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## **THE READABILITY OF JUNIOR'S LEVEL IN MENTARI'S TEXTBOOKS: A SYSTEMIC FUNCTIONAL LINGUISTIC STUDY**

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**Abstract:** This study deals with Lexical Density (LD) and Grammatical Intricacy (GI) of juniors' level in Mentari's textbook to measure the readability of the text in the level. The objectives of the study are to find out the GI and LD which performed in the reading text of Mentari's textbook and the highest readability in the level of the textbook. The main theory used in this study is the theory of Halliday (1985). This study was conducted by descriptive method with qualitative approach. The data analysis of this study was reading text of Mentari's textbook for junior's level. The result of the research revealed: (1) the average score of GI in each level are 1.42 in CONNECT1, 1.42 from CONNECT2, 1.42 in CONNECT3 and 1.41 in the CONNECT4. While, the average score lexical density in each level was CONNECT1 as 59.39 %, CONNECT2 as 63.18%, CONNECT3 as 58.60 % and CONNECT4 as 59.00%. (2) CONNECT2 is the highest lexical density of the textbooks, the result also showed that CONNECT 2 as the hardest text of the level in the juniors' level.

**Keywords:** readability, lexical density (ld), grammatical intricacy (gi), reading textbooks

### **INTRODUCTION**

English is one of the critical dialects in this world. It is a universal dialect which is talked in numerous nations both as a local and a moment or outside language. It is instructed within the school in nearly each nation on this earth. The truth that English is presently the most worldwide dialect is undeniable. In all perspectives of worldwide life such as exchange, science, discretion, instruction, and travel, the common dialect is English and has been for decades.

English subject has been put in junior high school. The material is begun from the introduction of some vocabularies. The important things that can make the understudy difficult or simple to get it English content is lexical density. It impacts in the capacity of the understudies to comprehend the material. Lexical density is a condition of the words' proportion in the text. It shows the ratio of lexical items per clause. Lexical items consist of a noun, adjective, verb, and some adverbs while grammatical items consist of

determiner, pronoun, most preposition, conjunction, finite verb, and some classes of an adverb. Lexical density also shows the complexity of words within the text. It describes the development of lexical in the written language.

As students, sometimes, they are able to assume whether or not a text is complex. This appends at elementary student consider reading the text at high level are way more complex than those at low level. So far, this opinion is only an assumption since it has not been scientifically proved. Regarding written text complexity, Halliday (1985) pointed out that lexical density is significant factors contributing to readability, thus, it can be used to measure texts' complexity.

Concerning to complexity, from the review, it can be assumed that the texts with higher level are more complex than lower-level text. This is elaborated by Jatowt & Tanaka (2012) who stated that documents with high lexical density tend to contain much information and might be poorly understood by the reader.

The significance of appropriate educating materials determinations has prompted the researcher to investigate the percentage of readability. It is one basis in selecting the content as the teaching materials and the instruction fits the understudy and the educating objective. The higher the learners' language dominance is the harder the readability of the textbooks will be and vice versa. To discover out the meaningfulness of the texts, the investigation of grammatical intricacy and lexical density is conducted.

Subsequently, the students' language authority ought to be considered in selecting English textbooks as the teaching materials with high or low grammatical intricacy and lexical density. In understanding with the explanations above, the researcher proposes to conduct a research investigating the complexity of grammar as well as the density of lexeme used in English content as the educating materials particularly in English course level. These endeavors are worth conducting to find out the contrasts in readability level of the textbooks used as the teaching materials completely different level of classroom activity at each level on the English class.

Based on the aforementioned, this study aims at investigating lexical density and readability of English text is taken from Mentari's book in Junior's level series, Connect1, 2, 3 and 4 of Mentari's book, mainly to provide assumptions. Those juniors' levels are taken as an assumption in order to see which is more complex and which one is easier. Besides, readability is also going to be measured to see the readability of the text. Readability determines how easy or hard to read textbooks' levels is and the high or low readability in the textbooks is affecting the quality of the books.

