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English Textbook Propriety in Ghana: Examining the Arbitrary Text Appropriation Factor

Justine Bakuuro[1*], Africanus Diedong,[2] Damasus Tuurosong[3]

Abstract

The study examines the suitability of texts in Ghanaian Senior High School English textbooks to intended students. The data was culled from the Global Series English textbook series used in Ghanaian Senior High Schools for the teaching of the English language. Using the mixed-method design, the study revealed that there is gross arbitrary (mis)appropriation of texts in Ghanaian English textbooks to the intended learners as the readability levels of the sampled texts were found to be far above the intended graders. Although the study is focused on senior high school, most of the texts (76%) were found to have readability levels suitable for undergraduate and postgraduate learners as they recorded very high readability values. Only two percent (2%) of the texts were found to be suitable for their intended graders. The study concludes that readability tests should be conducted on English textbooks before assigning them to students at various grades.

Keywords

Readability, English Textbook, Grade Propriety, Arbitrary Text Appropriation, Ghana.

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[1,2,3] Simon Diedong Dombo University of Business and Integrated Development Studies, Ghana,
Corresponding Author: justinebakuuro16@gmail.com

Introduction

In determining the readability of a text, the Gunning Fog Index (GFI) is used and widely accepted by most authors and educationists. This formula is simple in application. According to Gunning (1952), the GFI is used to determine the amount of fog, obscurity, ambiguity or complexity in writing. He argues that words that have 3 or more syllables are "hard words" and that these words should be counted and added to the average length of the sentences in the text. The result is then multiplied by 0.4.

Admittedly, there are numerous formulae in measuring readability but Gunning's formula and Flesch Reading Ease scale are the most popular and widely known and used, arguably, due to its simplicity and ease of applicability. As indicated earlier, the main goal of the readability theory is to improve upon writing and therefore this quest by sectors of society to improve upon writing has resulted in well over a hundred different methods in determining readability,including methods used in critical discourse studies as exemplified in Bakuuro and Africanus (2021). It is worthy of note that most of these formulae are based on the idea that when short sentences and short words are used in a text, that text will generally have high readability rate.

In the light of this, the study takes a close look at the extent of lexical density and readability of texts used in Ghanaian Senior High School (SHS) English textbooks. Basically, the connect between LD and text readability at each of the three stages of learning at the Senior High School level in Ghana remains the focus of this study. That is, the right appropriation of texts to SHS academic levels using the benchmarks of lexical density and readability forms the functional objective of this study. In arriving at this, the study examines the Lexical Density (LD) levels of SHS English texts across the three academic levels (Form 1-3) and how LD levels relate to readability.

In his seminal work, Thorndike (1921) observed that text difficulty is one of the key factors in choosing course books while text readability serves as an important indicator to measure the text difficulty. According to Bakuuro (2024), texts in English Textbooks for various grades of SHS in Ghana are generally allocated without recourse to their level of difficulty relative to academic level or grade. This claim is premised on the fact that several readability studies within the Ghanaian education system point to general text misappropriation to grades and audience in general (Gyasi, 2013a; Nunoo et al, 2021; Owu-

Ewie, 2014; & Owu-Ewie, 2018). This undermines adherence to appropriate academic standards in terms of content appropriation, resulting ultimately in poor academic performance (Gyasi, 2013a; Nunoo et al, 2021; Owu-Ewie, 2014; & Owu-Ewie,2018). In order to ensure that texts are readable to their intended audiences, Gyasi (2017a) recommends that authors use plain and concise language whilst maintaining an average sentence length of 15-20 words. O'Sullivan et al (2020) recommend the application of readability and LD metrics to texts before assigning them to learners at different academic levels. According to Bakuuro (2023), this state of affairs is signaled by gaps in existing literature and methodology in readability studies across the globe. In the literature, various studies, both local and global, have not particularly focused on the need to check text-grade suitability of texts before assigning them to various graders. Texts are appropriated arbitrarily to various graders. Also, studies reviewed in this paper generally do not apply both metric and grader assessment technics in their analysis and conclusions, thereby creating a methodological lacuna. This paper attempts filling up these gaps, which technically serve as the problem in this study.

