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Are these texts readable? An Analysis on the Readability Level of English Textbooks for Indonesian High Schools

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Abstract
Reading texts or passages from textbooks are commonly used as learning materials in the Indonesian EFL context. This leads to the emergence of readability or reading level analyses for EFL reading materials using conventional formulas which, unfortunately, were originally developed for either English as L1 or L2 context. Moreover, there are alternative readability formulas for EFL materials that are relatively newer yet still underused in the field. Hence, this current descriptive study aimed to address this gap by attempting to analyze the reading texts in three Senior High School English textbook series published by the Ministry of Education and Culture, using formulas measuring the readability level without grade-levelling and using simplified EFL reading materials. In this study, the two specific formulas employed to conduct the readability level analysis were Miyazaki EFL Readability Index and McAlpine EFLAW formula. The results showed that the overall Miyazaki EFL readability score of all reading texts in the 10th, 11th, 12th grade English textbooks was 50, categorized as having a "standard" difficulty. Meanwhile, based on the analysis using McAlpine EFLAW readability formula, the overall readability score was 20.86, which was considered as "very easy to understand". Eventually, it could be concluded that the two formulas could be conveniently used to analyze the readability level of all the reading texts in the textbook series. Moreover, the texts could be deemed as of "suitable and understandable" level for the intended EFL students in Indonesia.

Keywords: Readability; Texts; Textbooks; Miyazaki EFL formula; McAlpine EFLAW formula

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1. INTRODUCTION

For EFL (English as Foreign language) teachers, textbooks are still a common and necessary core of their teaching (Wu & Pei, 2018) as well as one of the essential aspects influencing students' learning success. Especially, textbooks provide organized learning materials and various class activities that students need to enrich their knowledge and experiences with English language. However, teachers cannot solely depend on existing textbooks. It is required for teachers to adapt and improvise with many different textbooks to accommodate students with different language backgrounds and linguistic abilities in class. Therefore, there is no harm of sorting and selecting learning materials in textbooks before teachers deliver them to students. With the abundant number of reading materials available from many different sources, selecting proper reading materials is incredibly important for students' academic growth.

In the case of teaching reading in EFL classes, texts or passages from textbooks remain the main sources of learning materials. Yet, teachers seem to somehow still struggle with the same reoccurring problems involving students' losing interest and engagement in reading class. One of the possible influencing causes of this problem might be related to the text's reading level or known as 'Text Readability'. Readability itself is "how easy or difficult a text is to be read" (Bailin & Grafstein, 2016). It is also among the basic pedagogical criteria crucial to selecting reading materials along with authenticity, length/ size, suitability, exploitability and variability (Elkadaoui, 2018). Failure in taking into account text readability might lead to a more serious problem for students, such as a reader- text mismatch (Zamanian & Heydari, 2012).

Moreover, text readability is a topic which has been rather extensively researched on, starting from its early days in 1949 to the current years. Unfortunately, the existing studies have mainly employed formulas which were originally developed for the native speaker context (Xia et al., 2019). Particularly in the Indonesian EFL context, recent studies also show the tendency to use the traditional formulas like the Flesch Reading Ease (Hidayat, 2016; Miftaahurrahmi & Syarif, 2017; Tasaufy, 2017). Little has been discussed regarding alternative formula which takes into account aspects which often occur in the EFL contexts such as the no-grade levelling or simplified reading materials. It eventually raises a concern whether the mostly employed formula will be sufficient enough to measure reading texts for non-native readers.

Nevertheless, there are some alternative readability formulas deemed more suitable for EFL reading materials, such as Greenfield's 2004 Miyazaki EFL Readability formula/ MEFLRI and McAlpine® EFLAW formula that can be used to address this gap (Sangia, 2017; Perwira et al., 2019; Handayani et al., 2020). Greenfield's 2004 Miyazaki EFL Readability formula/ MEFLRI is designed to measure reading level without the use of grade-levelling that usually appear in the classic western formulas (Greenfield, 2004). Meanwhile, McAlpine® EFLAW formula is used to adjust text readability by controlling text's variables, namely sentences and mini-words (McAlpine, 2005). Therefore, in this current research, the researchers aimed at analyzing reading texts' readability, specifically in Senior High School's English textbooks by employing these two particular EFL readability formulas. It is expected that by doing so, more relevant findings could be revealed to enrich the existing knowledge as well as empirical evidences regarding EFL text readability analysis, particularly in the Indonesian context.

2. METHODOLOGY

This study belonged to descriptive research. There were three English textbooks published by the Ministry of Education and Culture (for Grade 10, 11 and 12 respectively) used as the sources of data. Relevant reading texts were selected from these textbooks, with the distribution displayed in Table 1 below.

