Readability of Aksaraand Budaya Lampung Text Book With Fry and Raygor Graph

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Abstract: *The aim of this research is to measure the readability level of Aksara and Budaya Lampung textbooks. To measure readability, the author used two readability formulas, namely Fry graph and Raygor graph. In this book, the authors took all the discourse to measure the level of readability. Using Fry graphs, 72% of discourse was not appropriate. Whereas measurements with raygor charts showed that 57% did not match the level of the readers. This difference was caused by linguistic factors. Compared with the number of sentences, the vocabulary used was still too easy for this level.*

I. Introduction

Lampung Language is one of the regional languages in Indonesia. Of the many regional languages in Indonesia, Lampung is one of the languages that have scripts (Aksara). This feature makes the Lampung Provincial Government to preserve the Lampung language. On July 11, 2004, the Lampung Provincial Government officially required the Lampung language and characters as compulsory local (*Mulok*) content in schools.

Language learning in Lampung certainly requires a lot of references to optimize the learning process. Textbooks are one of the benchmarks for improving the quality of learning outcomes. Textbooks play an important role in learning because they contain concepts and theories that students must learn.

The development of Lampung's language program was followed by numerous textbooks published by the authors. Teachers had a hard time choosing and choosing the right textbook to help students develop skills. The teacher must choose a good textbook so that the students can understand the subject.

Tarigan (1986: 18) stated that textbooks must be able to transmit instructional material in a good language and reading level. According to Davids (in Tabatabaei: 2013), a good manual is one that has readability appropriate for its readers. The readability in question is the ease or difficulty of a manual to be understood by a certain group of readers.

The assessment of the level of readability of textbooks is an important part of the teacher in determining the correct textbook for students. Writers such as Rudolf Flesch, George Klare, Edgar Dale and Jeanne Chall have formulated many theories on how to measure readability. Dubai (2004) mentions that in the 1980s, there were 200 formulas and over a thousand published studies on readability formulas. This proves the strength of their theories and statistics in readability.

II. Material And Methods

2.1 Text book

Textbooks are a useful tool in learning activities. Textbooks play an important role in the teaching process to foster the acquisition of skills that become learning objectives. Thanks to the manuals, everyone can follow the new developments.

Tarigan (1986: 11) states that textbooks are intelligently designed books prepared by experts in the field and equipped with appropriate teaching facilities. Seguin (1989: 15) mentions that textbooks must be filled with texts and images designed by writers and illustrators who meet the requirements in the appropriate fields.

From the above quotation, it can be said that textbooks must meet writing requirements developed by people competent in their field. One of the requirements of a manual is to have an appropriate reading. In the book Making Textbooks, Seguin (1989) states that reading in textbooks must take into account the length of the sentence and the age of the students.

The many types of Lampung textbooks published by editors make it difficult for teachers to choose textbooks. The teacher must begin to evaluate the textbook he has chosen. The assessment of the readability of textbooks is part of the selection of textbooks.

Greene and Petty (1971: 545-8) in Tarigan (1986: 20-21) explain that the criteria for a good textbook should be interesting and take into account linguistic aspects that do not leave students confused in reading. Thus, the aspect of readability becomes again a question to be taken into account when choosing a manual.

2.2 Readability

Readability can be defined as the level of ease or difficulty of a reading understood by the reader. Determining the type of text read in agreement with the reader is not easy. For this, the writer needs knowledge to choose the vocabulary when compiling the speech.

AdjatSakri (in Hardjasujana: 1999) explained that readability is a combination of sadness and fatigue. The specificity in question is related to language, while fatigue is linked to the order of the letters. Dubay (2004) defines readability as the ease of understanding a reading because of the writing style. This definition focuses on writing styles such as content, level of consistency, and language structure. In accordance with the above quotation, we can say that readability is a measure of whether a manual is appropriate for a particular reader or not.

2.3 Readability Formula

In the 1920s, ways had been found to predict the difficulty of the text. The method used is to use sentence length and vocabulary difficulties in the text. This method is used and formulated in a readability formula.