Fundamentally, this study aims to examine the readability status of assigned texts to senior high school learners in Ghana, with the view to causing effective teaching and learning. To that end, an exploration of the text-grade suitability of English Course books at the senior high school level in Ghana forms part of the basis of this study. Simply put, the study seeks answers to the questions: (1) What is the readability status of assigned texts to senior high school learners in Ghana? (2) How suitable are English Course books at the senior high school level in Ghana to their intended learners in terms of readability?

Literature Review/Theoretical Frameworks

In Miftahurrahmi et al (2017), the primary emphasis of the study is how readable the HSSC-II textbook is. The study assessed the HSSC-II English textbook, which is taught at all colleges associated with the Federal Board of Intermediate and Secondary Education (FBISE), in light of the significance of textbook evaluation. The readability of a few chosen passages from the book has been assessed by analysis. The texts were examined using the Text Readability Consensus Calculator (TRCC), an online text evaluation tool that establishes the reader's age, grade level, and text readability in addition to the content's appropriateness. The students' comprehension test scores and the text's readability scores as determined by the

TRCC were compared. In this comparison, the evaluator evaluates the simplified text as "fairly easy to read" for native readers among 12–14-year-old 7th and 8th grade students, whereas the original text is rated as "fairly difficult to read" by 13–15-year-old native readers among 8th and 9th grade students. Even though the results of the comprehension test for non-native readers indicate that the book is quite challenging, non-native students in the 12th grade, who are on average 17 years old, only scored 39% in the original text and 47.6% in the simplified version.

Sholiha (2018) examines the degree of readability of texts in the English textbook "Bahasa Inggris" for XII senior high school students. This study employed a descriptive qualitative methodology. The readability level of the texts was analyzed using the Flasch Reading Ease Formula to collect the data. Six works out of 16 are legible or appropriate for Senior High School students in grade XII, according to the research's findings. These fall into two categories: reading level range scores 30–50 and 50–60.

The goal in Yulianto (2019) is to use automated computer methods to assess the readability of English reading texts. In this qualitative study, eight reading texts will be examined. The Pathway to English 2 Textbook for the Eighth Grade of Junior High School Students is an English textbook that served as the source and source of data for this study. The findings show that just one text was suitable for junior high school pupils in grades seven or eight. Six texts were suitable for primary school students. Additionally, there was one text that senior high school students may use.

In Tabatabaei (2013), the readability indices of reading passages in English textbooks used in senior high schools in Iran were taken into consideration. Thirty English texts were entered into a computer to estimate the Flesch readability indexes of the passages in order to measure the readability indexes of the passages. In order to determine how interested or knowledgeable the students were in the passages in their English textbooks, this study also looked at the prior knowledge-interest levels of the students. A Likert-type scale questionnaire was filled out by 120 participants in the study, 60 of whom were male and 60 of whom were female. The investigation also examined the relationship between students' interest and background knowledge levels and the readability indices of the texts. The study's findings showed that the readability indices of the sections in English textbooks for high school students did not meet the Flesch readability requirement. The findings also revealed that when

it came to reading sections from their English textbooks, most students had a mediocre level of enthusiasm and previous knowledge. The study's conclusions showed a strong correlation between students' levels of interest and prior knowledge.

Turkben (2019) analyzed the readability levels of texts in Turkish course textbooks to reveal the understanding of texts selected. Two formulae adapted to Turkish language were used in identifying the readability levels of texts by considering the number of words in a sentence and the syllables in a word and then going on to calculate the average word and sentence length to arrive at the readability scores of texts. The results revealed that the readability levels of narrative texts are easier compared to informing texts.

Li and Zhang (2021) investigated the readability levels of English course books (4 of them) for college students. They used Flesch Reading Ease Scale as the main tool for the analysis. The aim of the study was to ascertain whether the compilation of the course books considered the rule of text difficulty developed from low to high. The study drew the conclusion that readability scores differ significantly among the texts in the four volumes of the course book. Texts in Volume 3 had a shorter average sentence length than those in Volume 2. Volumes 1,2 and 4 generally showed a trend of increasing difficulty from low to high with volume 3 having lower value than Volume 2.

