

# Readability index analysis of English textbooks for Ghanaian Senior High Schools

William Kodom Gyasi, University of Cape Coast, Ghana

**Abstract:** *Readability of a text enhances text comprehension. In academic circles, textbooks are to be written such that an individual would be able read and comprehend the text on his/her own, an approach which is especially important to second language learners of English. However, a number of studies have reported low readability of textbooks across disciplines. In Ghana, only one of such studies have been reported. Hence, this paper aims at evaluating the readability of four popular English language course books used at the senior high school level in Ghana. Passages from each textbook were conveniently selected for readability analyses. Flesch reading ease (FRE) and Flesch – Kincaid grade level (FKGL) indexes were used to compute readability scores. Measures of central tendencies, one-sample t-test, with bootstrapping, were used to analyse the data. The findings from the results indicate that the readability of the four books ranged between fairly difficult to very difficult to read. The most difficult to read text was in the ‘summary’ and ‘objectives’ books. On the average, easiest to read textbook (a touch of class) required about 11 years of education to read (SHS 3 students). In addition, that two out of the four books recorded significantly higher FKGL scores than the threshold of 10 (SHS 1). This study has brought to light the need for attention to be given to the language of pedagogy in Ghana. Policy makers on education are encouraged to make the use of plain language in teaching and learning in our educational institutions a matter of serious concern.*

**Keywords:** *Readability, Pedagogy; Flesch Reading Ease, Flesch Kincaid Grade Level, textbook, English Language*

## INTRODUCTION

The success students derive from their courses of study depends largely upon their ability to read and comprehend their textbooks. Therefore, textbook writers should write textbooks that are reader friendly. Based on this assertion, examining the readability of textbooks to determine their usefulness in relation to target readers is very important. The usefulness of readability analysis of textbooks used in teaching English Language in Ghana is profound because of the consistently poor performance of students from Junior High School (JHS) level through to the university (Adika, 2003). For example, at the senior high level, performance report released by the West African Examination Council (WAEC) for the 2016 West African Senior High School Certificate Examination (WASSCE) indicated very poor performance across all subjects including English (Chief Examiner’s Report, 2016). Less than 50% of all candidates (247,262) students who sat for the examination obtained the minimum grades to gain admission into tertiary institutions (Chief Examiner’s Report, 2016). In English language, barely 50% of all

candidates passed (Chief Examiner's Report, 2016 ). Focus on English language is important because all other subjects are taught in English. Hence, a poor grasp of the language which is reflected in the barely satisfactory performance in the WASSCE results has the potential to affect the performance in all other subjects. This is particularly important for L2 learners who have to contend with the challenge of developing lexical knowledge and overcoming complex syntax (Miller, 2011).

Having noted the need for appropriate English learning textbooks for learners in the senior high school, selecting adequate materials has been an issue for many language teachers and learners (Sung, Lin, Dyson, Chang, & Chen, 2015). This is the case because selection of overly easy materials may bore learners and reduce learning motivation, while overly difficult materials may frustrate learners (Chall & Conrad, 1991). Thus, which teaching materials are suitable for which learners is not immediately obvious and easy to decide.

In many countries, the principles of readability have been employed, at least as one of the basic criteria, for the selection of appropriate material for students. In fact, in times past, the use of readability to select textbooks was considered so important that if the readability level of a textbook exceeded the recommended grade level, no matter what other strength the book possessed, that particular book was often not considered an appropriate choice (Chiang-Soong & Yager, 1993). Yet, even for these countries, numerous literature has shown that several of the selected textbooks were beyond the reading ability of the intended audience (see Bargate, 2012; Berndt & Wayland, 2014; Chiang-Soong & Yager, 1993; Schneider, 1992; Walker & College, 1980; ).

Hence, this paper aims at evaluating the readability of four popular English language course books used at the senior high school level in Ghana. Passages from each textbook were conveniently selected for readability analyses.

Research questions to be answered to achieve this objective were formulated.

1. How readable are Naa Afarley Sackeyfio's English textbooks for Ghanaian senior high school?
2. What statistically significant differences exist in the readability of Naa Afarley Sackeyfio's English textbooks for Ghanaian senior high schools when compared to the grade level of Ghanaian senior high school students?

