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Lexical Density and Readability of Students' Writing

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Abstract: ***This research analyses the lexical density and the readability of writing by post graduate students from the Department of English, Yadanabon University to find out the lexical density and the readability of students' writing. A total of 19 writings are used as data. For the analysis of the data Lexical Density by Ure, J.(1971) is used. For the analysis of readability of the writing, Flesch Reading Ease Readability Formula is used. It was found that the lengths of the written texts are not the same. Lexical density does not depend on the length of the text. In some texts, the lexical density is high although the text is not long. In some texts lexical density is low although their lengths are short. In addition, the written texts whose lexical density is higher than 50% are fairly difficult to read.***

Keywords: lexical density. Readability

1. Introduction

Writing is one of the skills applied in communication. Writing an essay is one of the difficult tasks for the learners whose first language is not English. When writing essays, how many lexemes students use and how good their essays are important. The written works need to be readable, well-organized and self-contained. To produce a good essay, students must know how to organize message in their writing and the characteristics of written language. Written language and spoken language have their own complexity such as lexical density. According to Halliday and Matthiessen(2004), written language is typically more complex due to lexical density in each clause. In addition a written text must be readable and understandable.

Saragih(2006) states that Lexical Density describes number of content words (noun, verb, adjective and adverb) per clause. Lexical Density of a text can be calculated by expressing the number of content carrying words in a text or sentence as a portion of all the words in the text or sentence. Eggins(2004) states that when the text is lexically dense, the text is characterized to be a written mode. According to Ure (1971), a large majority of spoken texts have a lexical density of under 40%, while a large majority of written texts have a lexical density of 40% or higher. Flesch invented a formula for readability. According to him, the higher the Readability is the easier a text is to read. Lexical density and readability play an important role in preparing texts. So researchers paid interest in analyzing the text. Rahmawati from English Department, Languages and Arts Faculty, State University of Surabaya did a research on "The Readability level of Reading Texts in the English Language Textbooks Used by the Tenth Grade. The purpose of this study is to find and compare the readability level of reading texts in English language textbooks used by the tenth grade students. All of selected texts are analyzed by using Flesch Reading Ease formula and Fry Graph formula. Both formulas show that the reading texts mostly appear on 7th level. It indicates that the texts are easily to be read by tenth grade students. Budiarti (2014) from State University of Ygyakarta did a research entitled " The Readability of English Reading Texts for Grade VIII Students of SMP N 1 Jetis Bantul in the academic year of 2014/2015". This study attempts to find out whether the English reading texts are appropriate or not in terms of the readability level for the target students. Fry Readability Formula (FRF) and Fog Index (FI) were used to analyze the data from the textbook. A cloze test was also used to collect the data from the research sample. The data from the cloze test were analyzed by descriptive quantitative method. The results of the study show that the average readability level of the texts is at level 7 based on FI and 6 based on FRF. The result of the cloze test shows the average of the percentage of the mean score is 58.48% which belongs to the independent reading level. Based on the findings, it can be concluded that the texts are appropriate and readable for the target students. However, analysis on the lexical density and readability of students' writing has not been done.

As English is an international language and students in Myanmar have to learn it as a second language. So writing an essay in English is a challenging for them. It can be said that university students are able to write an essay and their writing should be readable and understandable.

Therefore, this research attempts to explore how many words students can use in their writing and how much their written texts are readable and understandable. To reach the goal, the lexical density of each essay and its readability are calculated. Then, find out the connection between the lexical density of each essay and its readability.

2. Literature Review

This chapter has introduced a general overview of the research and the following chapter will provide Lexical Density by Ure(1971) and Flesch Reading Ease Readability Formula.

Lexical Density

In discourse analysis, the concept "lexical density" suggested by Ure (1971) is used to describe the proportion of lexical words (content words) to the total number of words in each spoken or written form of language. According to Ure(1971) lexical words are distinguished from non-lexical words. He states that a word is only orthographic, and a lexical item such as turnout is counted as two separated words: turn is a lexical word, while out is a non-lexical word. It can be regarded that lexical words and non-lexical words belong to the open class. The formula proposed by Ure (1985) is described in the following table.

Table 1
Lexical Density (%) = (Number of lexical words)/ (Total number of words) ×100

Flesch Reading Ease Readability Formula
Readability is how easily written materials can be read and understood. There has been development of research on readability between1920s and early1990s.Of the research, Flesch Reading Ease Readability Formula (1948) is much better known and Microsoft Word provides inbuilt readability measure. So it is used in this research.

Flesch Reading Ease Readability Formula is described is the following table.