Gallagher et al (2017) mapped science curriculum standards onto various texts namely, literacy readers, trade books and online articles. In that study, the analysis statistically points to inconsistencies among readability formulae for Grades 2 to 6 levels. A lack of correlation was detected among readability measures whilst comparing the different text sources. Online texts were identified to have very varied levels in terms of text difficulty. This implies that elementary school teachers should support students who learn through reading online, science-based resources. With the evolvement of learning through multi-modal literacies in the 21st Century, the readability of online, content-based text should be evaluated to ensure accessibility to all readers. That study discovered inconsistencies in readability formulae when they are applied to the same texts across academic grades. The current study equally compares readability formulae in their application to same texts across grades.

Bansiong (2019) analyzed 4 commercial science textbooks designed for third grade Filipino learners, on the basis of readability and comprehensibility, content and mechanical features. Sonmez's formular and the Cloze test methods were used to determine

comprehensibility whilst readability was explored with the use of popular readability indices namely, Gunning and Flesch Readability indices. Textbook alignment with national science standards, conceptual errors and level of gender bias formed the content features under exploration similar to Bakuuro and Onoja (2024)'s study. The mechanical features under review included the lay-out, printing and handiness of the textbooks. Readability analysis suggested that the textbooks were about 3 to 4 grades more advanced and 2 to 3 years older than their intended users. Generally, the dominant reading ease of the 4 course books were between "fairly easy" to "easy". There was no "very easy" rating and they ranged through "difficult" to "very, very difficult". Generally, the 4 textbooks were suitable for 6th and 7th grades. The texts were rated as highly aligned to the country's national science standards. Three of the 4 textbooks were found to be gender fair while one had low-level male bias. Averagely, the error/conceptual problem density was at one error in every six to eight pages. Misidentifications were found to be the commonest conceptual problems in the textbooks. Mechanically, the textbooks were found to be very good as they were very good in printing, lay-out, paper quality, binding and handiness. Bansiong (2019) has its focus on text-grade suitability using different readability metrics.

Lee and Lee (2020) used the LXPER Index to assess readability of texts for non-native English speakers. This was informed by the fact that most readability assessments are usually done on native readers/speakers of English. These assessments yield low accuracy scores when applied to non-native English language training curriculum. The researchers applied all the 22 features of the LXPER Index to cause validity and reliability of readability scores. A text corpus of the Korean ELT curriculum was used as the data (CoKEC-text). This was the first collection of texts from a non-native country's ELT curriculum. The results showed that the new model, LXPER trained with CoKEC-text significantly improves the accuracy of automatic readability assessment for texts in the Korean ELT curriculum. This method can be adopted for other ELT curricula around the globe.

This study is anchored by two (2) main theories, namely, the Grammatical Intricacy theory and the Information theory. Details pertaining to the assumptions of these theories are carefully explained below.

The Grammatical Intricacy Theory: Eggins (2004) opines that the formula for finding GI is by expressing the number of ranking clauses as a proportion of the number of sentences

in a text. Grammatical intricacy refers to how often a clause complex appears in a text in comparison with simple clauses. It is a theory propounded by Eggins (2004). According to him, Texts with high grammatical intricacy are characterised as being in the written mode whilst those with low grammatical intricacy are characterised as being in the spoken mode. Many linguistic scholars agree with the assertion that written texts are more difficult or complex compared to their non-written counterparts (Eggins 2004; Halliday 1985b; Ure 1971; and Gallagher et al 2017, among others). This theory applies centrally in Halliday's LD formula which is used in this study.

The Information theory: This is a mathematical representation of the conditions and parameters affecting the transmission and processing of information. Most closely associated with the work of the American electrical engineer Claude Shannon in the mid-20th century, information theory is chiefly of interest to communication engineers, though some of the concepts have been adopted and used in such fields as psychology and linguistics. Information theory overlaps heavily with communication theory, but it is more oriented toward the fundamental limitations on the processing and communication of information and less oriented toward the detailed operation of particular devices.

The key concept of information theory is entropy, on which the readability of a text depends. Entropy is the amount of information in a text, defined by the degree to which the textual content is surprising, i.e. by the degree of its so-called surprisal. Surprisal as a concept in the information theory is synonymous with lexical density in readability studies. If the surprisal of the content is high, the text is highly informative (high LD). On the other hand, if the surprisal of the content is low (low LD), the text carries very little information.