## REVIEW OF RELATED LITERATURE

### Conceptual Framework

This section discusses the conceptual framework that underpins the study as well as the review of related literature. The conceptual framework for the study is the communication process which basically involves the sender and the receiver. The sender who has a message to forward to the receiver needs a channel. The channel may be written, spoken, the use of symbols or acted (Cheney, 2011). The written form may include text messaging, e-mails, written reports and several other forms. When any of these forms is used in putting the message together it is referred as encoding. Thus, the sender has to encode the message before delivering it to the receiver through a channel (Keyton, 2011).

When the receiver gets the message, there is the need for decoding for the receiver to understand the message. Decoding, therefore, refers to the process of breaking down the message into meaningful information. Feedback occurs when the receiver responds to the sender's message and returns the message to the sender. The receiver may give feedback to the sender. This enables the sender to determine whether the message has been received and understood (Lunenburg, 2010). The communication process therefore involves the sender who encodes the message and sends it through a channel and the receiver who receives and decodes the message and may send a feedback to the sender.

The communication process clearly connects the present study. Writers of textbooks have messages (knowledge) to be given to students. The encoding process in this case refers to putting together the information that makes up the textbook which becomes the channel for sending the message (imparting the knowledge contained in the textbook). The student who finally reads the textbook becomes the receiver. They need to breakdown the message in the textbook into meaningful information to acquire knowledge. This is referred to as decoding. Feedback occurs when the student answers examination questions using information derived from the textbook. In this case however, the feedback goes to the instructor who more or less represents the sender. When the instructor assesses the information coming from the student (receiver) the instructor then determines the understanding of the student in relation to the message sent. This study proposes that for students to decode textbooks effectively the sender needs to employ plain language in writing the textbook. Readability is an attempt to relate the reading level of printed material to the 'reading with understanding' level of the reader. The study of readability is the study of those properties of written texts that aid or hinder the effective communication of ideas and information (Bailin & Grafstein, 2016).

### **Discussion of Readability and Readability Indexes**

To measure the readability of a text the academic community applies mathematical methods calibrated for different languages. Basically, readability indexes use sentence and word length as basis for computation. Because different readability indexes use different aspects of written text for computation of readability score, readability analysis of a text using different readability formulas often results in different readability scores. Therefore, it is advisable to use one readability formula when comparing different texts (Prakash, 2009).

After Flesch developed the first readability index (Flesch reading ease) in 1949, several authors have also contributed to this field by developing other readability indexes, and other researchers have also improved on the existing ones.

The Flesch readability indexes are popular and are considered to be the most accurate of all readability indexes (McNamara, Kintsch, Butler, Songer, & Kintsch, 1996). This formula is mostly used for academic text. The Flesch reading ease index operates on a scale of 0 – 100. A text that scores 0 is considered very difficult to comprehend whereas a text that scores 100 is considered very easy. This simply means that the higher the score and the more readable the text. (See APPENDIX A).

The Flesch – Kincaid grade level indicates the number of years of formal education a reader requires to comprehend a text. The formula was designed by Peter J.

Kincaid (See APPENDIX A). The formula is well noted in pedagogy and it is used to determine the readability levels of textbooks and examination materials.

Several other indexes exist which are not as popular as the ones discussed above. Different reasons contribute to differences in readability indexes. Examples of these indexes include Coleman-Liau index, and the automated readability index, which uses word character counts instead of syllables in order to speed up computations of readability (Percorari, Shaw, Malmstrom Irvine 2011). Mujiyanto (2015) indicates that readability indexes are not without limitation. In fact, they should not be considered as the only means of evaluating the level of comprehension difficulty of a text. There are other factors that are also very important in determining the readability of a text (Kolahi & Shirvani (2012). Whereas some of these are text-centred, others are reader centred. Some text-centred factors that influence the readability of a text include font type, font size, legibility of print, diagrams, tables, charts, graphs and several others. Reader centred factors include the interest, motivation and even area of study of the reader. Whereas readability analysis involves quantifying in mathematical terms the level of reading comprehension difficulty of a text, these other reader-centred and text-centred factors that influence readability cannot be quantified mathematically.