## **LITERATURE REVIEW**

This study used some theories which are related to the title, readability. This thesis analyzes readability in lexical density on the English reading text for a junior in the Mentari's textbook. In addition, this research studied the systemic functional linguistic that used as the instrument to do its readability. This study tried to find which text is more and less complex in the terms of readability in the textbook. The theory converses the concept and the formula of grammatical intricacy and lexical density calculations. There is formula that measure lexical density and this study used Halliday's Spoken and Written as the theory. By using Halliday (1985), lexical density as readability measurements can be used as primary and supporting theory to analyze the data.

Systemic Functional Grammar was broadly explained by some linguists. Some of them are Halliday, Matthiessen, Gerot, and Wignell. According to Sujatna (2013, p.20), "some linguists can also call FG approach as Systemic Functional Approach (SFA),

Systemic Approach (SA), Systemic Linguistics (SL), or Functional Semantic Approach (FSA)". In this study, the researcher prefers to call it Systemic Functional Linguistic (SFL) based on the main theories that used in this study.

### **Lexical Density (LD)**

Halliday (1985, p.64) gives the concept by defining lexical density as the number of lexical items, as the proportion of the number of running words. Lexical density (LD) is the number of lexical items as a proportion of the number of running words Halliday (1985, p.64). This is also called the type-token ratio which expressed words in percentage. Thus, it can be summarized the counting of lexical density in a text by this formula:

$$\text{Lexical Density} = (\text{number of content words}) / (\text{total number of words}) \times 100\%$$

This formula is in line with the concept of Halliday (1985, p.64) as first approximation to measure lexical density. Therefore, we can draw the distinction between lexical and grammatical items. It can be done by simplifying it, treating each word as the relevant items (in the sense of what is treated as a word in the writing system like being written with a space on either side), and counting the ratio of lexical density to grammatical words. Then, we express this as a proportion of the total number of running words. If there are 12 lexical and 8 grammatical items, this gives the proportion of lexical items to the total as 12 out of 20, which we show as a lexical density of 60%, or 0,6.

### **Grammatical Intricacy (GI)**

The first approach to GI springs from the lexical density phenomenon to more commonly discussed in the systemic functional grammar (SFL) field. Halliday (1985, p.61-62) demonstrates how this principle operates in a series of example sentences, of which selections are reproduced below. GI should be held more as a guiding tendency than a defining principle, holding that spoken language is grammatically intricate and written language is not. The GI analysis process grammatical and also discursive features of texts become more apparent as texts become broken down into clauses or other units of language. Gerot & Wignell (1994, p.162) present clause-count as the way to measure GI. This is in spite of the realization that grammar word-count increases in spoken language as Halliday inadvertently showed when demonstrates lexical density Gerot & Wignell (1994, p.163) emphasize the grammatical complexity and extra information common complex clauses in spoken language (though without providing any reason for it) in contrast to written language.

According to Halliday & Webster (2008, p.62) Grammatical intricacy is shown by simple clauses in clause complexes through logic-semantics at clausal Level. Grammatical intricacy refers to how lexical items are spread out in a series of clauses within a clause complex, it is measured by the proportion of ranked clauses per the total number of clause complexes. Then, the measure of grammatical intricacy is concerned, if there are a number of simple ranking clauses in the complex clause and grammatical intricacy in a high score. Then, the text is more complicated.

### **Readability**

Readability has a few utility. its have sensible utility and predictability as a beginning point for determining the level of challenge in a content. It is basic to consider expert judgment, field testing, knowledge of students, and guidelines and content plan characteristics in determining readability. Subsequently, readability scores should not be seen as a outline explanation almost a choice outside the context of those other basically important measurements. A more reasonable definition of readability that's in keeping with more recent study and hypothesis is the level of ease or difficulty with which textbooks can be caught on by a student who is reading the text to study.

Readability could be a measure of how a ease of text is. The level of complexity of the text, legibility and typography make a quality in the textbooks. readability should be an illustration of how the book can be studied. As the Literacy Dictionary Harris & Hodges, 1995 (p.203) points out, text and reader variables interact in determining the readability of any piece of material for any individual reader. Therefore, Readability is effected by a material of the text characteristics and many characteristics of readers Levels. Thus, one important characteristic of a useful, informed definition of readability is that it reflects the characteristics books to study.