Until the 1950s, advances in readability research were not widely known. Authors such as Rudolf Flesch, George Klare, Edgar Dale and Jeanne Chall are trying to present the formula to support their research. Until then, this formula is widely used in the following fields: journalism, research, health, law, insurance and industry. In the 1980s, there were 200 formulas and over a thousand studies were published on the readability formula. This is certainly proof of the strength of the theory and statistics of the formula (Dubay: 2004).

Fry Graph

The Fry readability chart was created by Edward Fry while he was a student in Uganda and had contributed to the teaching of English as a second language. He created one of the most popular readability tests using graphics.The Fry's readability formula is one of the popular tools for determining readability. This formula can be used to determine the readability of primary text at the student level.

Muchlisoh (1996: 170) states that the readability formula of the Fry chart is based on two factors, namely the short length of the word and the level of difficulty of the words marked by the number (at least) of syllables making up each word of the speech. The fry chart is actually a readability formula for English texts. Hardjasujana (1996) states that if this formula was used for Indonesian texts, a step must be added. The step is to multiply the results of the calculation of the syllables by the number 0.6. This figure was obtained from the results of a simple study which demonstrated that the comparison between the number of English syllables and the number of Indonesian syllables is 6:10 (6 syllables in English are approximately the same as 10 syllables in Indonesian).

Fry Graph Steps

a) Choose a representative fragment of the speech whose readability level you want to measure by taking 100 words of the speech you want to measure.
b) Count the number of sentences of the 100 words to the nearest tithe.
c) Count the number of syllables in the speech example with 100 words.
d) The number of syllables above is multiplied by 0.6.
e) Look at the Fry table. The perpendicular column indicates the number of syllables per word and the horizontal line indicates the number of sentences per hundred words. The intersection of vertical lines (number of syllables) and horizontal lines (number of times-matte) indicates the grade levels of the reader supposed to be able to read the selected speech.
f) This level of readability is approximate. Deviations can occur, both up and down. Therefore, the speech readability score must be added one level and reduced by one level. (Hardjasujana, 1996: 132-13).

Raygor Graph

The readability formula introduced by Alton Raygor seems more suitable for text types using Latin letters. The graph displayed by Raygor was upside down when compared to the frying chart. However, in reality, these two formulas have similar principles for determining the level of readability. If fry formula uses the number of sentences and syllables, the raygor formula uses the number of sentences and the number of difficult words. The number of difficult words in question is a word consisting of six letters or more. (Hardjasujana: 1996)

Raygor Graph Steps
a) Count a hundred words of a speech that will measure the level of readability.
b) Count the number of sentences to the nearest tenth.
c) Count the number of difficult words, that is, words of six letters or more.
d) The results of steps 2 and 3 are plotted in the Raygor graph to determine the readability ratings.
   (Hardjasujana: 1996)

Method
The method used in this research is descriptive qualitative. This research aims to evaluate textbooks by describing their level of readability. The textbook that will be measured the level of readability is "Aksara dan Budaya Lampung" for sixth grades. The sample of this research is all the texts in the book. The number of texts is 7.

Table 1: Text Title

No	Title
1	PekonBudaya
2	Kain Batik Motif Lampung
3	KhetahjamaPersoalanni
4	Macom-macomsiger
5	KainTapis
6	Lamban
7	KucingKukhus

The text above will be measured using the Fry and Raygor readability formula. The reason for using these two formulas is that the structure of the word formation at Lampung is similar to the formation of Indonesian words. Therefore, this formula is considered an appropriate measurement tool.

III.   Result and Discussion

The results of measuring the readability can be described in the table below.
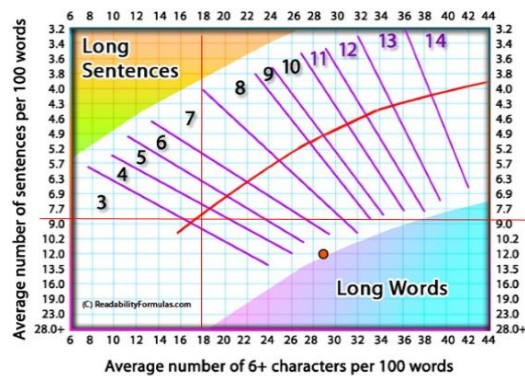
Table 2:Fry and Raygor Graph Analysis

