ASSESSING THE READABILITY OF SOCIAL STUDIES TEXTBOOKS FOR THE JUNIOR HIGH SCHOOLS IN GHANA

Jacob Issaka   &   **Vera Esenam Fordjour Aidoo**
Jasikan College of Education,   *University of Professional Studies,*
Ghana   *Ghana*

Abstract

This study was designed to assess the readability level of Ghana Education Service (GES) approved Social Studies textbooks that are currently in use in Junior High Schools (JHS) in Ghana. The sample of the study consisted of the GES approved Social Studies textbooks for JHS 1-3 currently in use. Thirty different texts (ten from each textbook) were randomly selected for the readability test. The instrument used for data collection was textbook readability test. The data were analysed using free online readability test. The results of the findings showed that the GES approved Social Studies textbooks were difficult, compared to their grade level. The study recommended that Social Studies textbooks should be assessed to see their readability level before they are given to students. This is necessary because readable textbooks motivate students to read and learn better.

Keywords: readability, Social studies, text, textbooks, understanding.

Introduction

Textbooks are very important for students' learning outcomes because they pull knowledge, ideas and facts needed for a particular field of study. Textbooks are very relevant, because they facilitate students' learning process (Umoke & Nwafor, 2015). A textbook is a book used by students as a standard work for a particular field of study. A textbook is one of the most important teaching and learning materials in instructional process. McGrath (2002) indicates that a textbook is very important because it sets the direction and gives the content on what is to be learnt. For a textbook not to be ambiguous and be clear, it should be easy for the intended readers (Sholeh, 2012). Textbooks only serve their purpose when students are able to read and understand the text.

Understanding the text put up by the writer of a textbook is crucial for the academic success of students (Meyer, 2008). This is why the level of language used in textbooks plays a major role in the understanding of the text; as such, textbooks should be written in simple and clear language. The sentences in the text should be short and simple to make the text readable (Gyasi, 2011). In other words, textbooks should be readable. Text readability is an attempt to match the level of a written text to the understanding level of the reader (Johnson, 2000; Feather, 2004). Text readability is critical for educational achievement, especially for second language learners. According to Feather (2004), readability of a textbook helps students to enjoy reading the text, and this makes them to acquire more knowledge to improve their academic performance. This aim is defeated when students cannot read and comprehend texts intended for them (Burke & Greenberg, 2010). For this reason, a textbook that is suitable for the level of students is needed to serve as a basis in their learning process. Students can learn better with readable textbooks.

Reading is an essential learning skill without which the learner cannot obtain meaningful and desirable knowledge. Comprehension of a text read is therefore a powerful weapon for students to excel in academic life (Alderson, 2001). The main reason for reading is comprehension. Research testifies to the significant contribution that high readable textbooks make to the learning process (Mikki, 2000; Singer & Tuomi, 2003). It is therefore important that textbooks designed for students should be suitable in terms of their difficulty level (Bargate, 2012).

Social Studies is a problem-solving subject therefore, its learning should be based on inquiry approach (Blege, 2001). The purpose of Social Studies is to promote attitudinal and moral literacy needed to solve personal and societal problems. In Social Studies, students are to investigate and research to get solution to societal problems (Blege, 2001; Odumah, 2003; Yidana & Boadu, 2012). Social Studies as a discipline, therefore, requires research and extensive reading. Therefore, the idea of readability and comprehension of text is very important in the learning of Social Studies. Social Studies is an area of study where there is an extensive reliance on the reading of the Social Studies textbooks. The textbooks in Social Studies are major sources of content to be learnt by students in the Junior High Schools (JHS). Many students acquire knowledge by reading Social Studies textbooks, even though some also depend on handouts and notes from their teachers. Therefore, it is important to select textbooks that are readable. Since readability of textbooks is critical in students' work, readability researchers such as Gyasi (2011) and Owu-Ewie (2014) suggest that the readability of textbooks be determined using readability formulae before they are given to students. Extensive research has been done on readability but this is mostly on English Language textbooks (Bargate, 2012). Some readability works in English Language include Gyasi (2011) and Owu-Ewie (2014). There seems to be no research done on the readability level of Social Studies textbooks used in Ghana. There is therefore the need to

