CHAPTER II
REVIEW OF RELATED LITERATURE

A. Theoretical Description
1. Lexical Density

The term lexical density is used in text analysis and measuring how informative the text is. Thornbury and Slade say that lexical density is the measurement of the relationship between the lexical words and its grammatical words in a text.[25] Actually, the first concept of lexical density was introduced by Ure in 1971. He describes lexical density is the ratio of lexical to grammatical values in words.[26] Furthermore, Halliday defines lexical density is the percentage of lexical items (content words) to the amount of clauses.[27] When the lexical density increases, the text becomes more informative and complicated. Meanwhile, text with lower density is easier to understand by the reader because the text is less information.

There is a different concept of lexical density between Ure and Halliday. Halliday states that lexical items is lexical set (open set) not grammatical system.[28] For Example: *take off*. This phrasal verb according to Halliday is one lexical item. While Ure counts "*take*" as one lexical item and *"off"* as one grammatical item.

Moreover, Stubbs (2002);[29] Johansson (2008);[30] Syarif and Rahmi (2018) state that lexical density is the total number of lexical items in a text as a proportion of total

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[25] Thornbury and Diana Slade, *Conversation: from Description to Pedagogy* (UK: Cambridge University Press, 2006), 44.

[26] Victoria Johansson, *Lexical Diversity and Lexical Density in Speech and Writing: a Developmental Perspective* (Lund University, Dept. of Linguistic and Phonetics, Working Papers 53, 2008), 66.

[27] M. A. K. Halliday, *Language and Education, ed. Jonathan J. Webster* (New York: Continuum, 2007), 104.

[28] Victoria Johansson, *Lexical Diversity and Lexical Density in Speech and Writing,* 66.

[29] Michael Stubbs, *Words and Phrases: Corpus Studies of Lexical Semantics* (Oxford: Blackwell Publishing, 2002), 41.

[30] Victoria Johansson, *Lexical Diversity and Lexical Density in Speech and Writing,* 67.

words.[31] In lexical density there are two categories, lexical items (content word) and grammatical items (grammatical words). Content words are commonly known as lexical items usually carry high information, such as verb, noun, adverb, and adjective. And the grammatical items serve to connect the content word to each other, such as auxiliary verb, pronoun, preposition, determiner, conjunction, and numerals.[32] These categories are described below:

a. Lexical Items

Lexical items or content words consist of verbs, nouns, adjectives, and some classes in adverbs with appropriate lexical meaning. The description as below.

1) Noun

Noun is the naming word. It refers to person, thing, or place.[33] The examples are woman, man, boy, book, desk, chair and so on.

2) Verb

Verb is a doing word. It refers to an action.[34] Verb has often expressed a state, behavior, event or emotion as a lexical density. The examples such as work, stand, cut, go.

3) Adjective

Adjective is a word which described or modifies a noun.[35] It is a term that offers more details about a noun or pronoun. The examples of adjective are such as beautiful, good, happy, excited.

4) Adverb

Adverb is a word which describes or modifies other types of word, such as verb, adjective, adverbs.[36] There are some adverbs, such as adverb of manner

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[31] Hermawati Syarif dan Rahmi Eka Putri, "How Lexical Density Reveals Students' Ability in Writing Academic Text," *Lingua Didaktika* 12, no. 2 (2018), 88.

[32] Michael Stubbs, Words and Phrases: Corpus Studies of Lexical Semantics, 40.

[33] Geoffrey Leech et,al, *English Grammar for Today: a New Introduction* (London: The Macmillan Press Ltd., 1993), 24.

[34] Geoffrey Leech et,al, *English Grammar for Today........,* 24.

[35] Elly van Gelderen, *An Introduction to the Grammar of English: Revised Edition* (Amsterdam: John Benjamins Publishing Company, 2010), 15

[36] Geoffrey Leech et,al, *English Grammar for Today........,* 24.

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(wisely, quickly), adverb of place (there, here, abroad), adverb of time (now, yesterday, then), adverb of duration (often, always, frequently), adverb of degree (really, very), and adverb of modality (maybe, actually).[37]

b. Grammatical Items

Grammatical item creates the connection between concepts in a sentence even does not give more information in a text.[38] The function is to make lexical items fit together.[39] The grammatical items are auxiliary verb, pronoun, preposition, determiner, conjunction, and numerals.

1) Auxiliary verb

Auxiliary verbs are verbs that cannot exist on their own. Its aim is to assist other verbs in expressing various meanings.[40] For examples: be (are, is, was, were), do (does, did), has or have, and the modal of auxiliary verbs such as will, would, should, shall, may, might, must, ought to, could, can.