No	Title	Number of sentences/ 100 words	Number of Syllables / 100 words	Number of difficult words / 100 words
1	PekonBudaya	8,5	115,2	18
2	Kain Batik Motif Lampung	9,6	137,4	25
3	KhetahjamaPersoalanni	8,5	125,4	22
4	Macom-macomsiger	11,2	127,8	23
5	KainTapis	5,4	124,8	14
6	Lamban	13,1	128,4	25
7	KucingKukhus	14,1	122,4	16

The next step is to enter the number of sentences and the number of syllables in the graph of Fry and Raygor. The results are as follows:

1.   Title   : PekonBudaya
    Number of sentences/100 words   : 8.5
    Number of syllables/100 words   : 115.2
    Number of difficult words / 100 words : 18
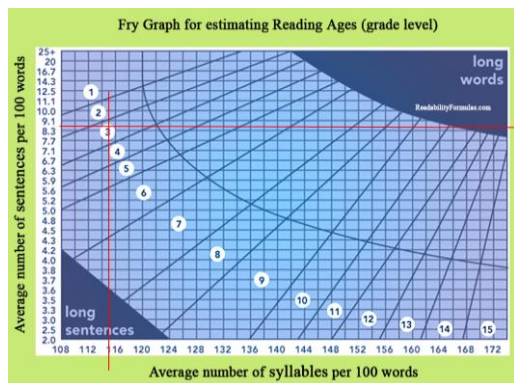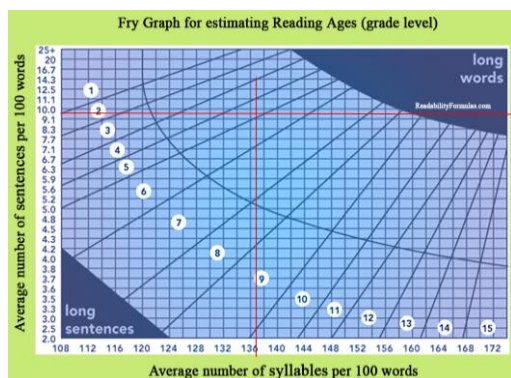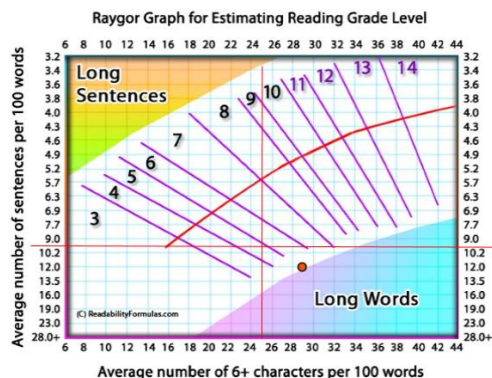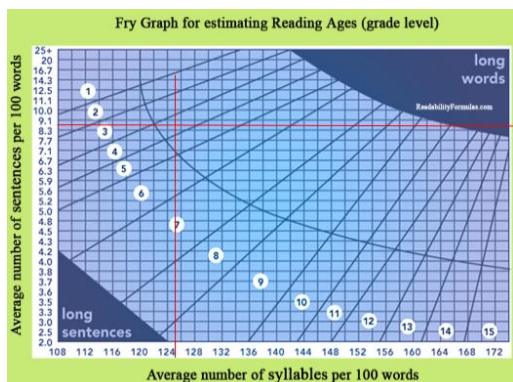
Fry Graph

Raygor Graph

Analysis results:

Based on the results of the analysis using the Fry chart, the readability level of this text was classified in *level 3*. Likely, this text was suitable for elementary school students in grades 2, 3 and 4. If the results of the analysis used Raygor's theory, the readability level of this text was included in *level 4*. It means, this text was suitable for elementary school students in grades 3, 4 and 5. If it is concluded from the analysis result of the two formulas above, this text was needed as a text that **was not in accordance** with the level of the readers.