conduct readability test to assess the difficulty levels of Social Studies textbooks used in Junior High Schools in Ghana. It is against this background that it has become necessary to conduct this research to examine the readability of Social Studies textbooks used at the JHS level in Ghana. Assessing the readability of textbooks objectively requires the adoption of certain readability formulae. Readability formulae subject a text to mathematical calculations to determine the level of difficulty of the text (Essuman & Osei-Poku, 2015). According to Kasule (2011), these formulae often use word length, sentence length, and polysyllabic frequency. This study adopted the Gunning Fog Index, Flesch-Kincaid Reading Ease and Flesch-Kincaid grade level readability formulas. These formulae are commonly used in determining the readability of textbooks. The researcher used more than one readability formula based on the recommendation of Burke and Greenberg (2010), that using two or more readability formulae is preferable, because it helps to get a better picture of the readability level of the text.

Statement of Problem

Social Studies is one of the compulsory subjects at the JHS level. It is among the subjects which are used to determine the placement of students in the Senior High Schools (SHS) by the Computerized Selection and School Placement (CSSP) system in Ghana. A pass in Social Studies is required to gain admission to the SHS in Ghana.

At the JHS level, students acquire much knowledge in Social Studies through further reading of Social Studies textbooks. Therefore, it is necessary for students to be able to understand what they read from their Social Studies textbooks. However, one is not sure whether the readability of the Social Studies textbooks is determined before they are recommended for the students. If the readability is not determined, the textbooks sometimes might not be appropriate for the students and this could result in situations where the students have to struggle in

order to read and understand the text (Ivey, 2010; Gyasi, 2011). When a textbook is too difficult, students are not able to understand the concepts which are the building blocks of the content of the subject. Since much research has been done on readability of English textbooks in Ghana by Gyasi (2011) and Owu-Ewie (2014), and there seems to be no research done on the readability of Social Studies textbooks in Ghana, this study therefore, seeks to assess the readability of Social Studies textbooks used for the JHS level in Ghana schools in order to determine their appropriateness for the students.

Objectives of the Research

1. To assess the readability levels of GES approved Social Studies textbooks that are used currently by JHS students in Ghanaian schools.
2. To find out whether the approved JHS Social Studies textbooks are appropriate to the level of the students.
3. To suggest the reasons why it is necessary to determine the readability of Social Studies textbooks.

Research Questions

1. What are the readability levels of GES approved Social Studies textbooks used currently by JHS students in Ghana?
2. Are the GES approved JHS Social Studies textbooks at appropriate reading level to the JHS grade levels?
3. What could be done to improve the readability of Social Studies textbooks for JHS students in Ghana

Theoretical Framework

The theory that underpins this research is social constructivism developed by Lev Vygotsky. Social constructivism allows people to obtain meaning of the world from social interactions (Kukla, 2000). Social constructivism is based on specific assumptions that reality and knowledge are socially constructed. That is, reality and knowledge are based on human activity (Vygotsky, 1978 cited in Gyasi, 2011).

Therefore, reality is socially constructed. That is, people acquire meaning or knowledge through their interactions with each other in the society (Gyasi, 2011).

This research is related to the theory of social constructivism because writing and reading are socially constructed. This means the writer construct knowledge that will be understood by the reader. Indeed, Kukla (2000) concludes that academic knowledge is perceived as a social construct and there should be agreement between the writer and the academic community. Academic writing as a social construct must meet the requirement of the community for it to be accepted as one of its kind. That is, people should get meaning from what is written.

The Concept of Textbook and Readability

A text is a collection of words that communicate a meaning (Kasule, 2011). A text is a systematic arrangement of words which are held together by considering the rule of coherence and cohesion. A textbook, according to Hornby (1995), is a book that teaches a particular subject. A textbook is a book used by students as a standard work for a particular branch of study. It is a book used as guidance in teaching and learning. A textbook is a book that provides materials based on current curriculum and students' needs (Gyasi, 2011; Owu-Ewie, 2014). "A textbook is the core learning composed of text and/or images designed to bring about a specific set of educational outcome; traditionally a printed and bound book including illustrations and instructions for facilitating sequences of learning activities" (UNESCO, 2005, p.1).

Reading is the ability to understand words contained in a document and to make use of the knowledge for personal growth and development (Davids, 2002; Fountas & Pinell, 2001). Reading is also a process of receiving and interpreting information encoded in language form through the medium of print (Grabe, 2009). This implies making meaning out of printed materials by an individual.