Methods

This study follows a constructivist research paradigm, emphasizing the belief that reality is a product of human interaction with real-world experiences (Elkind, 2004). In line with this, the research employs a mixed methods approach, combining descriptive qualitative content analysis with numerical data. The qualitative component focuses on the detailed textual analysis, using content analysis tools to determine the presence and relationships of key themes or concepts. Meanwhile, the quantitative aspect involves applying readability metrics to the texts to quantify their complexity.

The study analyzes 45 different texts from a widely used English textbook series, drawing from 15 texts each from the three genres of writing: narrative, descriptive, and expository. These texts represent the three academic levels of Senior High School (SHS1-3). The texts are analyzed using both Lexical Density (LD) formulae by Ure and Halliday, and readability indices by Gunning and Flesch. The content analysis is coupled with the numerical analysis of readability metrics, providing a comprehensive understanding of the relationship between lexical density, readability, and the appropriateness of texts for different academic levels.

Research Design

This study adopts an analytical research design that combines both descriptive and analytical approaches. The descriptive nature of the study lies in the use of content analysis to explore text characteristics and quantify elements like syllables, sentences, and words. The analytical aspect involves evaluating the readability and lexical density of the texts, examining their suitability for specific academic levels. The design is both qualitative in terms of content analysis and quantitative in its use of statistical measures to analyze text complexity.

The study's reliance on a mixed methods approach allows for a well-rounded exploration of the data, utilizing both textual analysis and numerical data. This design is particularly relevant as it enables the researcher to ascertain how well the readability and lexical density metrics align with the intended grade levels, thereby contributing to the understanding of text complexity in educational contexts.

Participants

This study's participants are the texts drawn from the Global Series, an English textbook used in Senior High Schools (SHS) in Ghana. The researcher did not focus on human participants but instead employed a universal sampling method, selecting all 45 texts available across three genres (narrative, descriptive, expository) from three academic levels (SHS1-3).

The texts were carefully selected to represent diverse writing styles and to ensure a comprehensive analysis of the various academic levels. These 45 texts form the entire dataset for the study, making the sampling percentage 100%. Additionally, the study also involved two research assistants who assisted with verifying the textual data, ensuring consistency in genre classification and lexical analysis.

Data Collection and Analysis

Data for this study were collected from 45 texts in the Global Series English textbook. These texts were retyped and edited to match the original versions exactly. The data collection process involved applying Lexical Density (LD) analysis using the Ure and Halliday formulae and readability tests using the Gunning Fog Index and Flesch Readability Index. These tools were used to process the texts, providing numerical data for further analysis.

The data analysis plan employed a combination of tools and methodologies to ensure accurate and reliable results. Microsoft Word was used for counting words and analyzing basic readability statistics, while Microsoft Excel facilitated data analysis by determining the correlation between lexical density and readability scores. Online tools like Textalyser and Lexicool were utilized to assess word frequency, sentence structure, and character count, helping to evaluate the complexity of the texts. Additionally, the Syllable Counter tool was used to verify syllable counts, with results cross-checked against the Merriam-Webster dictionary to ensure accuracy.

The data were then analyzed to explore the relationships between lexical density and readability across different genres and academic levels. The findings were tested for inter-rater reliability, with two research assistants independently verifying the analysis of text classification, syllable counts, and readability assessments. The results were compared and confirmed before finalizing the analysis.

Ethical Considerations were upheld throughout the study, with permission obtained from the author of the textbook series to use the texts, and no human participants were involved in the data collection process. All research procedures were carried out in alignment with ethical standards to ensure the validity and integrity of the study's findings.

Findings

As indicated earlier, the Flesch reading ease scale would be applied to the analyzed texts to determine their suitability to the intended grades. The original Flesch reading ease scale and the adapted translation version of same are introduced for the analysis in the tables below.

