Readability of English language textbooks for diploma students of the University of Cape Coast

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Abstract

Textbooks are important for teaching and learning at every level of education. Being one source of learning materials from which students can read on their own, with the goal of further understanding what has been discussed in class, it is important that these textbooks are written in a way that would be understandable to students. Yet, a number of researches have concluded that textbooks are usually difficult to read by the intended audience. Therefore, this paper examined the readability of English Language textbooks for diploma students of the Centre for Distance Learning, University of Cape Coast. Three textbooks (for year one – three diploma students) were used for the study. Passages were selected from each textbook for readability analyses. Flesch reading ease (FRE) and Flesch – Kincaid grade level (FKGL) indexes were used to compute readability scores of the textbooks. Measures of central tendencies, one-sample T-test, with bootstrapping, were used to analyse the data. The results revealed that the three textbooks were generally between 'fairly difficult' and 'difficult' to read ranges (M = 40.69 and 52.73). The readability of the textbooks was found to be statistically different from recommended readability scores for public documents. Further, the results indicated that the average word per sentence was to be between 22 and 25 for all three textbooks. This may have contributed to the low readability of the textbooks. The researcher recommends the revision of the textbooks, so that they will serve the intended purpose and contribute to effective teaching and learning of English Language.

Keywords: readability; Flesch Reading Ease (FRE); Flesch – Kincaid Grade Level (FKGL); textbooks; diploma students; University of Cape Coast

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1. Introduction

Textbooks are primary teaching aids. Traditionally, most students have primarily acquired knowledge through textbooks (Khine, 2013). The advantage students derive from using textbooks is that it can be used both in the classroom and at home (Selander, 2003, as cited in O'keeffe & O'donoghue, 2014). The aim of any textbook, especially English language textbooks for second language learners, is to help readers improve their English language competence (Owu-Ewie, 2014). The readability of textbooks affects student performance, and textbooks that are less readable result in lower average marks (grades) in the specific course (Keig & Ferrell, 2012).

In learning of language(s), certain materials are necessity (Sung, Lin, Dyson, Chang, & Chen, 2015). The challenge for language teachers over the years, however, has been the selection of appropriate learning materials, and different reasons have accounted for this (Tinkler & Woods, 2013). One of such reasons is that students encountered in each classroom vary quite substantially in terms of their backgrounds and abilities, and intellect. For example, some students are very motivated while others are not – a fact that could influence their academic performance. For students with low motivation, real efforts must be made to minimize factors that could further dampen their motivation to learn. Otherwise, such factors could serve as bottleneck to their performance. In the language learning field (especially for L2 learners), textbooks that are difficult to read (poor readability) relative to the academic level (or age) of students could hamper their success by further dampening their motivation. This is so because if the readability of texts is higher than the reader's lexical coverage, it may be frustrating. Conversely, for students with relatively higher motivation and ability, assigning them with books of readability far below their lexical coverage may be considered as less challenging, uninteresting, and result in dampening their motivation to learn (Torki, 2012). Therefore, textbooks must be carefully selected to suit the abilities of students, thereby motivating them to academic success.

This caution notwithstanding, it has been indicated by several researches that most materials meant for second language learners are difficult for the intended readers and as a result need to be simplified for easy reading and comprehension (Johnson & Otto, 1982; Khine, 2013; Li, 2011; Owu-ewie, 2014; Perekeme & Agbor, 2012). The question, however is, how can writers of learning materials simplify their texts if they are not aware of the reading difficulty of their materials (Owu-Ewie, 2014).

Even though a number of works have been published on the readability of English textbooks in several countries, only one extant work has been published on readability of English language textbooks for Ghanaian schools. In addition, the only published research on this subject within the Ghanaian context has been on the textbooks for Junior High Schools (JHS) (Owu-ewie, 2014). Yet, it has been indicated elsewhere that textbooks for college students are often difficult to read since they are on many occasions, inundated with unfamiliar words and difficult sentence structures (EdQual, 2010; Johnson & Otto, 1982). To further complicate matters, it has been suggested that learners in African classrooms have additional difficulty reading textbooks in European languages because their L2 reading ability is limited.