According to Greene (2001), reading is the identification of the symbols and the association of appropriate meaning with them. It requires identification and comprehension. Comprehension skills help the learner to understand the meaning of words in isolation and in context (Fry, 2006). Fry (2006) believes reading is a process of thinking, evaluating, judging, imagining, reasoning and problem solving.

According to Dubay (2004), readability is what makes some texts easier to read than others. Davids (2002) also defines readability as how easily written materials can be read and understood. Readability here means how easy a text is to the reader it is intended for. It refers to how easy a written text is to read and understand (Ivan, 2010). Another dimension of readability is how interesting and enjoyable a text is to the reader (Pikulski, 2002; Dubay, 2004).

The ability of a test to consistently measure what it is supposed to measure depends on its readability (Bitgood, 1996). This definition is concerned with the interaction between the reader and the text. The readability of a text is a measure on how well and how easily a text conveys the intended meaning to a reader. This implies that when a text cannot be well read and not easily understood by a reader, it is unreadable. Therefore, in readability, there is a relationship between a text and the reader (Fountas & Pinell, 2001).

McGrath (2002) defines readability as the degree to which a given group of readers finds certain reading materials compelling and comprehensible. Dubay (2004) indicates that readability is the sum total of all those elements which a given piece of printed material has that affects the success of a group of readers. The success is the extent to which they understand it. The implication of the definitions above is that, comprehensibility is essential in readability. Thus, a well written material should be highly readable in order to be clearly understood by a wide audience.

Based on the definitions above, it can be concluded that readability is the degree of difficulty or ease of a text to readers. It deals with how easily a text conveys its intended meaning to its reader. There are different readability formulas. Some common readability formulas include Gunning Fog Index, Flesch-Kincaid Grade Level, Fry Readability Graph and Flesch-Kincaid Reading Ease (Gyasi, 2011). This study used Gunning Fog, the Flesch-Kincaid Reading Ease and Flesch-Kincaid Grade Level formulae to ascertain the readability of the GES approved Social Studies textbooks for JHS.

The Gunning Fog Readability test is simply referred to as FOG Index. It was developed by Robert Gunning in 1952. According to him, most of the reading problems are as a result of the written material. He was of the view that written materials were full of "fog" and unnecessary complexities. The FOG test is used commonly to confirm that a text can be read easily by the intended user (Dubay 2004; Owu-Ewie, 2014). A Fog index of 1- 8 is for elementary school students, while 9 -12 is for high school students. A document that scores a fog index of 13 -16 is for post-secondary school students. The ideal score for readability with the Fog index is 7 or 8. Anything above 12 is too hard and difficult for basic and high school students to read (Pikulski, 2002; Dubay, 2004; Ulusoy, 2006; Gyasi, 2011; Kolahi, 2012). The summary of Gunning Fog Index is shown in Table 1.

Table 1: Gunning Fog Index

Score	Estimated reading grade
17	College graduate
13-16	College
10-12	Senior High
9	9th grade-JHS 3
8	8th grade-JHS 2
7	7th grade-JHS 1
6	6th grade

Adopted Zamanian & Heydari (2012)

Another common readability formula is Flesch-Kincaid reading ease. Flesch-Kincaid Reading Ease was co-authored by Rudolph Flesch and John P. Kincaid. It is an improvement of Flesh grade level score (Doak & Doak, 2010; Owu-Ewie, 2014). Flesch-Kincaid reading ease formula became the most widely used formula and one of the most tested and reliable (Dubay, 2004). According to Braught (2003), the Flesch-Kincaid Reading Ease is a number usually between 0-100 indicating how difficult the text is to read. The higher the number, the less difficult it is to read the text. In terms of the level of reading difficulty, documents that score a Flesch Reading Ease of 0-30 are considered very difficult while those that score 30 -50 are considered difficult. A Flesch-Kincaid reading ease of 50- 60 is for documents that are fairly difficult and 60 -70 score is for standard documents. A Flesch-Kincaid reading ease score of 70 -80 and 90 -100 are considered to be easy and very easy documents respectively. Writers are encouraged to aim for a score of approximately 60 to 70 (Braught, 2003; Dubay, 2004; Owu-Ewie, 2014). The formula is based on the average number of syllables per word and word per sentence (Dubay, 2004). The summary of Flesch-Kincaid reading ease formula is shown in Table 2.

