

Is There Any Difference Between Flesch Reading Ease Formula and Dale-Chall Formula?

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ABSTRACT

This study discussed the difference between Flesch Reading Ease Formula and Dale-Chall Formula in analyzing the English textbook for 10th grade in Indonesia. In addition, this study also explains how the reading materials were adequate for the levels of students. This research used qualitative evaluation, which is a descriptive analysis to analyze and describe the data. The data of this research are in the form of tables taken in the readability formula. The collected data of this research were then analyzed by classifying the table of readability formula used. The result showed that found the different quality text for 10th grade in the readability index used. Affirm the research findings, and some suggestions for educators to operate the readability formulas to endow proper reading material for students.

Keywords: flesch reading formula; dale-chall formula; readability

INTRODUCTION

As we know, the teacher needs readability in learning text to make it easier in the learning process. And readability is one of the topics of teaching materials essential for students to practice and be effective in various fields and interests, including education, applied linguistics, and texts. Practical level, the necessary readability criteria for multiple tasks, including choosing appropriate reading materials for students. Generally, readability is essential in many fields, including applied linguistics, text and discourse theory, and natural language tourism (Bailin, 2016).

The textbook is one of the most important things in education because of its function as teaching material or instructional media during the teaching and learning process. Many books provide teaching material and exercises related to the curriculum. Besides that, textbooks also help the students learn English since they are related to the learning objectives. Moreover, the book will be a reference point for teachers to track their teaching success and help them concentrate on the teaching process (Tomlinson, 2008). English teachers in Indonesian must be separated from the textbook with the teaching-learning process. It must be and must have an item when teaching-learning activities are being conducted because it is a line with (Brown, 2000) that a textbook is a widely used resource in the language teaching and learning process.

Many English schoolbooks are to be had beneath the pointers of the State Curriculum Standards in Indonesia. Many publishers provide English textbooks. However, the teacher should choose the appropriate English text based on criteria, such as the material's content must be with a predetermined curriculum, the textbook ought to be thrilling, and can be comprehended. Besides that, it should be appropriate for the level of the students. One of the materials contained in the English textbook is a Text. Although there are many issues with using a book, professional development might focus on creating customized assignments from these textbooks so that the students can comprehend the material (Hong et al., 2018).

Undoubtedly, the appropriate reading texts must meet the criteria of a well-written text. Some experts contribute ideas for the criteria. According to (Nuttal, 1996), there are three factors to consider when selecting reading texts for students: first, content suitability; pupils ought to find the texts soaking up, appealing, challenging, and relevant to their goals. Second, the texts should aid in achieving specific language and content goals, which are exploitable for instructional tasks and techniques, and allied with different abilities. Finally, with vocabulary and essential difficulty, a text will challenge students without beating them. According to Carrell (1987), reading materials with lower readability levels make it easier for students with lesser reading abilities to comprehend a book. One of the things to understand in the context of reading material is readability since, as Dubay (2004) points out, readability is vital for the design and development of a book. Reading comprehension issues can be impacted by readability (Hakim et al., 2021). Reading comprehension depends on matching materials to learners' reading abilities (Crossley et al., 2019). In addition, readability is very helpful in task assignments. Analyzing and comparing the readability of reading materials is one very effective way to determine. Whether the teaching materials are very appropriate to the level of students or not. The readability of the text can also determine how easy it is for students to learn. Readability refers to the ease with which the text can be seen when viewed, which is also the opinion (Dubay, 2004).

The readability formulas we discuss in this section have been widely used to assess textual difficulty—classic readability formula about development, which is very easy to use by students in steps for practical application. There are many classic readability formulae. However, now only focus on two readabilities: Dale-Chall readability and Flesch and easy-to-read style (Bailin, 2016). Dale and Chall also argue that vocabulary is one of the most significant or dominant factors in reading comprehension (1948a: 17). As for knowing or measuring vocabulary difficulty, they used Dale's list of 3,000 words that were measured (Bailin, 2016). Dale and Chall (1949) devised an initial formula that considered variables like the percentage of foreign terms in a sentence and the average number of words per sentence (Revathi, 2021).

In *Readability Revisited: The New Dale-Chall Readability Formula*, Dale, and Chall (1995) updated their list of 3,000 easy words and improved on the original formula. *New Dale-Chall Readability Formula, revisited: The New Dale-Call Readability Formula*, Dale and Chall (1995) up to date their list of 3,000 easy words and improved on the original formula. Rudolf Flesch (1948) is interested in growing the formulation for assessing the readability of written substances aimed toward adults. Flesch advanced the original formula in his 1943 Ph.D. dissertation, *Marks of Readable Style: A Study in Adult Education* (Bailin, 2016).