Table 1 Flesch's Reading Ease Scale (Original)

Flesch Reading Ease	Description of Style	Educational Attainment Level (USA)
0 - 30	Very Difficult	Postgraduate
30 - 50	Difficult	Undergraduate
50 - 60	Fairly Difficult	Grade 10 - 12
60 - 70	Standard	Grade 8 - 9
70 - 80	Fairly Easy	Grade 7
80 - 90	Easy	Grade 6
90 - 100	Very Easy	Grade 5

Source: *Kim et al. (2018)*

Table 2 Flesch's Reading Ease Scale (Adapted Translation)

Flesch Reading Ease	Description of Style	Educational Attainment Level (USA)
0 - 10	Very Easy	Grade 5
10 - 20	Easy	Grade 6
20 - 30	Fairly Easy	Grade 7
30 - 40	Standard	Grade 8 - 9
40 - 50	Fairly Difficult	Grade 10 - 12
50 - 700	Difficult	Undergraduate
70 - 100	Very Difficult	Postgraduate

Source: *Flesch (1948)*

Based on the adapted translation version in table 2, the Flesch reading ease scale has been applied to Ghana's educational structure as shown in table 3.

Table 3 Flesch's Grade-Readability Scale Applied to Ghanaian Educational System

Educational Attainment Level (Ghana)	Flesch Reading Ease Percentage	Educational Attainment Level (USA)	Description of Text Difficulty
BS 01	N/A	N/A	N/A
BS 02	N/A	N/A	N/A
BS 03	N/A	N/A	N/A
BS 04	N/A	N/A	N/A
BS 05	0 – 10	Grade 05	Very Easy
BS 06	11 – 20	Grade 06	Easy
JHS 01	21 – 30	Grade 07	Fairly Easy
JHS 02	31 – 35	Grade 8 – 9	Standard
JHS 03	36 – 40		
SHS 01	41 – 43	Grade 10 – 12	Fairly Difficult
SHS 02	44 – 46		
SHS 03	47 – 50		
L 100 (Undergrand 01)	51 – 55	Undergraduate	Difficult

Educational Attainment Level (Ghana)	Flesch Reading Ease Percentage	Educational Attainment Level (USA)	Description of Text Difficulty
L 200 (Undergrand 02)	56 – 60		
L 300 (Undergrand 03)	61 – 70		
L 400 (Undergrand 04)	66 – 70		
L 500 (Masters 01)	71 – 75	Post Graduate	Very Difficult
L 600 (Masters 02)	76 – 80	(Masters)	
L 700 (PhD 01)	81 – 85	Post Graduate (PhD)	Very, Very
L 800 (PhD 02)	86 – 90		Difficult
L 900 (PhD 03)	91 – 95		
L 1000 (PhD 04)	96 – 100 and above		

Source: *Flesch (1948)*

With the adapted translation in table 3 as the benchmark, the readability values of Gunning and Flesch have been measured on the Flesch reading ease scale. In all, only 2 texts have been found to suit their intended grades. These are narrative text 2 for SHS 1 learners using Flesch's readability formular (43%) and descriptive text 2 for SHS 2 learners using Flesch's readability formular (46%). It is significant to note that it is only Flesch's readability formular that found the 2 texts to be suitable to the respective grades whilst Gunning's readability metric did not yield same results. This represents only 2% suitability of all texts used in this study. These 2 suitable texts are in bold print and underlined in table 4.

Table 4 Gunning (G'ng) and Flesc h Readability (Rdb'ty) Values Per Genre Per Level

	Text 1		**Text 2**		**Text 3**		**Text 4**		**Text 5**		**Averages**	
	G'ng	Flesch	G'ng	Flesch	G'ng	Flesch	G'ng	Flesch	G'ng	Flesch	G'ng	Flesch
Narrative texts-SHS1	12	77	08	**<u>43</u>**	14	38	24	68	34	46	**18**	**54**
Narrative texts-SHS2	09	77	18	51	18	41	21	71	31	51	**19**	**58**
Narrative texts-SHS3	10	80	15	44	21	36	18	72	30	53	**19**	**57**
Descriptive texts-SHS 1	09	83	19	34	23	35	19	81	29	64	**20**	**59**