Table 2: Flesch-Kincaid Reading Ease

Score	Description	Predicted reading grade
0-30	Very difficult	College graduate
30-40	Difficult	College grade
50-60	Fairly difficult	10th-12th grade
60-70	Standard	8-9th grade
70-80	Fairly easy	7th grade
80-90	Easy	6th grade
90-100	Very easy	5th grade

Adopted Zamanian & Heydari (2012)

Flesch-Kincaid Grade Level Test is another readability test which uses a test score to match with the grade level of the students. It is extensively used to determine the readability level of various books. This formula can be used to determine the number of years of formal education generally required to understand a given text. For instance, a Flesch-Kincaid Grade readability score of 8.4 means that all things being all, an eighth grade or JHS two students should be able to read it (Owu-Ewie, 2014).

Methods

This study adopted the quantitative design. Quantitative research is the research that relies primarily on the collection of quantitative data (Christensen & Johnson, 2006). This is considered a quantitative study because the readability formulae, according to Rush (1984), are objective and use quantitative tools for estimating the difficulty of written material without requiring testing of readers. This means that subjectivity does not exist when determining readability and this makes the use of formulae more reliable than other methods. With the quantitative design for this study, data was analysed quantitatively using Gunning Fog, Flesch-Kincaid reading ease test and the Flesch-Kincaid grade test. Texts were selected from GES approved Social Studies textbooks for JHS 1- 3 written by Abane, Agbenorto, Attafuah and Ofori-Attah (2008). All the three Social Studies textbooks were published in 2008 by Unimax Macmillan Ltd.

The population includes the subjects that a researcher intends to study (Kwabia, 2001). All the Social Studies textbooks used at the JHS level in Ghana form the subjects of study. The GES approved Social Studies textbooks for JHS 1- 3 were purposely selected as a sample for the study. These textbooks include Social Studies for JHS Book 1, Social Studies for JHS book 2, and Social Studies for JHS Book 3 all written by Abane, Agbenorto, Attafuah and Ofori-Attah (2008) published by Unimax Macmillan Ltd. They were selected because they are textbooks used currently in all the basic schools in Ghana.

Three readability tests were used as the instruments for data collection. The Gunning Fog Index, Flesch-Kincaid grade level and Flesch-Kincaid reading ease formulae were used to test the readability of the selected textbooks. FOG index was used to determine the readability level of the texts based on the average number of sentences and difficult words. This formula was used because it is simple and it can measure the readability text in general (Dubay, 2004). Flesh-Kincaid Reading Ease was also used to obtain the scores in per centages so as to compare with Gunning Fog scores. Flesch-Kincaid grade level was also used to determine the appropriateness of the texts to the various grades or classes. Texts on ten topics from each approved JHS Social Studies textbook were randomly selected for a readability test using the three readability formulae. In all, 30 different texts were subjected to the FOG, Flesch-Kincaid reading ease and Flesch-Kincaid grade level readability tests.

The first step in the data collection was the selection of the GES approved Social Studies currently used by basic schools in Ghana. Texts written on the randomly selected ten topics from each textbook were retyped to obtain the soft copies of the texts. The retyped texts were uploaded one after the other and subjected to mathematical calculations using readability online software (www.readability formulas.com/free-readability-formula.tests.php).The three readability formulae that were used to determine the readability levels of the textbooks using readability formula software were the Gunning FOG Readability test, the Flesch-Kincaid Reading Ease Formula and Flesch-Kincaid grade level test. The topics in the textbooks were randomly selected and the text written under them subjected to readability test after they were retyped. The figures derived from the three readability formulae were used to determine the readability levels of the textbooks and whether the textbooks were appropriate for that grade level.

Data Analysis

Data were analysed using tables with the help of online computer readability software. Each readability formula was used to determine the readability of the selected texts of each textbook. Results of each formula for the selected text in each textbook were displayed in tables and the mean was calculated for the various texts under a specific readability formula to obtain the readability for that textbook. In addition, the mean scores of the various readability formulae for the Social Studies textbooks for the JHS level were compared.