### **Review of Existing Works on Readability of English textbooks**

Empirically, there have been numerous research findings on the readability of textbooks. For example Owu-Ewie, (2014) considered the readability of comprehension passages in Junior High School (JHS) English textbooks in Ghana. Using the Gunning FOG Readability test, Flesch Reading Ease Formula, Flesch-Kincaid Grade Level, SMOG Index, Coleman-Liau and Automated Readability Index, it was found that most of the passages were above the age of learners and were therefore difficult for them to read and comprehend. Similarly, Udenwa and Ikonta, (2008) concluded in their research that the English language textbooks in use in the junior secondary schools in Lagos State are difficult for the intended readers.

Beyond the shores of Ghana in particular and Africa in general, Kohali and Shirvani (2012) conducted a study that compared the readability level of English textbooks. The sample consisted of five translation textbooks written in English and their Persian translations. The results of the analysis demonstrated that Persian translations of English textbooks are less readable than their English originals.

Owu-Ewie (2014) used the Gunning FOG Readability test, Flesch Reading Ease Formula, Flesch-Kincaid Grade Level, SMOG Index, Coleman-Liau and Automated Readability Index readability formulas to determine the readability of 48 comprehension passages of JHS 1-3 English language textbooks. The study showed that most of the passages were above the age of learners and were therefore difficult for them to read and comprehend. The study conducted by Oktaviani (2006) on the readability of English reading texts used by the grade VI students of SD N Tambakrejo 1, Bojonegoro indicated that three reading texts in —Happy with English and four reading texts in—Grow with English textbooks are appropriate for the grade VI students of SD N Tambakrejo 1. The study also concluded that the textbooks has readable and suitable reading materials for students of this grade. Furthermore, Kurniawan (2008) studied the English worksheet for elementary

school. The result of the study revealed that a good match between English textbooks and the intended readers will improve communication and learning to bring a maximum result of teaching and learning process.

Budiarti (2014) analysed the readability level of English reading texts for 8<sup>th</sup> grade students of SMP Negeri 1 Jetis Bantul. The readability level of the three representative texts from the textbook shows a high readability level when analyzed using Fog Index (FI) which is at grade level 7. The researcher found the results of the study in accordance with the ideal grade level proposed by Jacobs and Renandya (2002: 297).

Ulusoy (2009) examined Social Science textbooks of grades four to seven in primary education using the Cloze and Fog tests. In line with the Fog test scores, it turned out that the Social Science textbooks were way above the reading age of the intended readers. In addition, the reading levels of texts selected from Social Science and Science textbooks were so unreadable that more than half of the students required the assistance of their teachers in order to read and comprehend the texts.

Wissing, Blignaut, and Berg (2016) also investigated the readability, comprehensibility and lexical coverage to evaluate the suitability of an introductory accountancy textbook to its readership. The results of this study were contradictory in that two measures – readability and vocabulary size – pointed to the textbook being appropriate to its intended readership of undergraduate students newly entering into higher education while the third measure – understandability – seems to indicate that the readership may be reading the textbook at their frustration level. Similar conclusions have been drawn by others in different fields including the sciences, mathematics, and economics.(Barret, 2014; Barrett, Mtana, Osaki, & Rubagumya, 2014; EdQual, 2010; Li, 2011; MacAllister & Duckworth, 1981; O'keeffe & O'donoghue, 2014; Percorari, Shaw, Malmstrom, & Irvine, 2011; Perekeme & Agbor, 2012; Tinkler & Woods, 2013; Torki, 2012) The conclusion from these numerous research is that most textbooks are much difficult to read than the level of the intended readers.

Although very few literature has emerged from Ghana on the readability of textbooks, Owu-Ewie's, (2014) what was this study about and context and findings? findings have set many other linguistic researchers thinking and have thus encouraged studies in this field. Although there have been few literature on the readability of textbooks in Ghana(Owu-Ewie, 2014), it is not a known practice for Ghanaian educators to use readability as a baseline for textbook selection. In fact, there are no textbooks prepared explicitly by the Ghana Education Service (GES) for senior high school students. Textbooks in use by Senior High Schools were written by some individuals who got approval from GES to distribute them to schools. Hence, there has been proliferation of textbooks which have been championed by money-making authors and publishers in all subject areas. But can SHS students read their English Language textbooks and comprehend them? At what grade level of difficulty are these textbooks written? In this study, an investigation of the readability of English language text books authored by *Naa Afarley Sackeyfio* for Ghanaian Senior High Schools are explored. For the purpose of this study, the following English language textbooks: *Comprehension Plus*, *A touch of Class*, *Let's summarise English*, and *Objectives for English*. (Give the date of publication of each of the books) were examined to ascertain their readability levels.