2) Pronoun

A pronoun is a word that replaces a noun or a noun phrase. Pronoun is also use to refer to someone.[41] The examples of pronoun are: I, you, you, her, his, we, it.

3) Preposition

A preposition is a term that shows how other words are related to one another. Preposition usually express place or time, direction, causation, or relation.

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[37] Elly van Gelderen, *An Introduction to the Grammar of English…,* 15-16.

[38] Hermawati Syarif dan Rahmi Eka Putri, "How Lexical Density Reveals Students' Ability in Writing Academic Text," *Lingua Didaktika* 12, no. 2 (2018), 88.

[39] Elly van Gelderen, *An Introduction to the Grammar of English…..…,* 19.

[40] Slamet Riyanto, et.al., *A Handbook of English Grammar* (Yogyakarta: Pustaka Pelajar, 2010), 36

[41] Hilda Koopman, Dominique, and Edward, *An Introduction to Syntactic Analysis and Theory* (Chichester: Wiley-Blackwell, 2013), 164.

Preposition occurs before a noun.[42] For example, under, on, in, in front of, beside, between, about, and so on.

4) Determiner

Determiner is a word or article that belongs to a specific category. Determiner is normally used in conjunction with a noun to determine which noun is meant and whose it is.[43] For example, a, an, the, that, this, some, many, and so on.

5) Conjunction

Conjunction is a word that used to connect word or a group of word or sentence.[44] The examples of conjunction are after, although, and, because, before, but, and so on.

6) Numerals (numbers)

Number divided by three parts, they are ordinal number (first, second, third), cardinal number (zero, one, two, three), and fraction (a half, a third, a quarter).

2. Readability

a. Definition of Readability

Readability is an important aspect in determining the text level. The definition of readability according to Bailin and Grafstein is the degree to which what is conveyed by written text is easier or difficult to understand.[45] It was analyzed to assess the difficulty of writing and to estimate the degree of reading in understanding the text.[46] This test will provide effective sentence-level comprehension predictors.[47] So, readability was created to measure the level of ease in

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[42] Elly van Gelderen, *An Introduction to the Grammar of English……..,* 18.

[43] Elly van Gelderen, *An Introduction to the Grammar of English……..,* 19.

[44] Slamet Riyanto, et.al., *A Handbook of English Grammar…….,* 85.

[45] Alan Bailin and Ann Grafstein, *Readability: Text and Context* (Macmillan: Hofstra University, 2016), 177.

[46] Barbara Woods, Giana Moscardo and Tanya Greenwood, "A Critical Review of Readability and Comprehensibility Test," *Journal of Tourism Studies*, 9 (1998), 51.

[47] Danielle et.al., *Coh-Metrix Measures of Text Readability and Easability* (Cambridge, Cambridge University Press, 2014), https://www.cambridge.org/core, 78.

understanding the written text and to determine how readable the text is. In short, what makes text easy to read and has complexity level of reading text is readability. It can be influenced by several factors such as language and writing style, words, number of sentences, and so on.

b. Factors of Readability

According to Richard R. Day in his journal, there are several factors that affecting the readability of the text. He mentions six factors, they are:[48]

1) Lexical knowledge

This is a crucial factor that influences the readability of text. If in a text there are lot of unknown lexical items or vocabulary, it would be more difficult to comprehend for students. Therefore, lexical knowledge is needed to make it easier to understand the reading text.

2) Background knowledge

Someone's knowledge also affects in reading a text. They will be more quickly and easily to understand the text if they know about the topic. So, the teacher has a role to choose the relevant topic to students.

3) Syntax or language patterns

Sometimes in reading text, there are grammar constructions that are difficult to understand by readers and take a long time to read. It affects the readability of the text.

4) Organization

The rhetorical or explicit structure of the text is known as organization. The teacher must check whether the text has been organized properly or not, because the text that is not organized properly can cause problems for students.

5) Discourse phenomena

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[48] Richard. R Day, "Selecting Passage for EFL Reading Class," *Journal of English Teaching Forum* 32 (1994), 21-22.

Arrangement of topic and suggestions in reading material, and the analysis of structure and coherence are textual phenomena at the discourse level.

6) Passage length

The last factor is the length of the passage. Sometimes, teacher pay less attention to the reading skills of their students and give too long reading material.