Results

Table 3: Readability Level of ten Selected Texts from JHS 1 Social Studies Textbook

Text	Flesch-Kincaid reading ease		Gunning Fog		Flesch-Kincaid grade	
	Score	Interpretation	Score	Interpretation	Score	Interpretation
1	65.4	Standard	10.4	Fairly easy to read	7.8	8th grade
2	63.2	Standard	10.8	Hard to read	8.4	8th grade
3	61.6	Standard	10.7	Hard to read	8.9	9th grade
4	51.1	Fairly difficult	12.4	Hard to read	10.8	11th grade
5	52.8	Fairly difficult	12.9	Hard to read	10.5	11th grade
6	62.1	Standard	9.0	Fairly easy to read	8.3	8th grade
7	53.7	Fairly difficult	12.7	Hard to read	10.6	11th grade
8	51.1	Fairly difficult	13.5	Hard to read	10.4	10th grade
9	55.4	Fairly difficult	13.1	Hard to read	9.7	10th grade
10	56.5	Fairly difficult	12.5	Hard to read	9.2	9th grade
Mean	57.3	Fairly difficult	11.8	Hard to read	9.5	10th grade

Table 3 shows the readability levels of each of the ten different texts selected from Social Studies for JHS 1 based on the Flesch-Kincaid Reading ease, Gunning Fog and Flesch-Kincaid grade level readability formulae. The ten topics which texts were used for the Social Studies Book 1 were: 1. Land degradation, 2. Water pollution,

3. Why the Europeans came to Ghana, 4. Slave trade, 5. The Maroons in Jamaica, 6. British control, 7. Independence, 8. Democracy, 9. Settlement planning and 10. The Yaa Asantewaa war.

Texts of topics 1, 2, 3 and 6 are standard text according to Flesch-Kincaid reading ease formula, while the texts from all the other topics are fairly difficult. The scores for Flesh- Kincaid reading ease range from 51.1 for texts 4 and 8 to 65.4 for text 1 with the mean score of 57.3. Table 1 indicates that the texts for the GES approved JHS Social Studies book 1 for Ghana is fairly difficult according to Flesch-Kincaid reading ease formula.

It is also observed from Table 3 that the mean score for the various texts based on Gunning Fog is 11.8 which shows that the texts for the GES approved JHS Social Studies Book 1 for Ghana are hard to read. The Flesch-Kincaid grade level had a mean score of 9.5 which indicates that the texts for the GES approved JHS Social Studies Book 1 for Ghana is meant for tenth grade students. Table 4 shows the readability levels of each of the ten different texts selected from Social Studies textbook for JHS 2 based on the Flesch-Kincaid Reading ease, Gunning FOG and Flesch-Kincaid grade level readability formulae. The ten topics from which texts were subjected to the readability text for the Social Studies Book 2 were: 1. Changing roles of women, 2. Trokosi system, 3. Drainage, 4. Importance of drainage system, 5. Natural vegetation, 6. Socialization, 7. Conflict, 8. Global fight against world problems, 9. Why people tour, and 10. Partnership.

Table 4 indicates that texts of topics 2 and 3 are standard text, according to Flesch-Kincaid reading ease formula, while most of the texts are fairly difficult, apart from texts 1 and 10 which are difficult to read. The scores for Flesh-Kincaid reading ease range from 45.2 for texts 1 to 64.3 for text 2 with a mean score of 55. From Table 2, it can be deduced that the texts for the GES approved JHS Social Studies Book 2 for Ghana are fairly difficult according to Flesch-Kincaid reading ease formula.

Table 4: Readability Level of Ten Selected Texts from JHS 2 Social Studies Textbook

Text	Flesch-Kincaid reading ease		Gunning FOG		Flesch-Kincaid grade	
	Score	Interpretation	Score	Interpretation	Score	Interpretation
1	45.2	Difficult to read	13	Hard to read	11.7	12th grade
2	64.3	Standard	10	Fairly easy	8	8th grade
3	63.8	Standard	8.3	Fairly easy	8.4	8th grade
4	56.6	Fairly difficult	12.1	Hard to read	9.3	9th grade
5	51.8	Fairly difficult	14.4	Hard to read	11.2	11th grade
6	54.7	Fairly difficult	13.9	Hard to read	10.1	10th grade
7	53.8	Fairly difficult	13.1	Hard to read	10.2	10th grade
8	55.4	Fairly difficult	11	Hard to read	9.6	10th grade
9	58.6	Fairly difficult	10.9	Hard to read	8.8	9th grade
10	45.4	Difficult to read	15.8	Difficult to read	11.5	12th grade
Mean	55.0	Fairly difficult	12.3	Hard to read	9.9	10th grade