### **Mentari Books**

Mentari Books is a center for the procurement of textbooks with international curricula for schools from the Kindergarten until senior high school level. This international curriculum includes the curriculum of the Cambridge International Examination (such as Check Point, IGCSE), the Singapore curriculum, the UK curriculum, and the IB curriculum. Established in 2001, Mentari Books has a mission to become a trusted source in providing learning materials for schools in Indonesia and to be a fun place to work, educate, and train young people in Indonesia to become successful, reliable, professional professionals. highly competent, and of good character.

Mentari Books collaborates with various leading publishers in the world, including Marshall Cavendish Education, Cambridge University Press, Hodder Education, Shinglee Publisher, and Singapore Asia Publisher, to provide quality programs as well as provide training for students. Then, the books is choosed by reseacher to convince student that this book is worth to study

### **METHOD**

This section elaborates the research design used in this research; including some steps that the researcher did in the research. It also explains how the data were collected and analyzed the final result.

Data are the object of the study or anything is as the attention target in research. Alwasilah (2002, p.67) says, "Data are commonly viewed as used information used to decide and discuss the object of investigation." In this study, the researcher takes that are used Mentari's text book as the primary data. This study employs a qualitative case study design. It is used since the study was intended to find the readability of a text. The data are taken from four levels in Mentati's textbook on juniors' level.

In Mentari's books levels, there are 4 books in juniors' levels which are CONNECT 1, CONNECT 2, CONNECT 3, and CONNECT 4. One text will be taken from each book. The books is used by English courses (Brain English course and LA course) as a teaching material for juniors' levels. It shows the books is used by student in juniors' levels in the age of 13 to 15 years old.

Here are the steps of analyzing the data. After the texts are collected, the first steps to do are chunking the text into clause and categorize them. Then, the words in each clause are categorized into either lexical or grammatical items. After categorization, both lexical and grammatical items are counted as lexical items and then they are processed by applying the lexical dense formula proposed by Halliday (1985). In terms of readability, the calculations were done automatically through an online ease calculator available on the internet. The process will include typing, copying, and pasting the text. Then, the machine helps with the calculation in <http://www.usingenglish.com>. After the calculation is done, the result is then presented and discussed in the following section.

## FINDINGS AND DISCUSSION

### Lexical Density (LD) and Grammatical Intricacy (GI) in the Mentari's Textbooks

Lexical density is a term of the words' proportions in the textbooks. It indicates the ratio of lexical items to grammatical items. In this study, there are four books in juniors' level by Mentari publisher that are analysed, they are in the CONNECT 1, CONNECT 2, CONNECT 3, and CONNECT 4.

In order to find out, the data have been analysed thoroughly. The first analysis based on grammatical intricacy (GI). Found average scores of GI are 1.42 in CONNECT 1, 1.42 from CONNECT2, 1.42 in CONNECT 3 and 1.41 in the CONNECT 4. From those books, it can be analysed the score of GI and LD. Therefore, the data is illustrated in the following table;

**Table 1. The score of GI and LD in textbooks of junior's level**

No.	Textbook's Level	Lexical Density (LD)	Grammatical Intricacy (GI)
1	CONNECT 1	59.4%	1.42
2	CONNECT 2	63.2%	1.42
3	CONNECT 3	58.6%	1.42
4	CONNECT 4	59%	1.41

Looking at the finding shown above, these low grammatical intricacy scores simply indicate that those textbooks have the tendency to be characterized as the written language. To make sure, grammatical intricacy is not enough without checking the lexical density score. As previously mentioned, the data were taken from the reading text of the English textbook in various schools. For English, these schools used the same book published by Mentari as the primary source. Therefore, some written texts in the textbook were selected based on the genre and the length of the text to meet the need of readability comparison of the text in each level.

### Lexical Density (LD) in the Mentari's Textbooks

The data shows that the percentages of LD are 59.39% in CONNECT 1, 63.18% in CONNECT 2, 58.60% in CONNECT 3, and 59.00% in CONNECT 4. In line to Ure's statements (1971, p. 445), a large majority of the spoken text has a lexical density under 40%, while a large majority of written text has a lexical density of 40% or higher.

The subjects in this study were the LD at the Mentari book at the junior level had a mean of 61%, which came from LD of CONNECT 1 to 4, respectively: 59.4%, 63.2%, 58.6% and 59%. The researcher see that textbooks at the junior level have a good LD for students at the age of 13-15 years to study. The text is written using vocabulary or content words. Function words, which dominate the text.