	Text 1		Text 2		Text 3		Text 4		Text 5		Averages	
	G'ng	Flesch	G'ng	Flesch	G'ng	Flesch	G'ng	Flesch	G'ng	Flesch	G'ng	Flesch
Descriptive texts-SHS 2	11	77	21	**46**	18	68	25	76	28	67	**21**	**67**
Descriptive texts-SHS 3	14	68	20	41`	15	63	28	72	17	71	**19**	**63**
Expository texts-SHS 1	15	80	14	56	18	71	30	69	11	69	**18**	**69**
Expository texts-SHS 2	14	71	16	47	18	77	18	68	09	64	**15**	**65**
Expository texts-SHS 3	10	77	13	40	20	65	27	67	14	60	**17**	**62**

Discussion

The adapted Flesch Grade-Readability Index serves as the launch pad or benchmark for answering this research question based on the findings from the analysis of data. The Flesch Grade-Readability Index or scale is an original scale adaptable to other educational systems (To et al 2013). The adapted version of the scale to the Ghanaian educational system is what has been used to measure the suitability or otherwise of the texts that have been assigned to respective grades. The adapted translation covers Basic One up to PhD Year 3 or 4 (as the case may be) of the Ghanaian Educational System.

The findings using Ure's (1971) LD formula show that most of the forty-five (45) texts used for the study were meant for undergraduate and postgraduate level students by their levels of difficulty. Many of the texts according to this readability formula were found to be of equal difficulty level with texts for Level 100,200 and 300 undergraduate students. This is an interesting revelation, given the fact that texts that were assigned for SHS 1, 2 and 3 students had readability levels equal to those of undergraduate and postgraduate students. Few of the texts were also found to be suitable for basic and junior high school learners. For example, the expository text sample assigned to SHS 1 students was found to have the same readability level of texts meant for Level 600 students (Master's year 2); whilst the sampled text for narrative genre assigned to SHS 1 students was found to have the same readability level of texts meant for grade 5 pupils. This finding does not corroborate the primary propositions of the Flesch

Grade-Readability Index. This apparent contradiction in findings underscores the need to apply readability paradigms to texts before assigning them to academic levels. This affirms Bani-Amer (2021)'s findings in which the study revealed that secondary stage textbooks for English for 12th Grade is suitable for 8th and 9th Grades whilst that for 11th Grade is suitable for 7th Grade. Bani-Amer (2021) concluded that secondary stage English textbooks do not meet standard requirements of readability indices because they are easier or harder for the target levels.

The findings similarly affirm those of Istiqomah (2015) which studied the readability of English textbooks used by second year SHS students. The textbooks were found not to be appropriate for SHS students but rather for Junior High School (JHS) students. These findings however contradict To (2018) which revealed a consistent reasonable increase in difficulty level. Overall, Ure (1971)'s LD formula found that higher level texts were assigned to lower grades. It equally contradicts Prawinanto and Bram (2020) which found the average LD level of the text used for their study to be 47%, making it suitable for the intended 10th Graders.

Using Halliday (1985b)'s LD formula for the analysis revealed gross misappropriation of texts to academic levels within the Ghanaian educational system, in much the same manner as Ure's (1971) findings. Of the total of forty-five (45) texts under study, over 35 were found to be suitable for learners at undergraduate level, ranging from Level 100 to Level 400.This is an incredible violation of the guiding tenets set out in the Flesch Grade-Readability Index for measuring text-grade suitability. One of the texts was found to be appropriate or suitable for the intended grade (Narrative text for SHS 3). The last text was found to be suitable for JHS 3 students when its actual intended grade was SHS 1. Generally, these findings do not affirm or corroborate the key propositions of the Flesch Grade-Readability Index. The two texts which were found to fit their intended grades could be described as accidental or out of the fluke.

The descriptive text meant for SHS 3 was found to have readability level equal to that meant for students at the Masters level. This affirms Bani-Amer (2021)'s findings in which the study revealed that secondary stage textbooks for English for 12th Grade is suitable for 8th and 9th Grades whilst that for 11th Grade is suitable for 7th Grade. Bani-Amer (2021) concluded that secondary stage English textbooks do not meet standard requirements of readability indices because they are easier or harder for their target levels.