Table 1. Distribution of Selected Text Types

NO	Types of Texts	Textbook 1 (Grade 10)	Textbook 2 (Grade 11)	Textbook 3 (Grade 12)	Total
1.	Analytical Exposition	-	2	-	2
2.	Descriptive	3	-	1	4
3.	Drama	-	1	-	1
4.	Explanation	-	2	-	2
5.	Hortatory Exposition	-	1	-	1
6.	Narrative	3	3	-	6
7.	News Item	-	-	5	5
8.	Procedure	-	-	5	5
9.	Recount	4	1	1	6
10.	Speech	-	1	-	1
	Total	10	11	12	33

After the reading texts were selected, the text readability was calculated by using Greenfield's 2004 Miyazaki EFL Readability formula/ MEFLRI and McAlpine® EFLAW formula. The respective mathematical formulas are as follows:

$$\text{Miyazaki EFL Score} = 164.935 - (18.792 \times \textit{Average Word Length}) - (1.916 \times \textit{Average Sentence Length})$$

and

$$\text{McAlpine® EFLAW Score} = \frac{(\text{Number of Words} + \text{Number of Miniwords})}{\text{Number of Sentences}}$$

MEFLRI formula requires the average number of word length, obtained by dividing the total number of letters by number of words, then rounding the result to the nearest tenth. For the other input, average sentence length is calculated by dividing the words count by the number of sentences, and rounding to the nearest whole number. In addition, this readability index uses 100-point scale for the texts' difficulty without using performance criteria or grade levelling found in most traditional formulas. Meanwhile, McAlpine® EFLAW formula requires the total number of words, mini-words, and sentences in the target text. Below are the interpretation tables for each of the formula.

Table 2. Miyazaki EFL Readability Formula Interpretation

NO	Categories (Readability Levels)	Description
1.	Difficult	The readability score of the text falls between 10 - 49 (Above average category).
2.	Standard	The readability score of the text falls on 50 (Average category).
3.	Easy	The readability score of the text falls between 51 – 99 (Below average category).

Table 3. **McAlpine® EFLAW Formula Interpretation**

NO	Categories (Reading Levels)	Description
1.	Very Easy to Understand	The text's readability score falls between 1-20.
2.	Quite Easy to Understand	The text's readability score falls between 21-25.
3.	A little Difficult	The text's readability score falls between 26-29.
4.	Very Confusing	The text's readability score falls above 30.

Furthermore, as the data input in this research was in the forms of number of letters, number of words, number of sentences and number of mini-words from the texts, the main data analysis would be carried out in the forms of descriptive statistics, including frequency distribution, a summary of the frequency of individual values or ranges of values for a variable (Trochim, n.d.)

3. FINDINGS

The findings of the text readability analysis computed by using each of the formulas are presented in the following sections.

3.1 Text Readability Level Computed Using Miyazaki EFL Index

From a total of 33 reading texts from all three textbooks analyzed by using Miyazaki EFL Index, there were 16 reading texts (48%) considered as "easy". Similarly, there were also 16 texts categorized as "difficult" (48%). Meanwhile, there was only 1 reading text (4%) in the category of "standard' difficulty. The following Figure 1 illustrates the frequency distributions for all reading texts' results in the three textbooks:

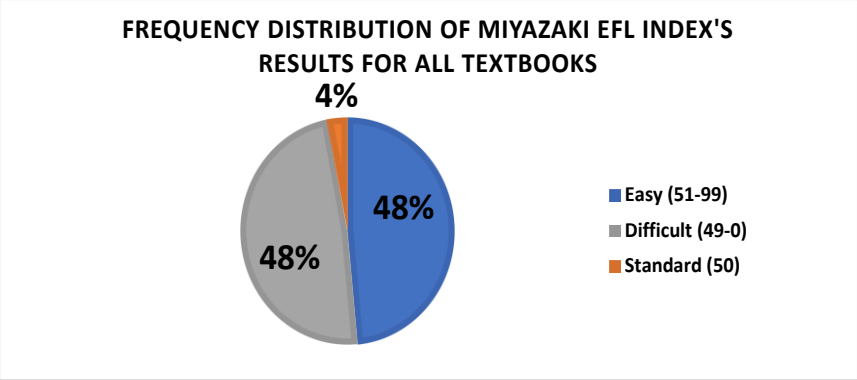

Figure 1 Miyazaki Index Frequency Distribution for All Textbooks

In addition, the overall readability score computed for the reading texts in all textbooks was 50, with the following breakdown: 52, 51 and 49 for the 10th grade, the 11th grade and the 12th grade textbooks respectively. This result can be seen in the following Figure 2.