The density of texts in CONNECT1, unit 1 was 62.4%, unit 2 was 61.8%, unit 3 was 54.5%, unit 4 was 55.0%, unit 5 was 51.8%, unit 6 was 63.4%, unit 7 was 68.2% and unit 8 was 58.0%. In other words, it can be concluded that unit 6 is denser than unit 8, but the densest of all is the unit 7. CONNECT 1 consists of 8 units with one textbook in each unit. From the text, it can be seen that CONNECT 1 is quite consistent. If you look at the LD index, CONNECT1 has 8 texts that is in high index. This means that this textbook deserves to be called a written text because it fulfils the element of lexical density.

CONNECT2 has 8 units with 8 texts. The LD index in connect2 is the highest index among the other 3 books, which is 63,2%. This book has the best text as written text at this level. CONNECT2 has the highest caused LD of the books studied and 7 of them (texts 2,

3, 4, 5, 6, 7 and 8) have an LD index more than 60%. The calculations reveal that the density of texts unit 1 was 58.4%, unit 2 was 63.6%, unit 3 was 64.3%, unit 4 was 60.1%, unit 5 was 66.9%, unit 6 was 62.7%, unit 7 was 60.7% and in unit 8 was 68.7%. In other words, it can be showed that unit 6 is denser than unit 7, but the densest of all is the unit 8.

CONNECT3 as a lowest index in this junior's level has 8 unit the density of texts in unit 1 was 62.3%, unit 2 was 69.8%, unit 3 was 53.0%, unit 4 was 49.4%, unit 5 was 55.5%, unit 6 was 58.0%, unit 7 was 64.5% and unit 8 was 56.3%. It is concluded that unit 1 is denser than unit 8, but the densest of all is the unit 2.

CONNECT4 is the last books in this level but it is not indicated to this book as the highest textbooks level. The calculations reveal of texts, unit 1 was 59.1%, unit 3 was 57.0%, unit 4 was 58.1%, unit 5 was 59.8%, unit 6 was 59.4%, unit 7 was 59.9%, and in unit 8 was 59.7%. In other words, it can be concluded that unit 6 is denser than unit 8, but the densest of all is the unit 7.

### **Grammatical intricacy (GI) in the Mentari's textbooks**

Grammatical Intricacy is calculated by comparing the number of clauses with the number of sentences in a text. The index of taxis or interdependency of each clause will be known. Each clause is tested for its logico-semantic relation and it can be easily seen how the interdependency of each clause is. Based on the comparison between clauses and sentences in each text contained in each book at the junior level, it can be seen that the average Grammatical Intricacy index is 1,4 from books 1 to 4. The index shows that most of the books studied have a Grammatical Intricacy index which is significantly not high. Thus, the text presented in this book can be used in the learning process of students in 13 to 15 years old.

In CONNECT 1 is relatively easy because its Grammatical Intricacy index is 1.42. However, some of the texts in this book contain complex sentences because they use sub-ordinated conjunctions *before, when, after, and because*. Overall, Logico-semantic relations in CONNECT1 are identified as *and, before, when, but, after, because, comma*.

CONNECT 2 has Grammatical Intricacy index 1.42. However, the Logico-semantic relations that can be recognized in sentences in each text in CONNECT 2 are *that, and, and but*. This means there are fewer complex sentences. Thus, the CONNECT 3 contains simple texts and becomes easy for junior levels.

CONNECT 3 has a Grammatical Intricacy index of 1.42. Generally, the text in this book has Logico semantic relations which are recognized by *and, after, comma, that, than, how, because, but, before*. The implication is that there are many complex sentences that are revealed with sub-ordinated conjunctions *that, than, how, because, and before*. However, the text in CONNECT3 can be indicated as an easy-to-learn text for junior level.

CONNECT4 has a Grammatical Intricacy index of 0.141. This means that the text on CONNECT4 can be called as easy and simple text. However, the Logico-semantic relation in CONNECT4 text is known as *who, since, when, after, because, where, while, and before*. There is only one type of co-ordinated conjunctions, *and*. Although the text is simple, there are many hypotaxis or complex sentences in addition to compound sentences or parataxis.