1.1 Significance of the study

This study has some significance for the teaching and learning of English language in College of Distance Education. First, since the students taught in the program are being trained to teach English at the basic school level, making their manual readable means helping them to grasp the principles of the language with relative ease. This will in turn equip them with adequate content knowledge so that they can disseminate knowledge

effectively in class. The study further highlights the need for authors of these manuals to be conscious of their style of writing so that their publications or manuals will achieve the intended purpose. This may require the need for these authors to familiarize themselves with the skill of assessing the readability of a piece of writing so that they can apply the principles of readability in their writings.

In order to know textbooks which are appropriate for college students so that the information is transmissible, the current state of textbooks in colleges must be considered. This paper therefore purposes to:

> ➢ Establish the readability of English language manuals of college of distance education diploma students of University of Cape Coast.

> ➢ Determine nature of sentence structure used in the college manuals.

2. Literature review

2.1 Readability and readability indexes

According to the Longman Dictionary of Language Teaching and Applied Linguistics, readability refers to how easily written materials can be read and comprehended. Several factors are used in evaluating readability of written text, thus average word length, average number of words, and frequency of 'unfamiliar' words. Over the past six decades, the concept of readability has gained popularity and has been given attention in academia and in other writing enterprises such as news publishing. Similar attention has been given to textbooks' readability such that a number of authors have emphasized the need to match textbook reading difficulty to the reading abilities of students (Shokrpour, 2005). The concern of publishers, scholars, and educators about text books' readability has been intense and has been one of the most important aspects of textbook development. As a result, matching the difficulty of textbooks and readers' reading ability has been taken into account by publishers, writers, editors and teachers in order to use the text successfully (Harrsi-Sharples, 1983; DuBay, 2004; Crossley, Dufty, McCarthy, & McNamara, 2007).

In order to measure readability, a number of techniques have been developed. The most common approach is to use readability indexes. Bailin and Grafstein (2016) describes readability indexes as mathematical formulas derived by regression analysis such that a model or equation is constructed that best predicts the reading grade level of readers who comprehend a given text. In the construction of readability indexes, scholars assess comprehension by a specific pass score on test questions based on the content of the text (Mandic, Rudd, Hehir, & Acevedo-Garcia, 2012). Vocabulary difficulty and sentence length are considered the most important and hence most common elements used in analyzing the ease of text comprehension (Chavkin, 1997). It has been established that variations in these two elements make up the majority of readability formulas. Stevens and her colleagues (1992, p. 1) supports this by noting, "Readability formulas determine the readability level of a passage by examining word difficulty and sentence length". While the number of readability formulas used in evaluating text readability are many, over 200 (Nordquist, 2016), some are popular and as a result, favored by researchers and commentators. These include the Dale–Chall formula, the Flesch formula, the Flesch–Kincaid formula, the Fog formula and the Cloze procedure (Courtis, 1986; Stevens et al., 1992; Schroeder & Gibson, 1990). Although other formulae are not so much popular and used by researchers, these seemingly unknown indices have used different approaches of measurement, and are therefore important in evaluating the readability of special texts. These include the automatic readability index (ARI), Coleman-Liau index, among others. These unknown formulas use other features of sentence such as number of characters per word instead of syllable per word. Readability formulas have grown in popularity compared to other readability assessment tools such as comprehension tests because, unlike comprehension tests or subjective scoring techniques, no reader participation is necessary (Subramanian, Insley, & Blackwell, 1993). This can lessen any potential validity threats resulting from selection and makes replication possible.

2.2 Exiting Studies on readability of English Language textbooks

A number of research findings have been published on the readability of textbooks. For example, Owu-Ewie (2014) considers 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, Owu-Ewie found that most of the passages were above the age of learners and were therefore difficult for them to read and comprehend. Similar methods and conclusions have been drawn by others in different fields including the sciences, mathematics, and economics from different countries (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. The findings of Owu-Ewie, (2014) throws a spotlight on the situation in Ghana, suggesting the need for further research in the readability of other textbooks and manuals of other schooling levels. This paper takes a crack at this information paucity.