In contrast however, Li and Zhang (2021) found a near-perfect appropriation of texts to academic levels, with volumes 1,2 and 4 of the same course books used showing a trend of increasing difficulty from low to high with only volume 3 having lower value than Volume 2. The findings similarly affirm Istiqomah (2015) which studied the readability of English textbooks used by second year SHS students. The textbooks were found not to be appropriate for SHS students but rather for Junior High School (JHS) students. These findings however contradict To (2018) which revealed that texts in the series of the textbook used grew more and more complex as their levels advanced. It equally contradicts Prawinanto and Bram (2020) which found the average LD level of the text used for their study to be 47%, making it suitable for the intended 10th Graders. Overall, Halliday's (1985b) LD formula found that higher level texts were assigned to lower grades.

In contrast to the findings of Ure (1971) and Halliday (1985b) regarding text-grade suitability, the findings of Gunning (1952) revealed that all forty-five (45) texts analyzed using the Gunning Fog Index were found to be suitable for Basic school pupils, particularly Basic Five and Basic Six. Whilst the findings in Ure (1971) and Halliday (1985b) suggest that higher level texts were assigned to lower grades, the Gunning Fog Index findings suggest that lower-level texts were assigned to higher grades, with a very significant level gap of between 3 and 6 years. This finding equally stands in contrast to the ground propositions of the Flesch Grade-Readability Index. This affirms Bani-Amer's (2021) findings in which the study revealed that secondary stage textbooks for English for 12th Grade is suitable for 8th and 9th Grades whilst that for 11th Grade is suitable for 7th Grade. Bani-Amer (2021) concluded that secondary stage English textbooks do not meet standard requirements of readability indices because they are easier or harder than the expected ratings for the target levels. The findings similarly affirm Istiqomah (2015) which studied the readability of English textbooks used by second year SHS students. The textbooks were found not to be appropriate for SHS students but rather for Junior High School (JHS) students.

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Bani-Amer (2021) concluded that secondary stage English textbooks do not meet standard requirements of readability indices because they are easier or harder than the expected indices for the target levels. The findings similarly affirm Istiqomah (2015) which studied the readability of English textbooks used by second year SHS students. The textbooks were found not to be appropriate for SHS students but rather for Junior High School (JHS) students. These findings however contradict To (2018) which revealed that texts in the series of the textbook used grew more and more complex as their levels advanced. It equally contradicts Prawinanto and Bram (2020) which found the average LD level of the text used for their study to be 47%, making it suitable for the intended 10th Graders. Overall, the Flesch readability formular found that far higher texts were assigned to lower grades. Though Bani-Amer (2021) employs the use of Halliday and Ure's LD formulae with Flesch's Reading Ease Scale used in rating the LD scores, it did not employ Flesch's Readability Formular itself. The current study however compares readability scores using Gunning and Flesch readability formulae per Bakuuro et al (2024). This therefore makes the current study a significant extension of literature over other studies in this field.

Conclusion

In sum, this study reveals that over 80% of texts assigned to SHS students are texts meant for undergraduate and postgraduate students whilst around 20% of them are texts meant for Basic school learners. Clearly, this is in contravention of the standards in text-grade allocation according to the Flesch Text-Grade Scale. Senior High School students in Ghana are thus treated unfairly in terms of what texts they are made to read at various levels of their academic progression. Undoubtedly, this impedes academic progress by either slowing down the learner (as in lower texts assigned to higher grades) or impeding learner progress (as in higher texts assigned to lower grades).To this end, one may conclude that the extent of suitability of texts assigned to SHS students in their English textbooks is only 2%,whilst the extent of unsuitability of English textbook texts assigned to leaners is 98% (only 2 out of the 90 analyzed versions), an indication of a highly arbitrary manner of text appropriation to academic levels at SHS level in Ghana.

The study is limited in various ways. The use of one particular textbook series limits the extent to which findings can be generalized and used in informing policy. Another

restriction on this study is the ambiguity in classification of some word classes. The last challenge this study faces is the extremely mathematical/computational nature of the analysis.

Implicatively, this study underscores the fact that readability metrics should be applied to texts before having them assigned to grades to avoid arbitrary text appropriation. Grader readability assessment should also be done to ascertain more clearly, the correlation between learner text comprehension and general text readability.

Disclosure Statetment (Conflict of Interest)

There is no conflict of interest whatsoever regarding authorship of this work.

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