RESEARCH METHODOLOGY

**Research design:** The study employed an exploratory quantitative research design, which allowed for identification of attributes of a particular phenomenon based on an observational basis (Skovsmose & Borba, 2004).

**Data collection procedure:** Four English textbooks that are commonly used by Ghanaian Senior High School students probably because it was authored by a renowned professor of English Naa Afarlet Sackeyfio were used for the study. The titles of the books include: (1) A touch of class in senior English, (2) Come, let’s summarise English, (3) Objective English for Top Senior Secondary Schools were used. Afarley has published several textbooks used at various levels of education in Ghana, and is very popular among senior high school students. Her books cover virtually every aspect of the Ghanaian senior high school English language curriculum. In the senior high school curriculum, there are four sections to the English language:

- 1. Comprehension
- 2. Summary
- 3. Long essays
- 4. Objectives (Etsey, 2009).

Accordingly, there is one book covering each aspect. Hence, all these books were selected in order to include all the components of a typical English language examination in Ghana. Several sections of each book were selected as samples for the readability analysis. The selection was carried out such that different subtopics were included. This was necessary since different themes foster different approach to writing. Table 1 gives the various subtopics that were included in the analysis.

Table 1: English textbooks and sample sections

Book	Subtopic
Comprehension Plus	Suitability of the Texts
	Development of Comprehension and Writing Skills through Different Types of Questioning
	The Use of the Passages as Models of Continuous Writing and as Guides in the Study of Style
	The ills of self-medication
A touch of class (long essays)	Quantity Versus Quality
	Teaching Value of the Longer Essay to Us in This Book
	Formality Demanded by Role

**WILLIAM K GYASI: THE READABILITY OF NAA AFARLEY SACKEYFIO'S ENGLISH TEXTBOOKS FOR GHANAIAN SENIOR HIGH SCHOOLS**

	Argumentative Essays
	Articles
	Paragraphing
	The Problem of Vacillating
Let's summarise English	Justifying the Inclusion of Summary Writing in the English Language Curriculum
	Why Summarize?
	The Tables Turned; but the Very Same Skill Required
	Explaining the model summary against the background of the wholesome chapter
	Analyses of Details
	Proverbs
	The trials of landlords
	A cultural prejudice
	Train up a child
Objectives for English	Target
	Ostensibly skewed apportionment of emphasis
	Suiting the selected option to the context
	Two antonyms per sentence
	Comprehension
	Vocabulary substitution
	Complying with the Functional Requirement

Source: Field Data, 2017

Some of the selected subtopics had portions which were not arranged in free prose style. Those portions (e.g. multiple choice questions) were deleted due to the nature of punctuations to ensure that the readability calculators could identify sentences and syllabi accurately.

Data analysis process: Aggregation of readability scores started by obtaining hard copies of each book and the selected portions re-typed with Microsoft's Word processor into an electronic form. The typed documents were then proof-read to ensure that all punctuations were same as in the original hard-copies. This was necessary since readability formulas depends on sentence structure. The typed documents were then copied into an online readability calculator to calculate its readability. This online calculator was used because it is argued to be very accurate and popular. Microsoft's Word Processor was not used to compute the readability scores because it has been configured not to score beyond grade 12, such that even the most difficult text which can score grade 22 for example, will still be scored as 12 Cutts ( 2013).

Readability Indexes such as Flesch Reading Ease and Flesch – Kincaid Grade Level were used for computing readability scores because it is the most popular and one of the most accurate of all indexes. It is suitable for academic text, hence was employed.

Data analysis: Research question 1 was analysed using frequencies, percentages, means, and standard deviations were used to describe readability, and the number of years required to read the and understand the conclusions of the sample of student dissertations used for this. Preliminary findings indicated that normal distribution for the readability scores. Therefore, means were reported instead of any other measure of central tendency such as the median. One sample t-test was used to evaluate research question 2, which was to determine whether there was statistically significant difference in the readability of English textbooks compared to standard of 10<sup>th</sup> grade which is minimum grade level at the SHS level. Bootstrapping technique was employed in the one-sample and one-way ANOVA evaluation to ensure robust estimates of significant or p-values, standard errors and the confident intervals (IBM, 2013;Tabachnick & Fidell, 2013;Field, 2013). Bootstrapping is an efficient way to ensure that analytical models are reliable and will produce accurate results, and was employed in both the one-sample t-test and the ANOVA. For the one sample t-test, bootstrapping was performed for samples of 1000, with replacement. To ensure robust estimates, Bias corrected and accelerated (BCa) intervals were used since it ensures adjusted intervals that are more accurate (IBM, 2013). Mersenne Twister Random Number Generator was set to replicate a sequence of random numbers, using a seed number of 2000000. This helped to preserve the original state of the random number generator and restore that state after the analysis was completed (IBM, 2013). The stratified method was used during the bootstrapping resampling with replacement from the original dataset, *within* the Flesch readability scores.