2.   Title   : Kain Batik Motif Lampung
    Number of sentences/100 words   : 9.6
    Number of syllables/100 words   : 137,4
    Number of difficult words/100 words   : 25
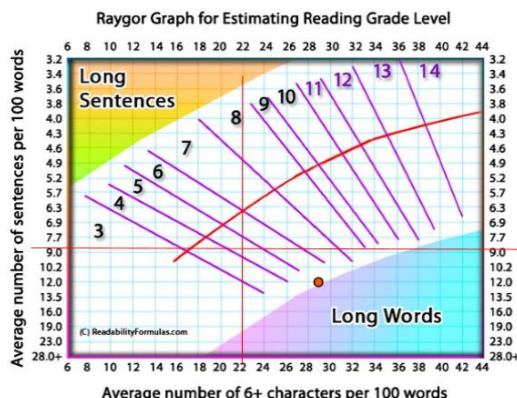

Fry Graph

Raygor Graph

Analysis results:

Judging from the results of the analysis using the Fry Graph, the readability level of this text was included in *level 5.* Comprehension level of this text was suitable for elementary school students in grades 4, 5 and 6. If the results of the analysis used Raygor's theory, readability level of this text was included in *level 5*. That is, the level of understanding of the text was suitable for students in grades 4, 5 and 6 of elementary school. The conclusion from the analysis of the two formulas above is that this text **was in accordance** with the level of the reader.

3.   Title   : KhettahJamaPersoalanni
    Number of sentences / 100 words   : 8.5
    Number of syllables / 100 words   : 125,4
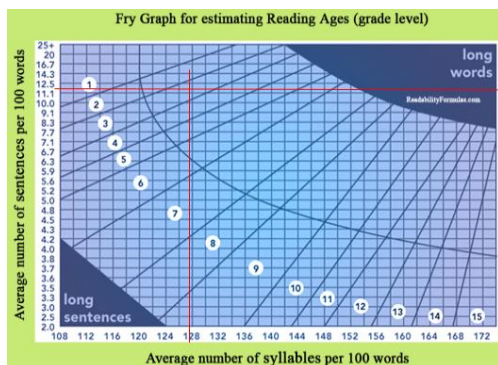   Number of difficult words / 100 words   : 22
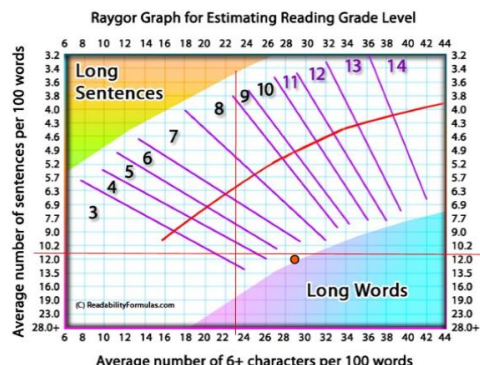
Fry Graph

Raygor Graph

Analysis results:

Judging from the results of the analysis using Fry's theory, the level of speech readability was included in *Level 4* and the comprehension level was appropriate for Grade 3, 4 and 5 grade students. If the results of the analysis use Raygor's theory, the readability level of the text was included in*level 5*. Understanding level of the text was appropriate for students in grades 4, 5 and 6 of elementary school. In other words, with the analysis of the fry formula, this text **was not accordance** with the level of the readers, but according to the formula of Raygor, this text **was in accordance** with the level of the readers.

4.   Title   : Macom-macomSiger
        Number of sentences / 100 words   : 11,2
        Number of syllables / 100 words   : 127,8
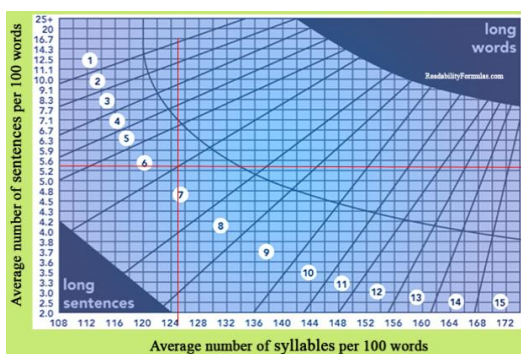   Number of difficult words / 100 words   : 23