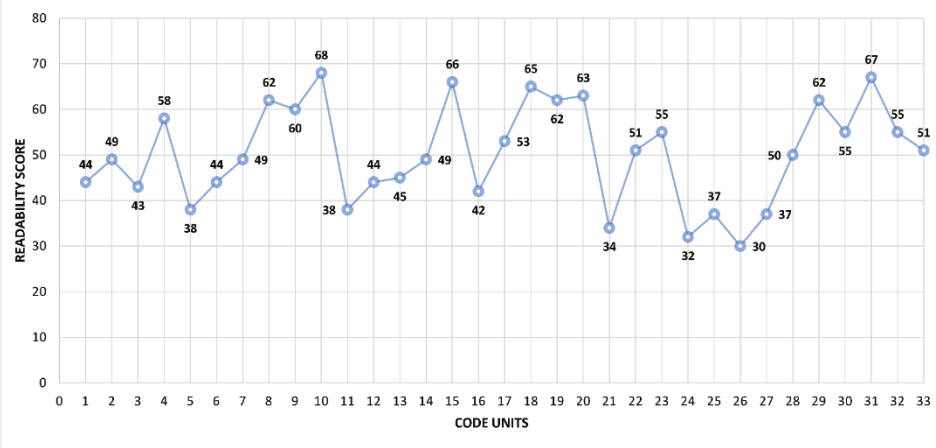

Figure 2. Miyazaki Index Overall Text Readability for All Textbooks

3.2 Text Readability Level Computed Using McAlpine® EFLAW formula

Out of the 33 passages selected for this study which were analyzed by using McAlpine® EFLAW formula, 11 texts (33%) belonged to "very easy to understand' category, 17 texts (52%) were "quite easy to understand", whereas 4 texts (12%) were "a little difficult" and 1 text (3%) was considered "very confusing". These results are illustrated by the Figure 3:

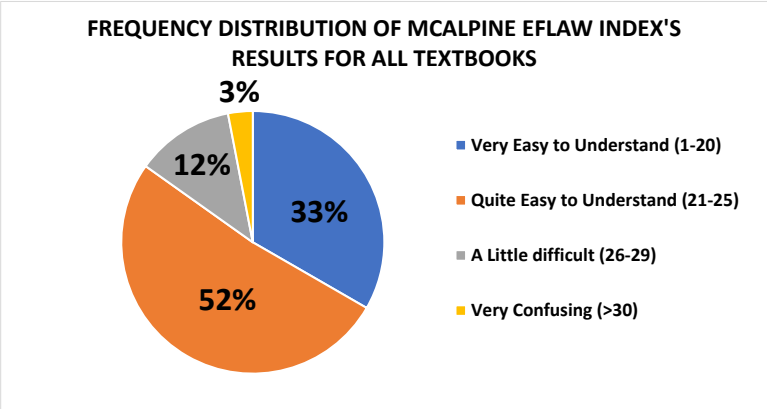

Figure 3. McAlpine® EFLAW formula Frequency Distribution for All Textbooks

Moreover, the overall readability score computed for the reading texts in all textbooks was 20.86, which belonged to the "very easy to understand" category, with the following individual scores: 19.90, 21.07 and 21.46 for the 10th grade, the 11th grade and the 12th grade textbooks respectively. These results are reflected in the Figure 4.