All analytical procedures were executed using IBM Statistical Products and Services Solutions (SPSS) version 23.0

## RESULTS AND DISCUSSIONS

How readable are Naa Afarley Sackeyfio's English textbooks for Ghanaian senior high school?

**Table 2: Descriptive statistics of readability of four English language textbooks for SHS students in Ghana**

Books		n	Minimum	Maximum	Mean	Std. Dev.
Comprehension Plus	FRE	4	45.35	54.81	52.14	4.53
	FKG L	4	9.80	12.42	11.16	1.09
A touch of class in Senior English	FRE	7	39.92	59.46	53.01	6.53
	FKG L	7	9.58	12.08	10.61	.86
Come, Let's Summarise English	FRE	9	29.56	58.62	46.88	8.37
	FKG L	9	9.31	14.37	11.48	1.64
	FRE	6	6.08	44.46	28.09	13.63



**WILLIAM K GYASI: THE READABILITY OF NAA AFARLEY SACKEYFIO'S ENGLISH TEXTBOOKS FOR GHANAIAN SENIOR HIGH SCHOOLS**

Objective English for top senior secondary schools	FKG L	6	12.86	22.44	16.08	3.36
--	-------	---	-------	-------	-------	------

Source: Field Data, 2017

The findings from the results indicated that the readability of the four books ranged between fairly difficult to very difficult to read levels. The most difficult to read text was with the 'Come, Let's Summarise English' and 'Objective English for top senior secondary schools. From Table 2, on the average, *A touch of class in senior English* textbook was which had (Mean FRE score =53.01; SD = 4.53) was the easiest to read and requires about 11 years of education for readers to comprehend it. In addition, the most difficult to read textbook was the *Objective English for top senior secondary schools* text book. On the average, it was graded as very difficult to read and requires over 16 years of education (College graduate) to comprehend the textbook. Therefore; Naa Afarley Sackeyfio's English Textbooks for Ghanaian Senior High Schools are difficulty to comprehend when measured in terms of Flesch Kincaid Grade Level and the Flesch Reading Ease indexes. These findings mirror earlier findings by Owu-Ewie (2014) and Budiarti (2014). who considered the readability of comprehension passages in Junior High School (JHS) English textbooks in Ghana and found them to be difficult to comprehend when measured in terms of readability indexes This trend is worrying, especially when students in Ghanaian senior high schools are already grappling with the English Language which is the main language for education from upper primary to the University This is understandable because when English Language is the second language, it always poses problems for users.

**Table 3: One sample t-test with bootstrapping for FKGL of four English language textbooks**

One-Sample Test							
Books		Test Value = 10					
		t	df	Sig.	MD	95% CI	
						Lower	Upper
Comprehension Plus	FKGL	2.14	3.00	.12	1.16	-.57	2.89
A touch of class	FKGL	1.88	6.00	.11	.61	-.18	1.41
Come Let's Summarise English	FKGL	2.70	8.00	.03	1.48	.22	2.75
Objectives for English	FKGL	4.43	5.00	.01	6.07	2.55	9.60
Bootstrap for One-Sample Test							
Books		MD	Bootstrap				
			Bias	SE	Sig.	BCa 95% CI	
						Lower	Upper
Comprehension Plus	FKGL	1.16	-.01	.45	.11	.10	2.06
A touch of class	FKGL	.61	.01	.31	.13	-.12	1.53
Come Let's Summarise English	FKGL	1.48	.00	.52	.04	.20	2.83
Objectives for English	FKGL	6.07	-.08	1.25	.09	4.35	7.98

Source: Field Data, 2017

What statistically significant differences exist in the readability of Naa Afarley Sackeyfio’s English textbooks for Ghanaian senior high schools when compared to the grade level of Ghanaian senior high school students?

