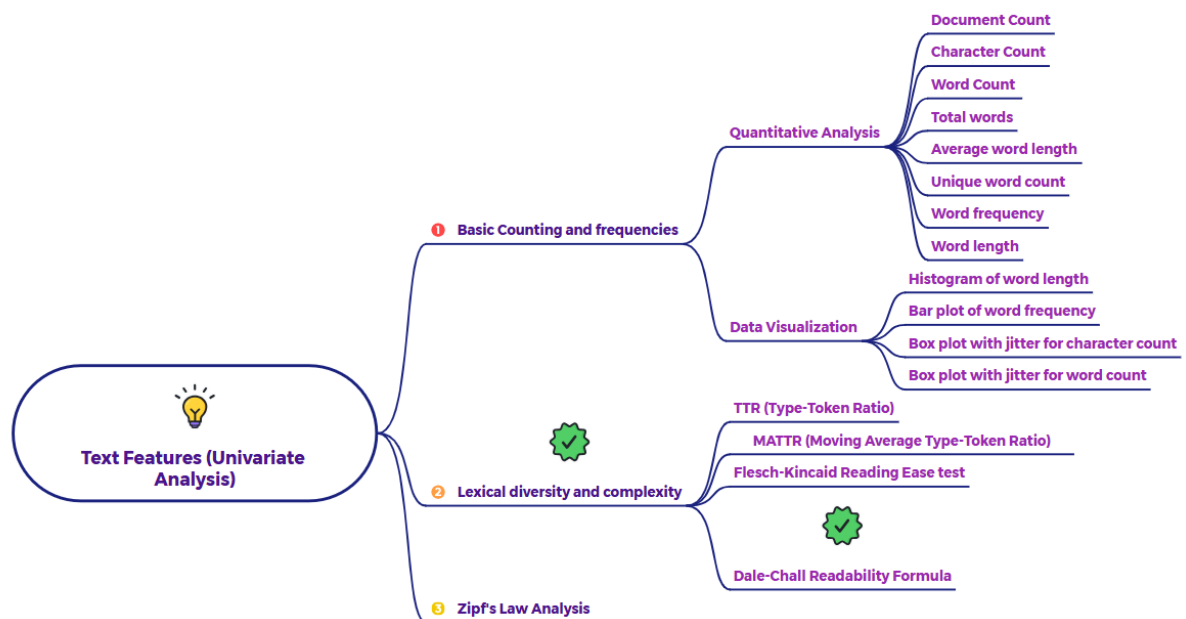# What is Dale-Chall Readability Formula?

The **Dale-Chall Readability Formula** is another widely used **readability formula**, similar to Flesch-Kincaid, that aims to **estimate the grade level required to understand a piece of writing**. However, it differs in its approach, particularly in how it assesses lexical difficulty. Instead of relying on syllable count as a proxy for word difficulty, the Dale-Chall formula uses a list of **common, easily understood words**.

While not a direct measure of lexical diversity or complexity in the sense of vocabulary richness, the Dale-Chall formula indirectly relates to it. Texts with higher lexical diversity, especially if they include many less common or more complex words, are likely to have a higher Dale-Chall grade level score (indicating greater difficulty).

Calculation:

The original Dale-Chall formula is:

Raw Score = 0.1579 * (Percentage of Difficult Words) + 0.0496 * (Average Sentence Length in Words)

Where:

- **Percentage of Difficult Words:** The percentage of words in the text that are *not* on the Dale-Chall list of 3000 familiar words.
- **Average Sentence Length:** The total number of words divided by the total number of sentences.

The raw score is then adjusted to estimate the grade level:

Grade Level = Raw Score + 3.6365

How to Interpret the Dale-Chall Readability Formula Score:

The resulting score estimates the U.S. grade level that a reader needs to understand the text. For example:

Score	Grade Level (Approximate)
4.9 or less	4th Grade or below
5.0 - 5.9	5th - 6th Grade
6.0 - 6.9	7th - 8th Grade
7.0 - 7.9	9th - 10th Grade
8.0 - 8.9	11th - 12th Grade
9.0 - 9.9	13th - 15th Grade (College)
10.0+	16th+ Grade (College Graduate)

Interpretation Considerations:

- **Focus on Familiar Vocabulary:** The key difference from Flesch-Kincaid is the use of the Dale-Chall list of 3000 common words. Words *not* on this list are considered "difficult." This directly assesses the use of less frequent or more specialized vocabulary.
- **Indirect Link to Lexical Diversity:** Texts with higher lexical diversity, especially if they venture beyond common vocabulary, will

likely contain a higher percentage of "difficult" words according to the Dale-Chall list, leading to a higher grade level score.

- **Sentence Length Still a Factor:** Like Flesch-Kincaid, sentence length also contributes to the readability score, reflecting syntactic complexity.
- **Grade Level Approximation:** The grade level is an estimate and should be used as a guideline.
- **Context Matters:** The appropriate grade level depends on the target audience.
- **Strengths:** The Dale-Chall formula is often considered more sensitive to lexical difficulty than formulas relying solely on syllable count because it directly assesses word familiarity.

In summary, the Dale-Chall Readability Formula estimates the reading grade level of a text based on sentence length and the percentage of words not found on a list of 3000 common words. While not a direct measure of lexical diversity (the sheer variety of unique words), it is sensitive to the use of less common and potentially more complex vocabulary. A higher Dale-Chall grade level score often indicates a text with a more sophisticated vocabulary that might contribute to a perception of greater lexical complexity.