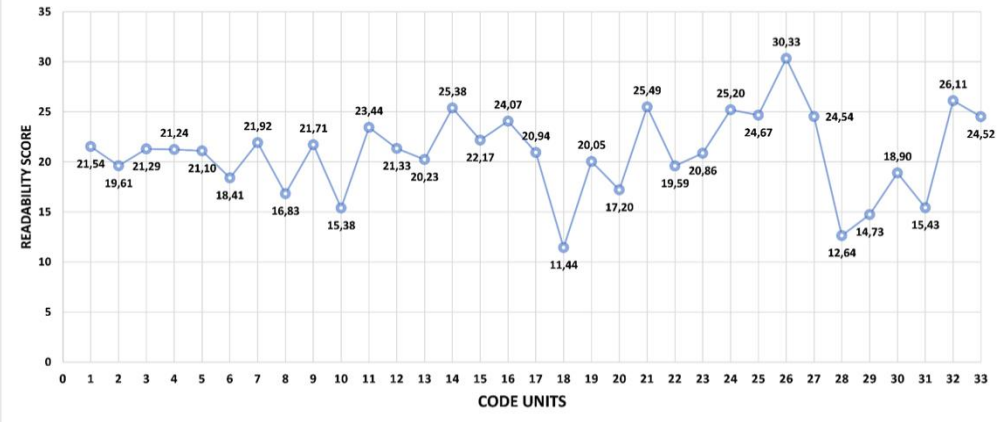

Figure 4. McAlpine® EFLAW formula Overall Text Readability for All Textbooks

4. DISCUSSION

The analysis using both formulas revealed important findings to be discussed further. Based on the analysis done by employing Miyazaki EFL Index, which focused on predicting the difficulty of the reading materials, the hardest text was found in the Grade 12 textbook with the score of 30, in the form of a newspaper article. On the other hand, the easiest text investigated in this research with the score 68 was a narrative text found in the Grade 10 textbook. As expected, the reading texts contained in the textbook for Grade 12 was generally more difficult than the other two. Nevertheless, the overall readability result of all reading texts in three English books was 50, which could be interpreted as having just a "standard" difficulty for students. Furthermore, as Miyazaki EFL Index results could also reflect the quality of the text in three ways ((Sangia, 2017)) namely "easier"- when the text readability level is less than the recommended level, "match"- when the score is found in the recommended range between 50 and 60, and "harder"- when the score exceeds the recommended range. Therefore, as the result obtained in this research fell in the "match" category, it could be implied that the text quality of the three textbooks was suitable for the target students.

Quite interestingly, the analysis done by using McAlpine® EFLAW formula indicated that the easiest text was a play script found in Grade 11 textbook, with the score of 11.44, which was categorized as "very easy to understand". Meanwhile, in a similar trend as the findings analyzed using Miyazaki EFL Index, the hardest text was in the form of news article found in

Grade 12 textbook, with a readability score of 30.33, which belonged to the "very confusing" category. However, when calculated as an overall score, the texts in all three textbooks could be categorized as "very easy to understand" with the score of 20.86. This implied that the results of both formulas were in sync- showing that the reading texts were suitable and understandable for the target students.

Despite small differences in the results due to the different approaches taken by the two formulas, the findings of this current study resonated the previous findings of Sangia (2017), which argued that Miyazaki EFL Index and McAlpine® EFLAW formula could be used conveniently to assess the text readability. Furthermore, for Miyazaki EFL Index, Perwira et.al (2019) and Handayani et.al. (2020) have also stated previously that it was an effective predictor of text difficulty level. Regarding the results of the readability analysis using these formulas, the findings of this study showed a similar trend as Sangia (2017) in terms of the readability level for the 11th Grade textbooks analyzed by using McAlpine® EFLAW formula, namely being categorized as "very easy to understand".

A slight difference occurred in the results of Miyazaki EFL Index, in which this study found that the overall texts belonged to the "standard" difficulty category whereas Sangia, (2017) indicated that the texts were "fairly difficult". However, this difference is rather understandable since Sangia only sampled reading texts from the 11th Grade textbook from the whole series while this study investigated all three grades. Overall, the text quality result from both studies revealed that the texts were indeed in a "match" category.

Another study, Perwira et.al (2019) who analyzed the 12th Grade textbook by using Miyazaki EFL Index mentioned that the texts tend to be too easy for the target students. This contradicted the findings of both Sangia (2017) and the current study as it was found that the reading texts in the 12th Grade textbook were consistently the most difficult among the three different grades. Nevertheless, all of the recent studies have agreed that the reading texts were suitable to be used as learning materials for Senior High School students in the Indonesian EFL context. The contrasting findings are to be considered further as a gap remained to be explored regarding the validity and reliability of different formula combination which cannot be addressed by the current study.

5. CONCLUSION

To conclude, the two alternative formulas namely Miyazaki EFL Index and McAlpine® EFLAW formula employed in the current study could be used conveniently to predict reading text readability for the locally developed EFL textbooks. The textbooks analyzed in this study were the ones published by the Ministry of Education and Culture for Senior High School Grades 10-12. Moreover, the findings of the analysis by using Miyazaki EFL Index indicated that the overall readability score of all reading texts in the 10^{th}, 11^{th}, 12^{th} grade English textbooks was 50. This could be interpreted as having a "standard" difficulty. The findings of McAlpine® EFLAW formula revealed that the overall readability score of all reading texts was 20.86, which belonged to the "very easy to understand" category. Thus, it could be assumed that the reading texts were suitable and understandable for Senior High School students in Indonesia. However, as there are also differences from previous studies and limitations of this current study, it is recommended that future researchers consider other aspects especially related to the validity and reliability of using a combination of text readability formulas.

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