Fry Graph
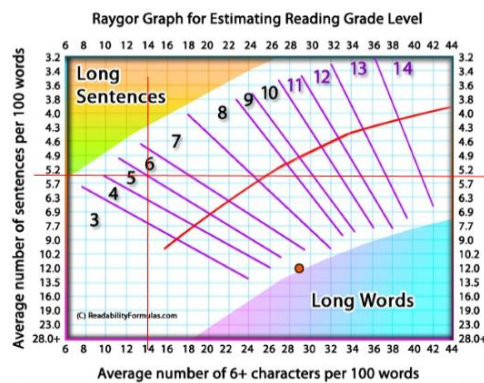

Raygor Graph

Analysis results:

Judging by the results of the analysis using Fry's theory, the readabilitylevel of this text was included in level 3 and the comprehension level was appropriate for elementary students in grades 2, 3 and 4. If the results of the analysis use Raygor's theory, the readability level of the text was included in level 4.It means, the understanding level of the text was suitable for the students of the elementary school in grades 3, 4 and 5. In other words, with the analysis of the two formulas, this text classification**was not accordance**withthe level of the readers.

5.   Title   : KainTapis
        Number of sentences / 100 words   : 5,4
        Number of syllables / 100 words   : 124,8
        Number of difficult words / 100 words   : 14
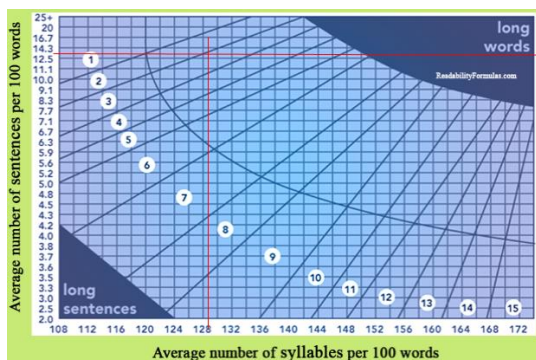
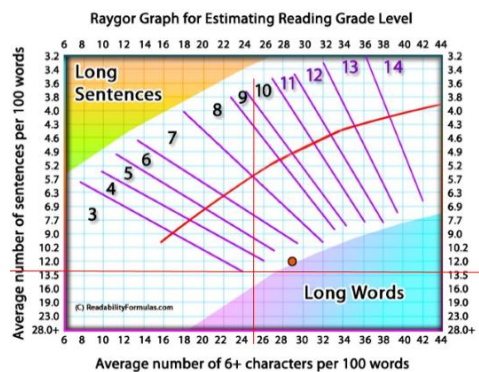| Fry Graph	Raygor Graph

Analysis results:

Judging by the results of the analysis using Fry's theory, the readability level of the text was included in level 6. Comprehension level of text was appropriate for elementary school students in grades 5, 6 and 7. If the results of the analysis usedRaygor's theory, the level of readability of this textwas included in level 6 and the level of text comprehension was appropriate for elementary school students in 5th, 6th and 7th grades. That is, with the analysis of both formulas, this text **wasinaccordance**with the level of the readers.

6. Title   : Lamban
    Number of sentences / 100 words   : 13,1
    Number of syllables / 100 words   : 128,4
    Number of difficult words / 100 words   : 25
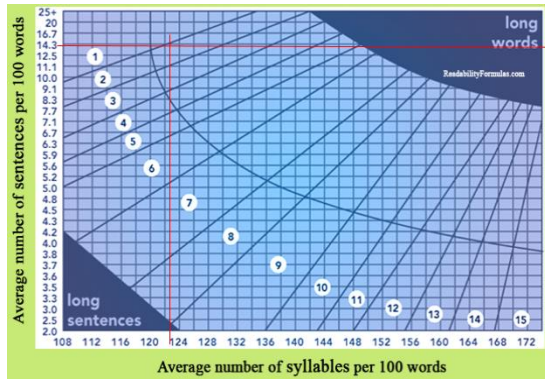

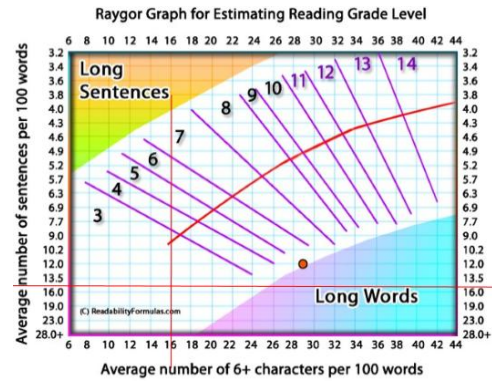| Fry Graph	Raygor Graph

Analysis results:

Judging by the results of the analysis using Fry's theory, the readability level of the text was included in level 3 and the level of text comprehension was appropriate for elementary students in grades 2, 3 and 4. If the results of the analysis usedRaygor's theory, the readability level of the text was included in level 4. It means, the understanding level of the text was suitable for the pupils of the elementary school in the 3rd, 4th and 5th grades. In other words, with the analysis of the two formulas, this text classification**was not accordance**with the level of the readers.

7. Title   : KucingKukhus
    Number of sentences / 100 words   : 14,1
    Number of syllables / 100 words   : 122,4
   Number of difficult words / 100 words   : 16

Fry Graph   **Raygor Graph**

Analysis results:

Judging by Fry's theory, the readability level of text was included in Level 2. The comprehension level of the text was appropriate for elementary students in grades one, two and three. If the results of the analysis usedRaygor's theory, the level of readability of the text was included in level 3. This text was suitable for elementary school students in grades 2, 3 and 4. In other words, with the analysis of the two formulas, this text classification**was not accordance**with the level of the readers.

From the description above, we can conclude in the table below:

Chart 1: Readability Level
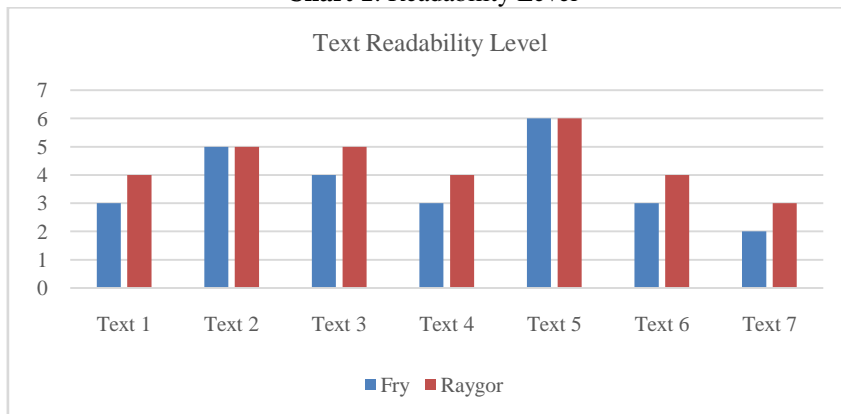
Through the steps in the text readability analysis above, it was known that the readability level in the AksaradanBudaya Lampung text book was very low. In accordance with the results of the Fry Graph analysis, there are only two texts out of seven texts, namely the text entitled "Kain Batik Motif Lampung" and "KainTapis" whose level of readability was in accordance with the level of cognition of 6th grade elementary school students. The other five texts have a level of readability which was too low.

Chart 2: Percentage of Readability with Fry Graph
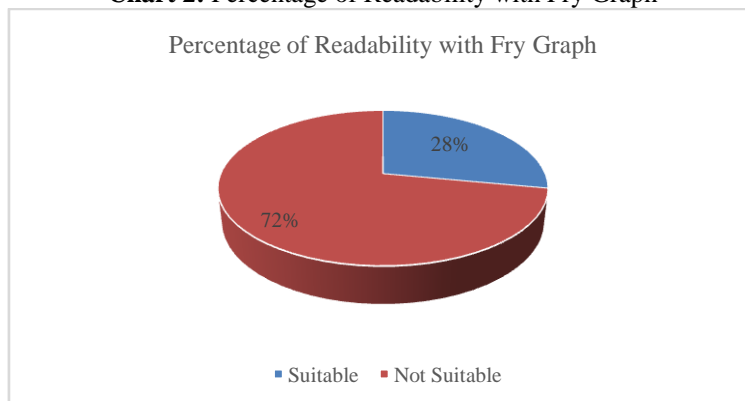
In accordance with the results of Raygor Graph analysis, there are only three of the seven texts, namely the text entitled "Kain Batik Motif Lampung", "KhettahJamaPersoalanni", and "KainTapis" whose readability level was in accordance with the level of cognition of 6th grade elementary school students. the other text has too low readability.