The Flesch Reading Ease scale ranges from 0 to 100, with a higher score indicating that the reading text is more understandable. This study focuses on 10th-grade students; scores between 50 and 60 are considered relatively applicable and standard because the estimated grade level is from 10th – 12th. Furthermore, in Flesch's book entitled *The Art of Readable Writing* (Flesch, 1949), he designed a table that provides a readability score index. The Flesch formula can be used to determine the readability level of a reading text. The table readability score index is presented in table 1.

TABLE 1. Readability Score Index

Description of Style	Average Sentences Length in Words	Average No. of Syll. Per 100 Words	Reading Ease Score	Estimate Reading Grade
Very Easy	8 or less	123 or less	90 - 100	5th Grade
Easy	11	131	80 - 90	6th Grade
Fairly Easy	14	139	70 - 80	7th Grade
Standard	17	147	60 - 70	8th to 9th Grade
Fairly Difficult	21	155	50 - 60	10th to 12th Grade (High School)
Difficult	25	167	30 - 50	13th to 16th Grade (College)
Very Difficult	29 or more	192 or more	0 - 30	College Graduate

Five earlier studies by Tasaufy (2017), and Miftaahurrahmi et al. (2017) that focused on English textbooks used by Senior High Schools were still conducted using the manual readability method. Fitrawati et al. (2017), Yetty (2019), and Fata et al. (2022) used the Flesch Reading Ease formula in analyzing textbooks for Senior High School. The focus of our research here is the readability of the text in the textbook. We choose one English textbook for the tenth-grade student.

METHODS

This study used qualitative evaluation research. In this study, the researchers employ analysis as the type of qualitative research for one leading textbook. The textbook is *Buku Bahasa Inggris Grade X*, published by Kementrian Pendidikan dan Kebudayaan Republik Indonesia 2017. The objects of this study were texts of the textbook of *Buku Bahasa Inggris Grade X*, published by Kementrian Pendidikan dan Kebudayaan Republik Indonesia 2017. Analyzing the data of texts was performed to see the difference between readability formulas. The following is the information about the texts.

TABLE 2. Research Object

Title	Text Length
An Email from Hannah	231 words
A Letter from Saidah	228 words
Tanjung Putting National Park	411 words
Taj Mahal	265 words
Visiting Niagara Falls	265 words
An Announcement about Concert Cancellation	265 words
Meeting My Idol	265 words
The Battle of Surabaya	265 words
B.J. Habibie	265 words

Cut Nyak Dhien	477
Issumboshi	words
The Legend of Malin Kundang	201
	words
	369
	words
	319
	words
	497
	words
	592
	words
	673
	words
	408
	words

This study's data collection was accomplished by reading passages from each textbook chapter. The New Dale-Chall Formula and the Flesch Reading Ease Formula are used in this study to determine the assessed readability level.

The readability scores of the New Dale-Chall Formula and the Flesch Reading Ease Formula were used to generate the data analysis method in this study. The comparative differentiating technique is used for analysis. The PDW (Percentage of Difficult Words) and ASL are measured as the first step in calculating the adjusted score (Average Sentence Length in words). Then, add the Raw Score and Adjusted Score. The next step is to match the Final Score with a corresponding number on the Dale-Chall Adjusted Grade Level Table to get the grade level. Therefore, Tables three and four present the readability score, readability level, and valued reading grade of each chapter of the passage in the textbook.

The data analysis is conducted by calculating the text's valued reading grade level score obtained through the New Dale-Chall Formula. Then, the data are described in a table of the result calculation of the text's valued reading grade level. The data are described in grader detail based on New Dale-Chall Formula. Next, the researchers categorize the data into smaller measurements using a table. Table five shows the result of the readability scores in the English textbook published by the Government.

The researchers chose the text in the textbooks as the first step in the Flesch Reading Ease Formula. Then, in Microsoft Word, save them as a file. The text of reading texts was analyzed and counted. Using the readability formula, the researchers determined the readability of each passage. Described and provided additional information about readability. The grade of each reading text was determined by comparing the score result to the other readability criteria shown in the table. The researchers will then be able to determine which are relevant to senior high school students.

The next step is to assess the level of understandability using a readability formula website, such as <https://readabilityformulas.com/>. Open the website, for example. Then, choose a readability formula that appeals to the research. The new Dale-Chall, Flesch Reading Ease, Flesch Grade Level, Fry Graph, Gunning FOG, Power-Sumner-Kearl, SMOG, FORCAST, and Spache Formula are among the readability formulas. Then, for each formula, press the calculator button. It is necessary to copy and paste the text. After copying and pasting the text, click check the readability, and the text readability will be automatically displayed. The readability of the texts is then evaluated using the grade-level scores and the Flesch Reading Score.