Those are some factors that affect the text readability. By knowing these factors, the teacher can determine the level of readability in reading texts, and they can choose the appropriate text and strategy for students

c. Measuring the Readability

There are several ways or methods to determine the readability of the text. The purpose of this assessment is to determine the readability of the text, whether the text is easy or difficult to read for certain readers. The methods in assessing the readability are formula test and close procedure text. The formula test such as Flesch Reading Ease Formula, SMOG formula, Fry Readability Graph, and The Dale-Chall Formula.[49] Flesch Reading Ease Formula is used in this study to determine the readability level of the text because this formula has been proven and is widely used by previous studies. William in his book also said that Flesch Reading Ease is one of the most successful and tested reliable formulas.[50]

d. Flesch Reading Ease Formula

This formula was created by Rudolf Flesch in 1943 PhD dissertation, entitled Marks of Readable Style: A study in Adult Education.[51] The Flesch Reading Ease Formula is calculated based on the index score on

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[49] William H. DuBay, *The Principles of Readability* (California: Costa Mesa, 2004), 20-25.

[50] William H. DuBay, *The Principles of Readability* (California: Costa Mesa, 2004), 21.

[51] Alan Bailin and Ann Grafstein, *Readability: Text and Context* (Macmillan: Hofstra University, 2016), 35.

sentence length and the number of syllables per word. The scale position starts from 0-100. 0 means very difficult and 100 is very easy.[52]

$$RE : (206.835 - (1.015 \times ASL)) - (84.6 \times ASW)$$

ASL (Average Sentence Length) is total of words divided by total of sentences.
ASW (Average Syllable per Word) is total of syllables divided by total of words.

Table 2. 1 The Level of Readability Test by Flesch Reading Ease Scale.[53]

Reading Ease Score	Description	Reading Grade
0 – 29	Very Difficult	College Graduate
30 – 49	Difficult	13th – 16th grade
50 – 59	Fairly Difficult	10th – 12th grade
60 – 69	Standard	8th – 9th grade
70 – 79	Fairly Easy	7th grade
80 – 89	Easy	6th grade
90 – 100	Very Easy	5th grade

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[52] William H. DuBay, *The Principles of Readability* (California: Costa Mesa, 2004), 21.
[53] William H. DuBay, *The Principles of Readability* (California: Costa Mesa, 2004), 21.

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3. **Reading Text**
   a. Definition of Reading Text

   Reading is one of four skills in language. Mastering reading skill is very important, so we can be more understandable on the text that we read. Reading is a skill that requires the written word to make sense and draw meaning.[54] It is not only decode the word but also comprehend the text. William Grabe and Federicka state reading is a process by which a reader translates the written material into knowledge that they can comprehend.[55] It means that reading is an activity of interpreting words and comprehend what we read.

   In the teachings of Koran, it is stated that reading is one of the keys to gaining knowledge. This is stated in the Qur'an Surah Al-'Alaq: 1-5.

   اقْرَأْ بِاسْمِ رَبِّكَ الَّذِي خَلَقَ — خَلَقَ الْإِنسَانَ مِنْ عَلَقٍ — اقْرَأْ وَرَبُّكَ الْأَكْرَمُ — الَّذِي عَلَّمَ بِالْقَلَمِ — عَلَّمَ الْإِنسَانَ مَا لَمْ يَعْلَمْ —

   "Recite in the name of your Lord who created. Created man from a clinging substance. Recite, and your Lord is the most Generous. Who taught by the pen. Taught man that which he knew not."[56]

   The surah teaches that reading is one of the activities to gain knowledge which is very suggested by Islam. Everyone can get knowledge about religion or science from anywhere, one of them is by reading. Therefore, reading skill must be mastered by students so that they can easily to understand the information and interpret the meaning of the text.

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   [54] Linse and Nunan, *Practical English Language Teaching: Young Learners* (New York: the McGraw-Hill Companies, 2005), 69.

   [55] William Grabe and Federicka L. Stoller, *Teaching and Researching: Aplied Linguistics in Action* (London and New York: Routledge Taylor & Francis Group, 2013), 3.

   [56] The Noble Quran, Quran.com, Al-'Alaq: 1-5, English Translation by Saheeh International, https://quran.com/96, accessed on 18 July 2021.

Text is something important to communicate. When someone wants to communicate with others, text can be a massage about two people and create a textual meaning.[57] Textual meaning relates to the arrangement of the text as a piece of speech or writing. Supported by Alan Bailin and Ann Grafstein, they define text as a part of written language that consists of words, phrases, clauses, or sentences for communicating purposes.[58] The point is, text is a combination of a word that forms a diction that has meaning for communication.