The 10<sup>th</sup> grade was used as minimum grade to correspond with first year SHS students. Since each of the books was usable at all levels, it implies that the books must be readable to all high school students including those in SHS 1 (10<sup>th</sup> graders).

Considering the original sample, it is observed from Table 3 that two out of the four books recorded significantly higher FKGL scores than the threshold of grade 10. These were the ‘Come, Let's Summarise English and ‘Objective English for top senior secondary schools

. Although the ‘comprehension’ textbook was supposedly within the reading level of the students in the original sample, the bootstrapped sample suggested otherwise. Since the

bootstrapped samples give accurate estimates of the significant values, it implies some sort of bias in the original sample mitigated against the supposed readable nature of the comprehension textbook. Hence, the results from the bootstrapped sample was used for interpretation instead of the original samples. It is interesting that 'Come, Let's Summarise English textbook was above the reading age of all students. Therefore, the analysis revealed that there is a statistically significant difference in the readability of the four English textbooks and the threshold the grade 10 bench mark set for the analysis. This came to light only after a bootstrapping analysis was conducted on the original sample size. This finding corroborates with Kohali (2012) who conducted a similar study by comparing the readability levels of textbooks translated in English and their Persian translations and found that Persian translations of English textbooks were less readable than their English counterparts. Yet, the low readability suggests that the book is inundated with long sentences and higher proportion of multisyllabic words.

The touch of class book, though showed no statistically significant difference with 10<sup>th</sup> grade readers ability, the mean difference was very small (MD = 0.61). Therefore, for even the most readable textbook, the readability was still not the best. More appropriately, it has been suggested that readers read much better and comprehend much better at a reading level below their own level (Cutts, 2013). According to the Flesch Reading Ease Index employed in this study, low readability is associated with long sentences and higher percentage of polysyllabic words. Therefore, these variables contributed to the poor readability of the textbooks. Commenting on the effect of long sentences on readability, Cutts, (2013) asserts that long sentences give the reader too much to cope with. Therefore, authors should favour simple grammatical structures since complex grammatical structures put too much strain on readers' short term memory. He further adds that readers generally coil when long sentences stair at their faces like "Burmese Python". The low readability suggests low understandability, which could contribute to poor academic performance.

## **CONCLUSION AND FURTHER RESEARCH**

In this study the readability of four English textbooks that were authored by Naa Afarley Sackeyfio and are widely used in Ghanaian senior high schools was examined. The first research question sought to examine the readability of the textbooks when measured in terms of the Flesch Reading Ease readability formula and Flesch Kincaid Grade Level. The analysis revealed that the textbooks were generally difficult to comprehend. Amongst the four books, *A touch of class in Senior English* text was the easiest to read whiles 'Objective English for top senior secondary schools English textbook was found to be the most difficult to read textbook.

In fact, the analysis revealed that one needs to acquire 16 years of education (must have graduated from the university) to comprehend 'Objective English for top senior secondary schools *English* textbook. It is not surprising that parents, stakeholders, and teachers are all perturbed about the poor performance in English Language examinations of our students in the senior high schools. A factor responsible for this may be as a result of the inability of students to comprehend the textbooks they read.

The second research question sought to determine whether there existed statistically significant differences in the readability of the four textbooks used for the study compared to the grade level of the students the books are meant for. The study revealed that the readability level of the 'Objective English for top senior secondary schools and. 'Come, Let's Summarise English textbooks were statistically higher (more difficult to read) compared to the grade level of the students. Bootstrapping further revealed that The *comprehension plus* text book was also more difficult to read compared to the reading level of the intended students. It is important that authors of textbooks write with the grade level of their intended readers in mind. This enhances teaching and learning since textbooks are major resource in pedagogy

Based on the findings of the study, the researcher makes two recommendations. First, it must be made mandatory that English Language textbooks used at the senior high school level in Ghana must strictly correspond to the grade level of recommended users. A department must be established at the Curriculum Research and Development Division (CRDD) of the Ghana Education Service to ensure that this is done. This has the potential of improving the ill-performance of students in their examinations. Second, readability analysis 'clinics' must be organised periodically for teachers of English at the senior high school level so that they can be equipped with this important skill. This is important because these teachers are also authors. The teachers write pamphlets and textbooks for their students. Apart from this, they also write texts for comprehension and summary studies. These texts need to conform to the grade level of their students. Hence, the need for them to be trained to gain the skill needed for conducting readability analysis.