3. Methodology

3.1 Research approach

The study was quantitative. This design was employed because descriptive research, a subcategory of quantitative research, helps to use numerical data to analyze associations using mathematically based methods. Descriptive research involves identification of attributes of a particular phenomenon based on an observational basis (Skovsmose & Borba, 2004). Since the aim of this paper was to assess readability of circulars in descriptive terms, descriptive design was used because descriptive study establishes associations between variables (Blessing & Chakrabarti, 2009).

The target population consisted of English Language teaching manuals for diploma in distance education students in the University of Cape Coast. These manuals were selected because they are sold to all students. Therefore, they are integral teaching materials that all distant education students use. Since the enrolment of students on the distance education has increased substantially, non-readable manuals could have massive effect on large number of students.

There is one English teaching manual at each stage of the diploma in education in the University of Cape Coast. Hence, there are three manuals in all since the diploma course is three years. All three manuals were used for the readability assessment. The idea was to determine whether each manual was appropriate for the level intended to use them. The selection of specific passages for the analysis was done using simple random technique. Individual chapters of each manual were considered as sampling unit. The sampling was done such that at least half of the total number of chapters of each manual was selected. For comparison purposes, equal number of pages per each manual were used (150 each).

Selected passages of each book were first converted to electronic form by typing them using Microsoft's Word processor. 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 depend on sentence structure. The typed documents were then copied into an online readability calculator to calculate their readability (www.webpagefx.com). This online calculator was used because it is very accurate and popular. Microsoft's Word processor was not used to compute the readability scores because it cannot compute the reading age of text beyond grade 12th.

Flesch Reading Ease (FRE) and related Flesch-Kincaid Grade Level (FKGL) test were used for the readability analysis. 'The FRE was founded by Rudolph Flesch in 1948. It was chosen because it is one of the

most accurate and widely used readability formulas' (Doak & Doak, 2010, p. 151). It is particularly designed for measuring readability of textbooks (Owu-Ewie, 2014). 'The Flesch Reading Ease as a formula is based on the average number of syllables per word and word per sentence' (DuBay, 2007, p. 57). The FRE score is a number between 0-100 indicating how difficult the text is to read. The higher the number; the less difficult it is to read the text. This implies that a document that scores a FRE of say, 95, is easier to read and comprehend than another that scores 60 or less.

A related test which translates the Flesch Reading Ease test scores to grade level is the Flesch-Kincaid grade level formula. The formula was developed by Peter J. Kincaid and his team in 1975. This test rates text on a U.S. school grade level. For example, a score of 8.0 means that an eighth grader can understand the document. Most documents aim for a score of approximately 7.0 to 8.0. The results of the FRE and FKGL tests correlate approximately inversely. A text with a comparatively high score on the Reading Ease test should have a lower score on the Grade-Level test.

With the help of IBM Statistical Products and Services Solutions (SPSS) version 23.0, frequencies, percentages, means, standard deviations, median and Interquartile range were used to describe readability, and the number of years required to read the various circulars of GES (Objectives 1, and 2). A one sample T-test used to determine whether there were differences in the reading ease and the school years required to read as compared to standard scores.

4. Results and Discussions

4.1 Objective 1: The readability of English language manuals of college of distance education diploma students of University of Cape Coast

Descriptive statistics was used to determine the readability of the three manuals (see Table 1). It is observed that the readability of manual 1 (1st year's) ranged from 30 to 70 on the FRE scale. This suggests that the manual for first year diploma students was between *'difficult'* and *'fairly difficult'* to read level. This corresponds to 9th and college students' reading level (on the FKGL index). On the average, the manual was *'fairly difficult'* to read (M = 52.73; SD = 11.50), suggesting that it best suited college graduates.

Second year diploma manuals were of similar reading level. Its readability was *'difficult'* on the average (M = 46.25; SD = 8.39). The manual on the average was suitable for post-graduate students. The easiest portion of the manual was *'fairly difficult'* to read. Some portions were *'difficult'* requiring over 17 years of education to be able to read and understand.