Table 4 also shows a variation of Gunning Fog readability levels of the various texts ranging from 10 for text 2 to 15.8 for text 10 with the mean score for the various texts being 12.3. Therefore, based on Gunning Fog readability formula, the texts for the GES approved JHS Social Studies textbook 2 for Ghana are hard to read. The Flesch-Kincaid grade level had a mean score of 9.9 which indicates that the texts for the GES approved JHS Social Studies Book 2 for Ghana is meant for tenth grade students (Pikulski, 2002; Dubay, 2004; Ulusoy, 2006; Gyasi, 2011).

The findings of the readability levels of each of the ten different texts selected from Social Studies textbook for JHS 3 based on the Flesch-Kincaid Reading ease, Gunning FOG and Flesch-Kincaid grade level are displayed in Table 5. The 10 selected topics from the GES approved Social Studies Book 3 were: 1. Block mountains, 2. Collaboration, 3. Development projects, 4. Voting in elections, 5. Political instability in Ghana, 6. Sustainable use of resources, 7. Desertification, 8. Malaria, 9. Electricity and 10. Education in Ghana.

Table 5: Readability Level of Ten Selected Texts from JHS 3 Social Studies Textbook

Text	Flesch-Kincaid reading ease		Gunning FOG		Flesch-Kincaid grade	
1	56.9	Fairly difficult	13.2	Hard to read	11.5	12th grade
2	57.7	Fairly difficult	12.6	Hard to read	10.3	10th grade
3	45.4	Difficult to read	14.9	Hard to read	11.2	11th grade
4	54.3	Fairly difficult	14.7	Hard to read	11.1	11th grade
5	45.3	Difficult to read	12.9	Hard to read	11.1	11th grade
6	46.3	Difficult to read	15.7	Difficult to read	12.5	College
7	50	Fairly difficult	13.2	Hard to read	11	11th grade
8	44.7	Difficult to read	14.5	Hard to read	11.2	11th grade
9	24.3	Very difficult	14.6	Hard to read	14.7	College
10	47.8	Difficult to read	13.8	Difficult to read	11.3	11th grade
Mean	47.3	Difficult to read	14.0	Hard to read	11.6	12th grade

Table 5 indicates that according to Flesch-Kincaid reading ease formula, texts in the GES approved Social Studies textbook 3 are difficult to read with the mean score of 47.3. Text 9, for instance, had a score of 24.3 by Flesch-Kincaid reading ease formula, indicating that it is very difficult. A similar observation is made in Gunning Fog readability formula. The scores for Gunning Fog range from 12.6 to 15.7, with a mean score of 14.0 which is considered to be hard to read.

The scores for Flesch-Kincaid grade level range from 10.3 to 14.7 with a mean score of 11.6 which indicates that the texts for the GES approved JHS Social Studies textbook 3 for Ghana is meant for twelfth grade students.

Discussion of Findings

Readable textbooks play very important role in effective learning process (Singer & Tuomi, 2003). It is therefore necessary to ensure that textbooks designed for students are appropriate in terms of their difficulty level (Bargate, 2012). The study sought to find out if the

GES approved Social Studies textbooks are appropriate in terms of their readability levels. Table 6 shows the readability levels of the three GES approved Social Studies textbooks, based on the mean scores from the selected texts of the books using the three readability formulae namely Flesch-Kincaid reading ease, Gunning Fog and Flesch-Kincaid grade level to calculate different texts from the textbooks.