## REFERENCES

- Adika, G. S. K. (2003). A theme-structure approach to evaluating aspects of university students' expository texts. In E.K. Osam & G.S. K. Adika (eds), *Legon Journal of the Humanities*, 14:55-78.
- Bailin, A., & Grafstein, A. (2016). *Readability: Text and context*. Hampshire: Palgrave Macmillan. <http://doi.org/10.1017/CBO9781107415324.004>
- Bargate, K. (2012). The readability of managerial accounting and financial management textbooks. *Meditari Accountancy Research*, 20(1), 4–20. <http://doi.org/10.1108/10222521211234192>
- Barrett, A.M. (2014). Language, learning and textbooks, language supportive teaching and textbooks research brief no. 1, Bristol: University of Bristol. .
- Barrett, A.M., Mtana, N., Osaki, K. & Rubagumya, C. (2014). Baseline study report, strengthening secondary education in practice: Language supportive teaching and textbooks in Tanzania (LSTT). .
- Berndt, A., & Wayland, J. P. (2014). Evaluating the readability of marketing research textbooks: an international comparison. *Journal of International Education in Business*, 7(1), 47–59. <http://doi.org/http://dx.doi.org/10.1108/JIEB-03-2013-0009>
- Budiarti, Nuraini Indah (2014) *The Readability Level Of English Reading Texts For Grade VI Students Of Smp Negeri 1 Jetis Bantul* S1 thesis, Universitas Negeri Yogyakarta.

- Cheney, G. (2011). *Organizational communication in an age of globalization: Issues, reflections, practices*. Long Grove, IL: Waveland Press
- Chiang-Soong, B., & Yager, R. E. (1993). Readability Levels of the Science Textbooks Most Used in Secondary Schools. *School Science and Mathematics*, 1, 24–27.
- Cutts, M. (2013). *Oxford guide to plain English*. Oxford: Oxford University Press. <http://doi.org/10.1017/CBO9781107415324.004>
- EdQual. (2010). *Language of instruction and Quality of Learning in Tanzania and Ghana* (EdQual No. 2). Bristol. Place and publisher
- Etsey, K. F. (April, 2009). Best practices in reading comprehension instruction: Improving the reading comprehension instruction of English Language learners using the cognitive apprenticeship model. *Ghana Journal of Education: Issues and Practice*, 1 (1), 35-52.
- Field, A. (2013). *Discovering statistics using IBM SPSS statistics*. *Statistics*. <http://doi.org/10.1016/B978-012691360-6/50012-4>
- Keyton, J. (2011). *Communication and organizational culture: A key to understanding work experience*. Thousand Oaks, CA: Sage.
- Kolahi, S., & Shirvani, E. (2012). A Comparative Study of the Readability of English Textbooks of Translation and Their Persian Translations. *International Journal of Linguistics*, 4(4), 344-361. <http://dx.doi.org/10.5296/ijl.v4i4.2737>
- Li, H. (2011). Readability assessment and comparison of Chinese and American college EFL reading textbooks based on information analysis. *Communications in Computer and Information Science*, 218 CCIS(PART 5), 539–542. [http://doi.org/10.1007/978-3-642-23357-9\\_96](http://doi.org/10.1007/978-3-642-23357-9_96)
- Lunenburg, F. C. (2010). Communication: The process, barriers, and improving effectiveness, *Cognition and Instruction* 1 (2010), pp. 1-11
- McNamara, D. S., Kintsch, E., Butler-Songer, N., & Kintsch, W. (1996). Are good texts always better? Interactions of text coherence, background knowledge, and levels of understanding in learning from text. *Cognition and Instruction*, 14,1–43.
- MacAllister, J. B., & Duckworth, J. (1981). Readability and style: The view from our textbooks. *Rhetoric Society Quarterly*, 11(3), 138–144. <http://doi.org/10.1080/02773948109390606>
- Miller, D. (2011). ESL reading textbooks vs . university textbooks : Are we giving our students the input they may need ? *Journal of English for Academic Purposes*, 10(1), 32–46. <http://doi.org/10.1016/j.jeap.2010.12.002>
- Mujiyanto, Y. (2015). Comparing the Readability Levels of a Source Text and its Back-Translations. Paper presented at the 4th *ELTLT International Conference*, Semarang 10-11 October.
- O'keeffe, L., & O'donoghue, J. (2014). A role for language analysis in mathematics textbook analysis. *International Journal of Science and Mathematics Education*, (November 2012).
- Oktaviani, I. 2006. Readability Level of English Reading Texts Used by Sixth Grade Students of SD N Sukorejo I Tambakrejo Bojonegoro. A Thesis. Malang: English Education Department, Graduate School Muhammadiyah Malang University
- Owu-Ewie, C. (2014). Readability of Comprehension Passages in Junior High School ( Jhs ) English Textbooks in Ghana. *Ghana Journal of Linguistics*, 68, 35–68.
- Percorari, D., Shaw, P., Malmstrom, H., & Irvine, A. (2011). English Textbooks in