Based on the definitions before, it is decided that reading text is a tool or instrument in the form of a combination of words or diction and form writing that has a message and meaning.

b. Genre of Reading Text

Genre is used to determine differences in style and type of literacy discourse. It is a distinctive literacy composition type or category.[59] Jenny Hammond says that each genre has a distinctive schematics structure, i.e. a distinctive structure from the beginning to the end through which the social role of the genre is accomplished.[60] There are many types of genres in reading text, such as recount, descriptive, report, exposition, explanation, personal letter, procedure, narrative, persuasive, and so on. But in this study, the researcher only describes the genre that is used in the English textbook for the second grade of senior high school. They are exposition, explanation, narrative, and personal letter.

1) Analytical Exposition text

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[57] Suzanne Eggins, *An Introduction to Systemic Functional Linguistics 2ⁿᵈ Edition* (London: Continum International Publishing Group, 2004), 12.

[58] Alan Bailin and Ann Grafstein, *Readability: Text and Context*........, 4.

[59] Britannica, The Editors of Encyclopedia, "Genre", Encyclopedia Britannica, 15 November 2016, https://www.britannica.com/art/genre-literature, accessed 18 February 2021.

[60] Jenny Hammond, *English for Social Purposes: a Handbook for Teachers of Adult Literacy* (Sydney: Australia Print Group, 1991), 2.

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Analytical exposition text is a text that explains the writer's thought and focuses on one argument about the surrounding phenomena[61] The social function is to convince the reader that the idea and the topic are relevant.

The generic structures of analytical exposition text are:

Thesis : introducing the topic, writer's position, and thesis statement.

Arguments : explaining the arguments using data or fact to support the writer's position.

Reiteration : repeating the statement of thesis.[62]

2) Explanation text

An explanation text describes the process involved in the formation of nature or sociocultural phenomena. This text has a social function to explain how or why things happen.[63]

The generic structures of explanation text are:

General statement : defining the phenomena issue that needs explaining.

Sequenced of explanation : describing a sequence of procedures that can be used to describe a phenomenon.[64]

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[61] Mahrukh Bashir, *Bahasa Inggris: Stop Bullying Now* (Jakarta: Kementrian Pendidikan dan Kebudayaan, 2017), 47.

[62] Linda Gerot and Peter Wignell, *Making Sense of Functional Grammar, ed. Berti Nurul Khajati* (Australia: Gerd Stabler, 1994), 156.

[63] Linda Gerot and Peter Wignell, Making Sense of Functional Grammar……., 168

[64] Mahrukh Bashir, *Bahasa Inggris: Stop Bullying Now* (Jakarta: Kementrian Pendidikan dan Kebudayaan, 2017), 101.

3) Narrative text

A narrative text is one that tells a story in order to amuse the reader. The social function of this text is to amuse and deal in various ways with real or indirect experience.

This is generic structures of narrative text:

Orientation : set the scene and show the story's character.

Evaluation : looking back to examine the problem

Complication : The story's problem occurs.

Resolution : the problem of the story solved, for better or worse

Re-orientation : lesson of the story (optional).[65]

4) Personal letter

A personal letter is a form of letter that deals with personal matter and is addressed to close people, such as our friends, parents. The function of this letter is not only to inform something but also to build communication between two or more people. The structure of the letter such as date, address, salutation and name, introduction, body, closure, complimentary close, signature, and postscript.

4. **English Textbook**

   a. Definition of English Textbook

   Teachers usually have a media to help them in teaching process. One of the media that used by the teachers is textbook. Oxford English dictionary defines that textbook is a book used in school to teach certain subject.[66] Furthermore, Thomson also says that it is an instrument or stimulus for learning and teaching.[67] It means textbook is printed material in the form of book

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[65] Linda Gerot and Peter Wignell, *Making Sense of Functional Grammar*…….., 162

[66] Oxford English Dictionary fourth edition (Oxford: Oxford University Press, 2015), 459.

[67] Thomson Heinle, *Designing Language Courses……..,* 175.

and is used to assist students in receiving lessons delivered by the teacher.