### **CONNECT 2 As the most difficult Textbooks in the juniors' level**

In the selecting appropriate teaching material must not be a something perfunctory origin, it has prompted the researcher to study the percentage of readability in English learning textbooks. Text readability is the criterion for selecting the text as the teaching materials. To find out the readability of the text, the analysis of GI and LD of the text is conducted. Referring to the findings, as the data present the low score of GI and high score

of LD, it means that those textbooks are characterized into written language supported. In other words, those textbooks will definitely fulfill the requirement to be grouped into written language or the hardest text.

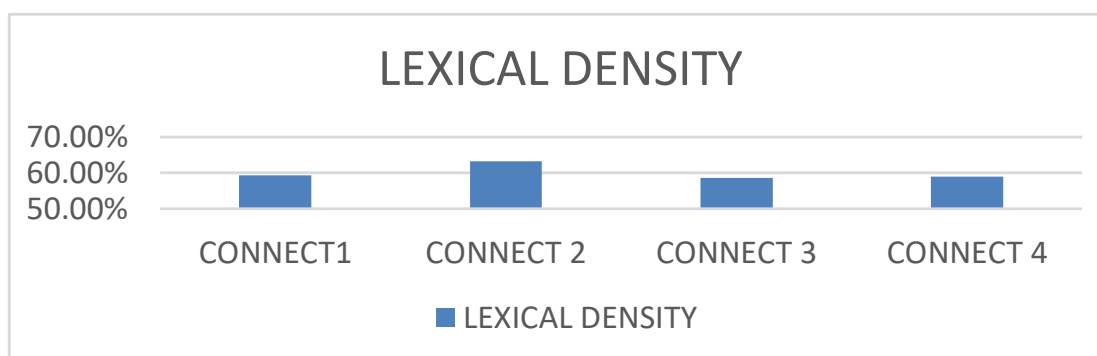


Figure 1. Percentage lexical density (LD) in the CONNECT 1, 2, 3, and 4

The figure 1. shows (LD) in each textbook is different. LD in the Connect 2 has the highest percentage for 63.18%, while CONNECT 1 is in second position out of four for 59.39%. CONNECT 3 is in fact has the lowest lexical density for 58.60% and CONNECT 4 is 59.00%. However, none of the textbooks comprises less than 40% or 0,4. Pertaining to lexical density, the numbers from figure above show that the text at CONNECT 1, CONNECT2, and CONNECT 4 levels were lexical dense, while the CONNECT3 featured a low lexical density. Therefore, it can be concluded that lexical density in the texts from Mentari's textbooks does not always match its level. A lower- level text might be of high lexical density, whereas a low-density text might be recommended for English learning at higher levels.

From the analysis of textbooks in each level, the high percentage of lexical density in CONNECT1, 59.39%, means that this book is fairly difficult to read. In CONNECT2, 63.18% of lexical density as the highest means that this book is the most difficult to read. The lowest percentage of lexical density in CONNECT 3, 58.60%, means the book as the easiest book to read. And last, as the same as CONNECT 1, the percentage of lexical density in CONNECT 4 is 59% as fairly difficult to read.

Considering the range of lexical density in juniors' level of the reading textbook, as can be seen in the figure below, lexical density increased from CONNECT 1 to CONNECT 2 before decreasing in the CONNECT 3 and further decreased in CONNECT 4. In terms of grammatical intricacy, the findings show that the average scores of GI are 1.42 in CONNECT 1, 1.42 from CONNECT 2, 1.42 in CONNECT 3, and 1.41 in the CONNECT 4. It means that the textbooks tend to use simple language in writing their material. The statement is supported by the finding.