- Parallel-Language Tertiary Education. *Tesol Quaterly*, 45(2), 313–333. <http://doi.org/10.2307/41307633>
- Perekeme, B. A. D., & Agbor, C. A. (2012). Readability of Language Textbooks Prescribed for Junior Secondary Schools and Students' Performance in Reading Comprehension in Bayelsa State, Nigeria. *British Journal of Arts and Social Sciences*, 9(I), 89–96.
- Sackeyfio, N.A (1999a). A touch of class in Senior English. (Third edition). Pedacons, Ghana.
- Sackeyfio, N.A. (1999b). Come, let's summarise English. (Third edition). Pedacons, Ghana.
- Sackeyfio, N.A. (1999c). Objective English for top Senior Secondary schools. Accra: Pedacons (Third edition). Pedacons, Ghana.
- Sackeyfio, N.A. (1994). English for top senior secondary schools.(Third edition).Pedacons, Ghana.
- Schneider, D. E. (1992). A Comparison of Readability Levels of Textbooks in Public Speaking and Interpersonal Communication. *Communication Education*, 41, 400–404. <http://doi.org/10.1080/03634529209378901>
- Skovsmose, O. L. E., & Borba, M. (2004). Research Methodology and, 5(1999), 207–226. <http://doi.org/10.9790/7388-05344851>
- Sung, Y. T., Lin, W. C., Dyson, S. B., Chang, K. E., & Chen, Y. C. (2015). Leveling L2 Texts Through Readability: Combining Multilevel Linguistic Features with the CEFR. *Modern Language Journal*, 99(2), 371–391. <http://doi.org/10.1111/modl.12213>
- Tabachnick, B., & Fidell, L. (2013). *Using multivariate statistics* (six). <http://doi.org/10.1037/022267>
- Tinkler, S., & Woods, J. (2013). The Readability of Principles of Macroeconomics Textbooks. *The Journal of Economic Education*, 44(2), 178–191. <http://doi.org/10.1080/00220485.2013.770345>
- Torki, S. (2012). *The relationship between learners' lexical coverage and the readability levels of the Algerian English textbooks*. Ferhat Abbas University.
- Udenwa, V., & Ikonta, N. (2008). Evaluation of English Language Textbooks Used in the Junior Secondary Schools in Nigeria: A Case Study of Lagos State Schools. *International Journal of Educational Research*, 4(1).
- Ulusoy, M. (2009). Using cloze test to measure students' reading levels and readability of texts. *Journal of Turkish Educational Sciences*, 7(1), 105-126
- West African Examination Council (2016). Chief Examiners' Report. [www.waecgh.org/Portals/0/PDF/Humanities12.pdf](http://www.waecgh.org/Portals/0/PDF/Humanities12.pdf)
- Wissing, G, Blignaut, A. S. & Berg, K. (2016). Using readability, comprehensibility and lexical coverage to evaluate the suitability of an introductory accountancy textbook to its readership. Stellenbosch Papers in *Linguistics*, 46(1):155-180 doi: 10.5774/46-0-205

**APPENDIX A: FLESCH READABILITY SCALE**

<b>Reading score</b>	<b>Difficulty</b>	<b>Grade Level</b>
90–100	Very easy	Grade 4
80–90	Easy	Grade 5
70–80	Fairly easy	Grade 6
60–70	Standard	Grades 7–8
50–60	Fairly difficult	Some high school
30–50	Difficult	High School & College
0–30	Very difficult	Minimum college