Table 1

Descriptive Statistics

	Index	Min	*M*	*SD*	Skewness	Kurtosis
Manual 1	FRE	L 30.05	52.73	11.50	-.25	-1.09
		H 70.60				
	FKGL	L 9.10	12.14	4.13	-.03	-.86
		H 16.79				
Manual 2	FRE	L 30.39	46.25	8.39	-.11	-1.13
		H 59.71				
	FKGL	L 9.12	15.36	4.10	-.01	-1.32
		H 17.84				
Manual 3	FRE	L 25.11	40.69	8.36	-.03	-1.11
		H 54.53				
	FKGL	L 12.07	15.49	.80	.12	-1.02
		H 18.99				

Source: Field data, 2016.

Finally, the 3rd years' manual was, also on the average, *'difficult'* to read (M = 46.25; SD = 8.39). The least difficult portion of the manual was *'fairly difficult'* to read. Some portions were very difficult to read requiring a post-graduate level of education.

A point of note is that there seem to be a common trend across all the manuals. The standard deviations of the mean readability scores across all three manuals were quite small suggesting little dispersion of the readability scores about the mean across manuals. This pattern was expected since all three manuals were authored by the same individual. The readability of the manuals therefore reflects the author's writing style.

Table 2 below presents a one-sample t-test to determine whether the mean readability of each manual was statistically different from the supposed level the book was intended for. It is observed that on both indexes, the readability scores of the manuals were statistically different from the level the manuals were intended for.

Table 2

One-sample t-test of readability of English language diploma students' manual

Book Number	t	df	Sig. (2-tailed)	MD
Book 1[+]	12.30	149	.00	4.14
Book 2[+]	24.98	149	.00	8.36
Book 3[+]	38.08	149	.00	2.49
Book 1[-]	2.90	149	.00	2.73
Book 2[-]	-5.48	149	.00	-3.75
Book 3[-]	13.64	149	.00	-9.31

Note. [+]FKGL Test Value = 13.   [-]FRE Test Value = 50.
Source: Field data, 2016.

The findings echo similar works that have been reported (EdQual, 2010; Owu-Ewie, 2014; Perekeme & Agbor, 2012). Age appropriate reading materials have been identified as a crucial factor essential to enhancing reading. It is believed that when educators select a material which is above the age or reading ability of the learner, it obstructs reading and the development of good reading skills. It is worth noting that some people have expressed concerns about the quality of students who enroll in the distance education program. It has been indicated that the students who enroll in distance education seem to be of lower academic abilities compared to regular students. That is, 'these ones seem to be less 'brilliant' (so to speak) than those who enroll in regular traditional teaching programs' (Stella & Gnanam, 2004, p. 148). If the assertion is true, it implies that their reading capabilities are likely to be lower than those in regular programs. Hence, any material intended for their instruction must be of a very readable nature. Otherwise, these students could be frustrated trying to understand what they read as supplements for the few hours of classroom work. On that basis, it seems evident that the manuals may not be serving the purpose for which they were designed. Interestingly, these distance education students get less face-to-face time with their lecturers since they come to class on any other week basis. The manuals, I supposed, was to make up for the time the students are all alone.

4.2 Objective 2: Determine nature of sentence structure used in the college manuals

The structure of sentences used was analyzed by considering the average words (AWPS) and syllables used per sentence (ASPS). The results are presented in Table 3. It is observed that the average word per sentence was found to be about 22, and 25 each for manual 1, 2, and 3 respectively. Portions of The manuals for 2nd years contained as much as 37 words per sentence. On the average however, all three manuals composed of sentences with the recommended word length of between 15 – 25 (Cutts, 2013). Research has shown that when average sentence length is 14 words, readers understand more than 90% of what they are reading. At 43 words, comprehension drops to less than 10% (Vincent, 2014). At an average word per sentence of between 21 and 25, the manuals are within the upper extremes. Other studies have indicated that at 25 words, sentences become difficult to read. Therefore, the sentence length contributed to the difficulty of the manuals at each academic level.

Table 3

Sentence structure of English Language manuals

	Manual	L= Minimum H=Maximum	*N*	*M*	*SD*
1	Average word/sentence	L 14.02 H 29.97	150	21.73	4.62
	Average syllables/sentence	L 1.31 H 1.70	150	1.48	.12
2	Average word/sentence	L 15.10 H 7.84	150	25.96	6.44
	Average syllables/sentence	L 1.31 H 1.70	150	1.48	.11
3	Average word/sentence	L 17.06 H 33.94	150	25.87	4.95
	Average syllables/sentence	L 1.20 H 1.80	150	1.48	.18

Source: Field data, 2016.