Chart 3: Percentage of Readability with Raygor Graph
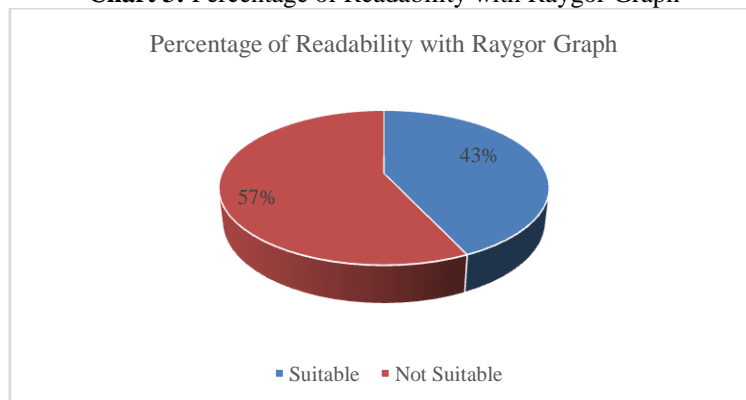
From the results of calculations using the two formulas above, there is a major factor causing the text to not match the level of readability. There was a mismatch between the number of sentences and the number of syllables or difficult words used. With a sufficient number of sentences, i.e. 8-14 sentences, the use of vocabulary was still very simple. Grade 6 students should be introduced to a rather long vocabulary to add to their vocabulary. The data showed that the texts that are not appropriate will actually be very easily understood by students in grade 6. This was because the reading is actually suitable for small class students (grade 1—3).

Book writers must pay attention to aspects of readability. This aspect is one of the aspects considered in the assessment of textbooks by the Curriculum and Book Center, Ministry of Education and Culture. The readability aspect here is related to terminology, language clarity, and language suitability with child development (Ruwanto, 2013).

IV. Conclusions

This research describes the results of readability in Lampung Language textbooks used by 6th grade students. From the total of the text, the text that fits the reading level only reaches 28% (with the fry theory) and 43% (with the raygor theory). The results of this research can be used by the authors to improve reading texts with appropriate vocabulary. The teacher can also make the results of this research a consideration for choosing an appropriate textbook.

In order for the textbooks to be used according to the level of the reader, it is expected that the authors of the books can pay attention to the level of readability of the textbooks that will be used by students.

References

[1]   Dubay, William H. 2004. *The Principles of Readability*. Costa Mesa: United States.
[2]   Hardjasujana, Ahmad S. dan Yeti Mulyati. 1996. *Membaca 2*. Jakarta: Depdikbud.
[3]   Klare, George R. (1974). *Assessing Radability. Reading Research Quarterly*, Number 1.p.62-99.
[4]   KN, Yasa, dkk.2013. "*Kecermatan Formula Flesch, Fog Index, Grafik Fry, Smog, d an BI sebagaiPenentuKeefektifanTeksBerbahasa Indonesia*". E-Journal Program PascasarjanaUniversitasPendidikanGanesha, Vol. 2.
[5]   Muchlisoh. 1996. PendidikanBahasa Indonesia 3. Jakarta: Depdikbud.
[6]   Ruwanto, Bambang.2013. "*BukuTeksKurikulum 2013*". [Online]. Tersedia: http://kr.jogja.com.
[7]   Seguin, Roger. 1989. *The Elaboration of School textbooks Methodological Guide*. UNESCO.
[8]   Tabatabaei, Elham. 2013. *Readability of Reading Comprehension Texts in Iranian Senior High schools Regarding Students' Background Knowledge and Interest.* Article in Journal of Language Teaching and Research 4(5). September 2013. DOI: 10.4304/jltr.4.5.1028-1035. Islamic Azad University, Shiraz, Iran.
[9]   Tarigan. H.G. 1986. *MembacasebagaisuatuKeterampilanBerbahasa*. Bandung: Angkasa
[10]   Zamanian, Mustofa. 2012. *Readability of Texts: State of the Art.* Article in Journal of Language Teaching and Research 2(1). January 2012. doi:10.4304/tpls.2.1.43-53. Islamic Azad University, Shiraz, Iran.