Table 2
RE=206.835-(1.015×ASL)– 84.6×ASW)
RE= Readability Ease
ASL =Average Sentence Length (the number word /the number of sentences)
ASW =Average number of syllable /word(the number of syllables /the number of words)

The higher the RE, the easier the text is to read
RE score 90 to 100 = very easy
80 to 89 = easy
70 to 79 = fairly easy
60 to 69 = standard
50 to 59 = fairly difficult
30 to 49 = difficult
0 to 29 = very confusing

3. Methodology

In this research, 19 essays written in English by post graduate students from the Department of English, Yadanabon University were used as the subjects of the study during the Academic year (2008-2009). The words in the essays are not the same. Firstly, the total words of each essay were counted. Then, the lexical words of each essay were counted. As the third stage, the lexical density of each essay was calculated by using the formula proposed by Ure (1971).Then for the analysis of readability of the writing, Flesch Reading Ease readability Formula was used. Finally, the relationship between lexical density and readability of students' writing was represented.

4. Data Analysis and Result

Table 3: Shows the lexical density of students' writing

Sr. No.	Ss. No	Total words	Lexical words	Lexical Density
1	1	472	178	37.71%
2	2	318	183	57.55%
3	3	378	162	42.86 %
4	4	642	302	41.59 %
5	5	336	178	52.98%
6	6	364	192	52.75%
7	7	541	252	46.21%
8	8	250	109	43.60%
9	9	508	223	39.57 %
10	10	461	221	47.94%
11	11	371	187	50.40%
12	12	647	250	38.79%
13	13	493	228	46.25%
14	14	374	172	45.99%
15	15	512	190	36.52%
16	16	473	210	44.40%
17	17	360	166	46.11%
18	18	377	168	44.56%
19	19	510	218	42.75%

Table 4: Shows the readability of students' writing

Sr. No.	Ss No.	Average Sentence Length(ASL) (the number word /the number of sentences)	ASW=Average number of syllable /word (the number of syllables /the number of words)	Score	Readability Ease
1	1	472/ 30	718/472	63.8	Standard/average
2	2	318/19	512/318	58.7	Fairly difficult to read
3	3	378/ 31	638/378	56.1	Fairly difficult to read
4	4	642/41	998 /642	63.4	Standard/average
5	5	336/28	525/336	64.2	Standard/average
6	6	364/27	606/364	57	Fairly difficult to read
7	7	541/36	824 /541	65.5	Standard/average
8	8	250/19	417/250	54.4	Fairly difficult to read
9	9	508/41	736 /508	73.9	Fairly easy to read
10	10	461/36	710/461	67.8	Standard/average
11	11	371/24	596/371	58	Fairly difficult to read
12	12	647/43	1023/647	60.4	Standard/average
13	13	493/28	792/493	55.6	Fairly difficult to read
14	14	374/23	597/374	55.5	Fairly difficult to 15read
15	15	512/42	763/512	36.5	Difficult
16	16	473/30	736/473	60.1	Standard/average
17	17	360/26	570/360	59.1	Fairly difficult to read
18	18	377/30	611/377	61.7	Standard/average
19	19	510/34	811/510	61.9	Standard/average

Table 5: Shows the relationship between lexical density and readability of students' writing

Sr. No	Ss. No	Lexical density	Readability score	Readability ease
1.	1	37.71%	63.8	Standard/average
2	2	57.55%	58.7	Fairly difficult to read
3	3	42.86 %	56.1	Fairly difficult to read
4	4	41.59 %	63.4	Standard/average
5	5	52.98%	64.2	Standard/average
6	6	52.75%	57	Fairly difficult to read
7	7	46.21%	65.5	Standard/average
8	8	43.60%	54.4	Fairly difficult to read
9	9	39.57 %	73.9	Fairly easy to read
10	10	47.94%	67.8	Standard/average
11	11	50.40%	58	Fairly difficult to read
12	12	38.79%	60.4	Standard/average
13	13	46.25%	55.6	Fairly difficult to read
14	14	45.99%	55.5	Fairly difficult to read
15	15	36.52%	36.5	Difficult
16	16	44.40%	60.1	Standard/average
17	17	46.11%	59.1	Fairly difficult to read
18	18	44.56%	61.7	Standard/average
19	19	42.75%	61.9	Standard/average

5. Conclusion

This research attempts to explore how many words students can use in their writing and how much their written texts are readable and understandable. To reach the goal, the lexical density of each essay and its readability are calculated. Then, find out the connection between the lexical density of each essay and its readability. It was found that, the lengths of the written texts are not the same. Lexical density does not depend on the length of the text. In some texts, the lexical density is high although the text is not long. In some texts lexical density is low although their lengths are short. In addition, the written texts whose lexical density is higher than 50% and they are fairly difficult to read. It is also found that the lexical density of written texts by students 1, 9, 12 1nd 15 are lower than 40 and they can be said to be spoken mode (Ure (1971). Of them, the written text of student 15 has got the difficulty level of readability. In the present research, only 19 written texts used as a research material for time limitation. It is hoped that this research will be a help to the learners of foreign language.

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