Next, the researchers categorize the data into smaller measurements using a table. Table 5 shows the result of the readability score in the English textbook published by the Government.

TABLE 3. Difficulty Level by New Dale-Chall

Adjusted Score	Column A (t)	Grade Level
4.9 and Below	Very Easy	Grade 4 and Below
5.0 to 5.9	Easy	Grades 5 - 6
6.0 to 6.9	Fairly Easy	Grades 7 - 8
7.0 to 7.9	Standart	Grades 9 - 10
8.0 to 8.9	Fairly Difficult	Grades 11 - 12
9.0 to 9.9	Difficult	Grades 13 - 15
10 and Above	Very Confusing	Grades 16 and Above (College Graduate)

TABLE 4. Difficulty Level by Flesch Reading Ease

Score (RE)	Difficult Level	Grade
90 - 100	Very Easy	5 th grade
80 - 89	Easy	6 th grade
70 - 79	Fairly Easy	7 th grade
60 - 69	Standard	8 th to 9 th grade
50 - 59	Fairly Difficult	10 th to 12 th grade
30 - 49	Difficult	13 th to 16 th grade (college)
0 - 29	Very Confusing	College Graduate

RESULTS AND DISCUSSION

Result

The New Dale-Chall Formula

As shown in Table 5, the result finding of text one based on the new Dale-Chall Formula is 5.4, indicating that the text's difficulty level is 'easy.' As a result, the text is more accessible to tenth-grade students in senior high school. Text two scored 6.7, indicating that the text's difficulty level is 'fairly easy.' As a result, the text is more accessible to tenth-grade students in senior high school. Text three is 7.2, indicating that the text's difficulty level is 'standard.' As a result, the text is appropriate for tenth-grade students in senior high school. Text four is 7.8, indicating that the text's difficulty level is 'standard.' As a result, the text is appropriate for tenth-grade students in senior high school. Text five has a difficulty level of 6.8, indicating that the text is 'fairly easy.' As a result, the text is more accessible to tenth-grade students in senior high school.

Text six has a difficulty level of 8.1, indicating it is 'fairly difficult.' As a result, the text is more difficult for senior high school tenth-grade students. Text seven is 6.2, indicating that the

text's difficulty level is 'fairly easy.' As a result, the text is more accessible to tenth-grade students in senior high school. Text eight has a difficulty level of 8.4, indicating it is 'fairly difficult.' As a result, the text is more difficult for tenth-grade students in senior high school. Text nine is 9.2, indicating that the text is 'difficult.' As a result, the text is the most difficult for tenth-grade students in senior high school. Text ten has a difficulty level of 8.3, indicating it is 'fairly difficult.' As a result, the text is more difficult for tenth-grade students in senior high school. Text eleven has a difficulty level of 6.2, indicating that the text is 'easy.' As a result, the text is more straightforward for tenth-grade students in senior high school.

Text twelve is 7.2, meaning the text is at a 'standard' level. Therefore, the text is matched with tenth-grade students in senior high school.

TABLE 5. The Result of The Readability Score (The New Dale-Chall) in the English Textbook by the Government

Text Code	Readability Score	Grade Level	Quality for 10 th Grade
1	5.4	5 - 6	Easy
2	6.7	7 - 8	Fairly easy
3	7.2	9 - 10	Standard
4	7.8	9 - 10	Standard
5	6.8	7 - 8	Fairly Easy
6	8.1	11 - 12	Fairly Difficult
7	6.2	7 - 8	Fairly Easy
8	8.4	11 - 12	Fairly Difficult
9	9.2	13 - 15	Difficult
10	8.3	11 - 12	Fairly Difficult
11	6.2	7 - 8	Easy
12	7.1	9 - 10	Standard
Average	7.2	9 - 10	Standard

The Flesch Reading Ease

As shown in Table 6, the result finding of text one based on the Flesch Reading Ease Formula is 80.9, indicating that the text's difficulty level is 'very easy.' As a result, the text is the most appropriate for tenth-grade students in senior high school. Text two scored 66.1, indicating that the text's difficulty level is 'fairly easy.' As a result, the text is more accessible to tenth-grade students in senior high school. Text three is 56.5, indicating that the text's difficulty level is 'standard.' As a result, the text is appropriate for tenth-grade students in senior high school. Text four is 63.1, indicating that the text's difficulty level is 'fairly easy.' As a result, the text is appropriate for tenth-grade students in senior high school. Text five is 53.6, indicating that the text's difficulty level is 'standard.' As a result, the text is assigned to tenth-grade students in senior high school.