English textbooks are used by teachers as a resource to help improve students' skills in English. It is given by the government for the second grade of senior high school is Bahasa Inggris "Stop Bullying Now" textbook by Mahrukh Bashir. This textbook is published by the Ministry of Education and Culture in 2017. It is very suitable for students because it is based on curriculum 2013. The total chapters are eight and there are enrichment parts. All of these materials to improve student skills in learning English.

b. The Function of Textbook

There are several functions of textbook. Thomson identifies the following functions:

1) Individualized instruction: a textbook will assist students learning individually, encouraging them to explore what they are interested in, at their own speed and within a limited extent.
2) Instructional organization: a textbook facilitates students in planning their learning through interactions, suggested tasks, reading, and questions. The textbook used to introduce new contents and concept based on previous idea.
3) Tutorial contribution: a textbook is used by teachers to assist students in improving their skills on reading, research, interpreting, learning, and problem-solving.
4) Teaching improvement: a textbook is very helpful for teachers who want to improve their teaching skills.[68]

According to the description, textbook has a function as a medium or visual assistance for the teacher

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[68] Thomson Heinle, *Designing Language Courses……..,* 176.

in teaching-learning activities and also to assist students in understanding the learning conveyed by the teacher.

B. Theoretical Framework

Reading is an activity to understand a text. Reading skills are very necessary for students in the learning activities. The teacher uses an English textbook to assist student improving their reading skills. But the fact is, most students struggle to comprehend the text they are reading. That can be caused by the text that is too long and lot of unknown vocabulary so that makes them bored. This is directly related to the lexical density and readability in a reading text. Research on lexical density is to know how much the information is provided in the text. Generally, texts that have high lexical items (content word) are more difficult to understand because there are more information of the reading text. And readability test is needed to figure out the level of difficulty of the text in the English textbook. So, from this research we can find out the lexical density and the level of readability of reading texts in English textbook. And we can know how the relevance of lexical density and readability to the grade level of reading texts in English textbook for second grade of senior high school.

C. Review of Previous Study

Research about lexical density and readability in English textbook have been conducted by several researchers, they are as follows:

1. Siti Solichatun conducted research about analyzing content of reading material using textbook "English on Sky" for 9th grade of junior high school by Erlangga. There are 10 different types of reading texts. Siti analyzed the genre and the lexical density of the texts using descriptive qualitative method. The result shows that there are three genres used (report, narrative, and procedure texts). And the lexical density of this textbook is around 50-60% (quite lexical density). It means the text is not difficult.[69]

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[69] Siti Solichatun, "Content Analysis of Reading Materials in English on Sky Textbook for Junior High School" (publish dissertation, UIN Walisongo, 2011), IX.

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2. The research was also carried out by Gading Saraswati. She uses Contextual English Textbook to analyze the reading materials for grade tenth. Gading used qualitative research design in analyzing the genre, lexical density, and readability of the texts. The total of the text is 24. The result shows that there are 6 kinds of genres. 11 of them are in high lexical density. 12 texts are in medium lexical density. And 1 text has a lower density. The readability development accounted for 78.17% at independent level.[70]

3. The next research from Anis Muslikhati. She analyzes reading material in English textbook by Utami Widiati for 1st grade of senior high school. She starts from the readability of the text, the level of comprehension in reading question, and also lexical density of reading text. She uses mix method which combine qualitative method. From this research there are 5 levels readability of reading text, 4 levels of comprehension with 104 questions in reading material, and lexical density in reading text is around 50-60%. It means that the text is enough to comprehend and not difficult for students.[71]

This study and previous studies have several similarities and differences. We use the English textbook to analyze the readability and the lexical density in reading texts. In other hand, there are some differences that can be found. In previous study from Siti Solichatun, she only focuses on lexical density and uses English textbook with the 2006 curriculum. The research from Gading Saraswati has the same focus with this study. It discusses about lexical density and readability of reading text, but the textbook is different. She uses Contextual English textbook for 10th grade and the researcher uses English textbook from Mahrukh Bashir for 11th grade. The method that we used to analyze the readability is also different. She uses close

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[70] Gading Saraswati, "A Content Analysis of Reading Materials on Contextual English Textbook for the Tenth Grade of Senior High School," (publish dissertation, IAIN Surakarta, 2017), XI.

[71] Anis Muslikhati, "Analysis of Reading Materials in Bahasa Inggris By Utami Widiati Textbook for the First Grade of Senior High School in The First Semester," (publish dissertation, IAIN Syekh Nurjati Cirebon, 2015), IX.

procedure text, while the researcher uses Flesch Reading Ease Formula. In the research conducted by Anis Muslikhati focuses on lexical density, readability, and level of comprehension in reading material using mix method. Meanwhile, the research conducted by the researcher using descriptive qualitative and focuses on lexical density and readability of reading text, so that the grade level of reading text can be found. That is all the similarities and differences of this study.