Table 6: Readability Level of GES Approved Social Studies Textbooks (1-3)

Textbook	Flesch-Kincaid reading ease		Gunning FOG		Flesch-Kincaid grade	
JHS 1	57.3	Fairly difficult	11.8	Hard to read	9.5	10th grade
JHS 2	55.0	Fairly difficult	12.3	Hard to read	9.9	10th grade
JHS 3	47.3	Difficult to read	14.0	Hard to read	11.6	12th grade

Table 6 shows that the mean score for the selected texts from JHS 1 Social Studies textbook, according to Flesch-Kincaid reading ease is 57.3, which is interpreted as fairly difficult. Scores below 61 are appropriate for tenth grade which is equivalent to SHS 1 students and above (Feathers, 2004; Owu-Ewie, 2014). This agrees with Flesch-Kincaid grade level which had a mean score of 9.5 (10th grade) as shown in Table 6. The mean score for the JHS 1 Social Studies textbook based on Gunning Fog test is 11.8, which indicates that the textbook is hard to read (Abdulla & Hashim, 2007; Gyasi, 2011). It could be concluded from the analysis that the GES approved JHS 1 Social Studies textbook is above the students' level, based on the readability formulas adopted. In other words, the textbook is not appropriate for students at JHS 1 grade or level, based on its readability grade. The three readability scores point to the fact that the JHS Social Studies Book 1 is appropriate for tenth grade students, that is SHS 1 students and not JHS 1 students.

On the GES approved JHS 2 Social Studies textbook, it was observed from Table 6 that the mean score by Flesch-Kincaid reading ease formula is 55.0 which is interpreted as being fairly difficult. Gunning Fog scored it 12.3, which is interpreted as hard to read. Anything above 12.0 is considered difficult for Basic and Senior High students by Gunning Fog (Pikulski, 2002; Dubay, 2004; Ulusoy, 2006; Gyasi, 2011; Owu-Ewie, 2014). Flesch-Kincaid grade level had a mean of 9.9 indicating that the book is equivalent to tenth grade or SHS 1 level. On the basis of the analysis from Table 6, it can be concluded that the GES approved JHS Social Studies textbook 2 is above that grade level and is not appropriate for the students at that level in terms of readability.

Table 6 also shows the readability level of the GES approved Social Studies Book 3. It had a mean score of 47.3 by Flesch-Kincaid reading ease, which can be described as difficult to read. It also had a mean score of 14.0 by Gunning Fog formula which could be described as difficult to read because according Gyasi (2011) and Owu-Ewie (2014) anything above 12 by Gunning Fog is considered difficult JHS students. The mean score of JHS 3 GES approved Social Studies textbook as calculated using Flesch-Kincaid grade was 11.6 indicating that the book is appropriate for 12th grade students that is, SHS 3 students. On this basis the JHS 3 GES approved Social Studies textbooks for Ghana is not appropriate for the level of students in terms of its readability level.

It could be realized from Table 6 that the GES approved Social Studies texts for the JHS are not appropriate for the level of students in terms of their readability levels and this could result in extraneous cognitive load. The cognitive load theory provides a general framework that deals with extraneous cognitive load, as it deals with how materials are to be presented. If text being read is too difficult, the reader spends more time reading the words, and less time on analysis, critical thinking and reflection. Therefore, instructional

materials should be designed to lessen the extraneous cognitive load (Vygotsky 1986, cited in Ginns, 2006).

Conclusions

This study was to assess the readability level of GES approved Social Studies textbooks for the JHS to ascertain their suitability to the students at that level. Three readability formulaes were used to determine the readability of the textbooks. The results of the study show that the GES approved Social Studies textbooks for the JHS in Ghana are difficult and higher than the grade level of the students. It could be concluded that the Social Studies textbooks for the JHS are not suitable for the level of the students in terms of their readability.

Recommendations

The study recommends that in selecting Social Studies textbooks, authorities and teachers should assess the readability of the textbooks to determine their readability level. This is very essential to make sure that the textbooks are suitable for the level of students they are intended for. This will help the students to read and understand the text. It is important for classroom teachers to be aware of the readability or comprehensibility of Social Studies textbooks. Teachers who are uncertain about the readability of a text can easily use readability formulas such as Gunning Fog, Flesch-Kincaid reading ease or Flesch-Kincaid grade level readability formulae to find the suitability level of the text quickly.

This research was limited to only GES approved Social Studies textbooks for JHS in Ghana. It is recommended that future research should also assess the readability of SHS Social Studies textbooks.

References

Abane, A. M., Agbenorto, S., Attafuah, S. & Ofori-Attah, K. (2008). *Social Studies for Junior High Schools, Pupil's Book 1, 2. and 3.* Accra-Ghana: Unimax Macmillan Ltd.

Abdulla, H. & Hashim, R. (2007). Readability Analysis of Malaysian Short Stories in English. *Journal E-Bangi, 2,* 2, 1-11.

