamps documents with scores, date, time, assessment statistics, and name of readability indices used

About Health Literacy Innovations

Knowing that "literacy" is the single most important indicator of a health outcome, Health Literacy Innovations (HLI) was established to creates tools to eliminate mistakes and confusion due to low health literacy. Its flagship product, the Health Literacy Advisor (HLA), is the nation's first interactive health literacy software tool. Today, with thousands of writers of all skill levels using the HLA to simplify consumer health information, HLI continues to streamline the materials review process with technology, efficiency, and knowledge.

"Heath Literacy Innovations believes if it can empower communicators to create, produce, print, display, share, advertise–clear health information, it can help to improve health literacy and health care outcomes one word at a time."

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Introducing Health Literacy Innovations' ReadsEasy™ Document Assessment "REDA"

Because we know that health literacy is more than just a test for readability, Health Literacy Innovations (HLI) is pleased to announce the REDA, HLI's Reads Easy Document Assessment. The REDA, a new feature of the Health Literacy Advisor, offers a systematic assessment for document suitability. The REDA rates materials on factors that affect readability and comprehension of consumer health information and includes a health literacy checklist to assess design organization, graphics, cultural appropriateness and other factors of suitability.

As a new and electronic approach to blend readability assessments with suitability of materials, the REDA offers an important and final step in the document review process.

For a free trial of the Health Literacy Advisor go to:

http://www.healthliteracyinnovations.com/trial

To submit articles for future newsletter issues please contact media:

media@HealthLiteracyInnovations.com

Health Literacy Advisor™

301-230-4966

www.HealthLiteracyInnovations.com

Improving Health Communication One Word at a Time™