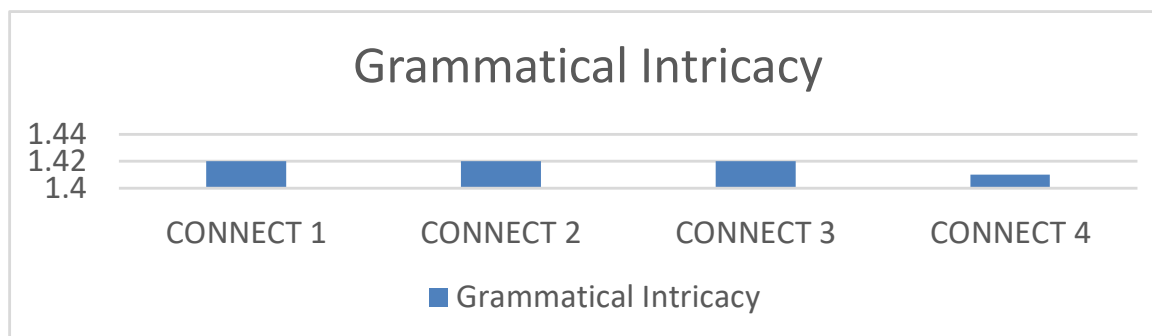


Figure 2. Ratio of GI in the CONNECT 1, 2, 3, and 4

The figure 2. tells that the Grammatical Intricacy of CONNECT 2 is 1.42. It means that the use of simple language has an impact on grammatical intricacy of the textbook. It can be inferred that those textbooks can be grouped into written text and/or hardest text. To make sure, grammatical intricacy is not enough without checking the lexical density.

CONNECT 2 with the highest lexical density and the high ratio of grammatical intricacy ratio is the hardest readability of the textbook. The difficulty of reading textbooks is influenced by LD, it has higher proportions of lexical items than grammatical items. Meanwhile, grammatical intricacy also influences the difficulty of reading text if it has higher proportions of lexical items than grammatical items. GI influences the difficulty of reading textbooks in case, it has higher proportion of complex clause in comparison with simple clause. In this case, the result of this study shows that both LD and GI has high proportions which means that the readability of the text in CONNECT 2 is most difficult for juniors' level and CONNECT 4 as the easiest to understand by the students in juniors' level.

From Mentaris's textbooks in juniors' levels, the researcher found the percentage of LD and the score of GI. Referring to the result of analysis, the researcher found the average score of GI in each level are 1.42 in CONNECT 1, 1.42 from CONNECT 2, 1.42 in CONNECT 3, and 1.41 in the CONNECT 4. Furthermore, the researcher also found the average score lexical density in each level CONNECT 1 is 59.39%, CONNECT 2 is 63.18%, CONNECT 3 is 58.60%, and CONNECT 4 is 59.00%. So, those textbooks are characterized as a written textbooks which can be studied in juniors' level. The books is high degree of LD index which is more than 0.5 and the use of simple represented by a low degree of GI index.

In this case, the study shows that both LD and GI have high proportions which means that the texts are difficult to understand by the students in juniors' levels. The result obtained are CONNECT 1 as a fairly difficult to read, CONNECT 2 as the highest its means as the most difficult to read, CONNECT 3 as the easiest to read, CONNECT 4 as the fairly difficult to read in juniors' level.

## CONCLUSION

After this study was done, the writer draws some conclusions based on the research questions of the study. From Mentaris's textbooks in juniors' level, the researcher found the percentage of LD and the score of GI. Referring to the result of analysis, the researcher found the average score of Lexical Density (LD) in each level CONNECT 1 is 59.39%, CONNECT 2 is 63.18%, CONNECT 3 is 58.60%, and CONNECT 4 is 59.00%. Furthermore, the researcher also found the average score Grammatical Intricacy (GI) in each level are

0,142 in CONNECT 1, 1.42 from CONNECT 2, 1.42 in CONNECT 3, and 0,141 in the CONNECT 4. The textbooks are characterized as a written language and worth to study in juniors', because it have high degree of LD index and the textbooks are using of simple clauses to represent a low degree of GI index. This research shows that both LD and GI have high proportions which means that the texts are easy to understand by the students in juniors' level. The average score of GI in each level are 1.42 in CONNECT 1, 1.42 from CONNECT 2, 1.42 in CONNECT3 and 1.41 in the CONNECT4 and the average score lexical density in each level are CONNECT1 as 59.39 %, CONNECT2 as 63.18%, CONNECT3 as 58.60 % and CONNECT4 as 59.00%. (2) CONNECT2 is the highest lexical density of the textbooks, the result shows that CONNECT 2 as the hardest text of the level in the juniors' level.

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