In addition, it has been suggested elsewhere that sentences of 42 syllables are difficult to read. With an average of 1.48 syllables per word, across all three manuals, it implies that each sentence in the manuals is between 31 and 37 syllables per sentence. This seems to suggest that average syllable per word was within recommended levels. Hence, the difficulty in readability of the manuals is primarily due to the sentence length (words per sentence) instead of syllables.

5. Conclusion

It has been found that the English Language manuals used to teach diploma in education students in the distance education program of UCC are largely difficult to read. For each level, the manuals were beyond the reading level of the students. On average, all three manuals require post-graduate education to be able to read. In addition, it was determined that the readability of all three manuals were difficult primarily because of the use of long sentences. The use of long sentence negatively affects the readability of texts especially for L2 learners. Hence, it is proposed here that the manuals are edited to make them readable per the levels they are intended for.

5.1 Implications

This study has some implications for policy in teaching and learning of English language in Ghana. In recent years, scholars in Ghana have continually accentuated the dwindling nature of the linguistic competence of students in our schools, colleges and universities (Gyasi, Nartey, & Coker, 2011; Afful, 2007). Although several interventions such as extended teaching period in English language lesson, increased in the number of textbooks to schools and in service training for language teachers have been put in place, not much result have being achieved. The researcher suggests the need for a national policy to be put in place. This national policy should clearly establish the readability levels of textbooks that are used in the teaching of English language in Ghanaian schools, colleges and universities. The Curriculum Research and Development Division (CRDD) wing of the Ghana Education Service maybe tasked to ensure that all English Language textbooks and manuals used in the teaching and learning of English language in Ghanaian institutions meet the benchmark of readability set in the national policy. This action coupled with other interventions mentioned above may arrest the decline in the English language proficiency of students in our schools, colleges and universities.

6. References

Afful, J. B. A. (2007). Academic literacy and communicative skills in the Ghanaian university: A proposal. *Nebula*, 4(3), 141-159.

Bailin, A., & Grafstein, A. (2016). *Readability: Text and context* (Vol. 1). Hampshire: Palgrave Macmillan.

https://doi.org/10.1057/9781137388773

Barret, M. A. (2014). *Language, learning and textbooks: Findings from baseline survey of form 1 students and teachers.* Bristol: LSTT.

Barrett, A. M., Mtana, N., Osaki, K., & Rubagumya, C. (2014). *Language supportive teaching and textbooks in Tanzania baseline study report*. Bristol: LSTT.

Blessing, L. T. M., & Chakrabarti, A. (2009). Descriptive study I : Understanding design. In *DRM: A design research methodology* (pp. 75-140). New York: Springer. https://doi.org/10.1007/978-1-84882-587-1_4

Chall, J. S., & Dale, E. (1995). *Readability revisited: The new Dale-Chall readability formula.* Cambridge, MA: Brookline Books.

Chavkin, L. (1997). Readability and reading ease revisited: State-adopted science textbooks. *The Clearing House: A Journal of Educational Strategies, Issues and Ideas*, *70*(3), 151-154. https://doi.org/10.1080/00098655.1997.10543915

Crossley, S. A., & McNamara, D. S. (2008). Assessing L2 reading texts at the intermediate level: An approximate replication of Crossley, Louwerse, McCarthy & McNamara (2007). *Language Teaching*, *41*(3), 409-429. https://doi.org/10.1017/S0261444808005077

Crossley, S. A., Dufty, D. F., McCarthy, P. M., & McNamara, D. S. (2007). Toward a new readability: A mixed model approach. In D. s. McNamara & G. Trafton (Eds.), *Proceedings of the 29th annual conference of the Cognitive Science Society* (pp. 197-202). Austin, TX: Cognitive Science Society.

Cutts, M. (2013). *Oxford guide to plain English* (4th ed., Vol. 53). Oxford: Oxford University Press.

DuBay, W. H. (2004). *The principles of readability*. Costa Mesta, CA: Impact Information.

DuBay, W. H. (2007). *The smart language: Readers, readability, and the grading text*. Costa Mesta, CA: Impact Information.