Text six has a difficulty level of 44.9, indicating that the text is 'very difficult.' As a result, the text is the most difficult for senior high school tenth-grade students. Text seven is 74.9,

indicating that the text's difficulty level is 'easy.' As a result, the text is more straightforward for tenth-grade students in senior high school. Text eight is 41, indicating that the text's difficulty level is 'difficult.' As a result, the text is more difficult for tenth-grade students in senior high school. Text nine is 41.2, indicating that the text's difficulty level is 'difficult.' As a result, the text is more difficult for tenth-grade students in senior high school. Text ten is 60.5, indicating that the text's difficulty level is 'standard.' As a result, the text is appropriate for tenth-grade students in senior high school. Text eleven is 83.8, indicating that the text's difficulty level is 'easy.' As a result, the text is more accessible to tenth-grade students in senior high school.

Text twelve has a difficulty level of 79.8, indicating it is 'easy.' As a result, the text is more straightforward for tenth-grade students in senior high school.

TABLE 6. The Result of The Readability Score (Flesch Reading Ease) in the English Textbook by the Government

Text Code	Readability Score	Grade Level	Quality for 10 th Grade
1	80.9	5	Very Easy
2	66.1	7	Fairly Easy
3	56.5	10	Standard
4	63.1	8	Fairly Easy
5	53.6	10	Standard
6	44.9	14	Very Difficult
7	74.9	6	Easy
8	41	11	Difficult
9	41.2	11	Difficult
10	60.5	9	Standard
11	83.8	4	Very Easy
12	79.8	6	Easy
Average	62.1	8	Standard

Table 7 as calculated data for comparing the new Dale-Chall Formula and the Flesch Reading Ease Formula. In this table shown there are three text that appropriate for 10th grade students.

TABLE 7. The Result of The Automated Readability Index in the English Textbook by the Government

Text Code	Readability Score	Grade Level	Quality for 10 th Grade
1	2.6	5	Easy
2	5.4	4-5	Fairly Easy
3	9.3	8-9	Standard
4	7.9	7-8	Fairly Easy

5	9.2	8-9	Standard
6	13.4	13	Difficult
7	4.9	4-5	Very Easy
8	9.7	9-10	Standard
9	41.2	11	Difficult
10	8	7-8	Fairly Easy
11	2.5	4	Very Easy
12	4.7	4-5	Very Easy
Average	9.9	9-10	Standard

DISCUSSION

This study examines the readability stage of texts utilized in coaching reading to Senior High School tenth-grade students. The researchers used the new Dale-Chall formula and the Flesch Reading Ease formula to investigate the reading grade stage of texts used in teaching reading to tenth-grade students. The results of reading text (using the new Dale-Chall) from text code 1 to text code 12 revealed only three texts suitable for tenth-grade students. It means nine texts are irrelevant to tenth-grade students at Senior High School. In contrast, the results of reading text (employing Flesch Reading Ease) from text codes 1 to 12 revealed only three texts appropriate for tenth-grade students. This means eight texts are irrelevant to tenth-grade students at Senior High School. Both formulas have similar and different. The similarity is that the three texts are in standard reading level for 10th grade. The difference is that the title of the texts is in the new Dale-Chall formula as; text code 3 (Tanjung Putting National Park), text code 4 (Taj Mahal), and text code 12 (The Legend of Malin Kundang). The title of the texts are in the Flesch Reading Ease formula as; text code 3 (Tanjung Putting National Park), text code 5 (Visiting Niagara Falls), and text code 10 (Cut Nyak Dhien).

Miftaahurrahmi et al. (2017) found a fairly matched result. They found that from the ten samples of texts, only one textual content that suitable for the grade level. Fitrawati et al. (2017) used the Flesch Reading Ease formula, and only one text was suitable for grade 11th grade and 12th grade. Moreover, as conducted by Tasaufy (2017) and Yetty (2019), that similar cases that most of the scripts are not seemly for the stage of the pupils. On the contrary, Fata et al. (2022) found that the result matches with 10th-grade students. In conclusion, this book is below the standard of readable texts for tenth-grade students.

CONCLUSION

The findings show that reading texts in this book are below standard for the result of New Dale-Chall and Flesch Reading Ease. Additionally, some levels are related to the classification of the reading texts. All 12 texts were classified into very easy, easy, reasonably easy, standard, fairly difficult, difficult, and very difficult or confusing.

Finally, this study confirms that the English Textbook for Foreign Language on Target for Tenth-Grade Students published by Kementrian Pendidikan dan Kebudayaan Republik Indonesia 2017 is mainly below the students' level. That makes the meaning too easy for them. By knowing this, the teachers are estimated to design and influence the appropriate reading materials for the students. Textbooks and authors should be able to establish and present the level of the reading

texts from the easiest one to the most tricky one. From this, the students enjoy reading and obtain every level of reading text as quickly, and finally, the teaching-learning process (language acquisition) works well.

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