Alderson, J. C. (2001). *Assessing Reading.* New York: Cambridge University Press.

Bargate, K. (2012). The readability of managerial accounting and financial management textbooks. *Meditari Accounting Research, 20 (1) 114-122.*

Bitgood, S. C. (1996). *Aspects of Literacy.* Canberra: Australian Bureau of Statistics.

Braught, T. (2003). Readability of a text. *Journal of Research & Method in Education (JRME).8(1),* 54-68.

Burke, V., & Greenberg, D. (2010). Determining readability: How to select and apply easy-to-use readability formulas to assess the difficulty of adult literacy materials. *Adult Basic Education and Literacy Journal, 4,* 34-42.

Christensen, L. & Johnson, B. (2006). *Educational Research: Quantitative, Qualitative, and Mixed Approach.* London: Sage Publications.

Davids, V. (2002). Determining text difficulty. Baschor-Linwood, *Virtual School, 27,* 1-3.

DuBay, W. H. (2004). The principles of readability. Costa Mesa, CA: Impact Information. Retrieved http://www.nald.ca/fulltext/readab/readab.pdf.

Essuman M. A., & Osei-Poku, P. (2015). Evaluation of selected textbooks from Ghanaian primary schools. *International Journal of Research and Development. 4(6)*, 310-319

Feathers. K.M. (2004). *Infotext: Reading and Learning.* Toronto, Ontorio: Pippin Publishing company.

Fountas. I. & G. S. Pinell (2001). *Guiding Readers and Writers Grades 3-6: Teaching. Comprehension, Genre, and Content Literacy.* Portsmouth, NH: Heinemann.

Ginns. P. (2006).   Integrating information: A meta-analysis of the spatial contiguity and temporal contiguity effects. *Learning and Instruction, 16*(6), 551-525.

Grabe, W. (2009). *Reading in a Second Language (Moving from Theory to   Practice).* Cambridge: Cambridge University Press.

Greene, B.B. (2001). Testing reading comprehension of theoretical discourse with cloze. *Journal of Research in Reading, 24(1),* 82-98.

Hornby, A. S. (1995). *Oxford Advanced Learner's Dictionary.* Oxford: Oxford University Press.

Ivan, A. (2010). Klariti.com. Fog index and readability formulas. Retrieved from http://www.klariti.com/business-writing/Fog-IndexReadabilityFormulas.shtml#top.

Johnson, K. (2000). *Readability and Reading Ages of School Science Textbooks.* Retrieved   from   http://www.timetabler.com/reading .html.

Kasule, D. (2011). Textbook readability and ESL learners. *Reading & Writing,* 2(1),63-76.

McGrath, I. (2002). *Materials Evaluation and Design for Language Teaching*. Edinburgh: Edinburgh University Press.

Meyer, H. (2008). The pedagogical implications of L1 use in the L2 classroom. *Maebashi Kyodai Gakuen College Ronsyu.* 8, 147-159.

Mikki, J. (2000). *Textbook: Future of the Nation.* Frankfurt: Peter Lang.

Owu-Ewie, C. (2014). Readability of comprehension passages in Junior High School (JHS) English Textbooks in Ghana. *Ghana Journal of Linguistics 3*(2), 35-68.

Rush, R. (1984). Assessing readability: Formulas and alternatives. *Reading Teacher. 39*(3), 274-283.

Sholeh, K. (2012). Comparative study of the readability of English textbooks of translation and their Persian Translations. Retrieved from http://dx.doi.org/ 10.5296 /ijl.v4 i4.2737.

Singer, M., & Tuomi, J. (2003). *Selecting Instructional Materials: A Guide for K-12 Science. Technical Report.* Washington, DC: National Research Council.

Umoke C. C., & Nwafor C. E. (2015). Examination of the readability level of some approved science textbooks in use in junior secondary schools in Ebonyi State of Nigeria. *British Journal of Education. 3*(11), 26-31 Retrieved from www. eajournals.org.

UNESCO (2005). *A Comprehensive Strategy for Textbooks and Learning Materials.* France: United Nations Educational, Scientific, and Cultural Organization.

Zamanian, M. & Heydari, P. (2012). Readability of texts: State of the art. *Theory and Practice in Language Studies, 2*(1), 43-53.