EdQual. (2010). *Language of instruction and quality of learning in Tanzania and Ghana* (EdQual No. 2). Bristol.

Gyasi, K. W., Nartey, T. A., & Coker, W. (2011). A prelimnary report on first year university students' basic knowledge of grammar. *Current Journal of Social Sciences, 3*(5), 399-405.

Harris-Sharples, S. H. (1983). *A study of the match between student reading ability and textbook difficulty during classroom instruction*. (Unpublished doctoral dissertation). Harvard University.

IBM. (2013). IBM - SPSS bootstrapping. Retrieved from http://www-03.ibm.com/software/products/fi/spss-bootstrapping

Johnson, L. L., & Otto, W. (1982). Effect of alterations in prose style on the readability of vollege texts. *The Journal of Educational Research*, *75*(4), 222–229. https://doi.org/10.1080/00220671.1982.10885385

Keig, D., & Ferrell, O. C. (2012). The marketing ethics: Current state and future directions. In K. Plangger (Ed.), *Thriving in a new world economy* (pp. 248–394). Burnaby: Springer.

Khine, M. S. (2013). *Critical analysis of science textbooks*. New York: Springer. https://doi.org/10.1007/978-94-007-4168-3

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*(5), 539–542. https://doi.org/10.1007/978-3-642-23357-9_96

MacAllister, J. B., & Duckworth, J. (1981). Readability and style: The view from our textbooks. *Rhetoric Society Quarterly*, *11*(3), 138–144. https://doi.org/10.1080/02773948109390606

Mandic, C. G., Rudd, R., Hehir, T., & Acevedo-Garcia, D. (2012). Readability of special education procedural safeguards. *The Journal of Special Education*, *45*(4), 195-203. https://doi.org/10.1177/0022466910362774

Nordquist, R. (2016). Readability formula. Retrieved from http://grammar.about.com/od/rs/g/Readability-Formula.htm

O'keeffe, L., & O'donoghue, J. (2014). A role for language analysis in mathematics textbook analysis. *International Journal of Science and Mathematics Education*, *13*(3), 605-630. https://doi.org/10.1007/s10763-013-9463-3

Owu-Ewie, C. (2014). Readability of comprehension passages in junior high school English textbooks in Ghana. *Ghana Journal of Linguistics*, *68*, 35–68. https://doi.org/10.4314/gjl.v3i2.3

Percorari, D., Shaw, P., Malmstrom, H., & Irvine, A. (2011). English textbooks in parallel-language Tertiary Education. *Tesol Quaterly*, *45*(2), 313–333. https://doi.org/10.5054/tq.2011.247709

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.

Schmidt, W. H., Mcknight, C. C., Raizen, S. A., Jakwerth, P. M., Valverde, G. A., Wolfe, R. G., & Houang, R. T. (2002). Introduction. *A splintered vision: An investigation of US Science and Mathematics Education*, 1-11.

Shokrpour, N. (2005). Comparison of three methods of assessing difficulty. *Asian EFL Journal Quarterly*, *6*, 159-167.

Skovsmose, O. L. E., & Borba, M. (2004). Research methodology and critical mathematics education. In P. Valero & R. Zevenbergen (Eds.), *Researching the socio-political dimensions of mathematics education: Issues of power in theory and methodology* (pp. 207-226). Kluwer Academic Publisher. https://doi.org/10.1007/1-4020-7914-1_17

Stella, A., & Gnanam, A. (2004). Quality assurance in distance education: The challenges to be addressed *Turkish Online Journal of Distance Education*, *14*(1)143–160.

Stevens, K. C., Stevens, K. T., & Stevens, W. P. (1993). A response to measuring readability: A comparison of accounting textbooks. *Journal of Accounting Education*, *11*(2), 287-292.

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. https://doi.org/10.1111/modl.12213

Tinkler, S., & Woods, J. (2013). The readability of principles of macroeconomics textbooks. *The Journal of Economic Education*, *44*(2), 178–191. https://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.

Vincent, S. (2014). Sentence length: Why 25 words is our limit | Inside GOV.UK. Retrieved from https://insidegovuk.blog.gov.uk/2014/08/04/sentence-length-why-25-words-is-our-limit/