CHAPTER I
INTRODUCTION

1.1. Background of the Study

Language plays an important role as a means of communication and a tool to connect information. Human being can use language orally or literally to interact and share their ideas in social interaction. By using language, human beings not only express most of their ideas, emotions, and desires, but they also deliver message of communication to the other in their daily life. Wierzbicka, 1996 (in Tambunan, 2009:1) states that the function of language is as an instrument for conveying meaning.

As a tool to communicate, language can be verbal and non-verbal. The verbal language is divided into a spoken language and a written language. The spoken language is a human natural language form of communication in which people use the mouth to create recognizable sounds and deliver orally by the speaker to listener, for example, in a speech. The spoken language or oral communication is considered more effective in expressing meaning to listener than the written language.

A written language is the representation of a language by means of a writing system. It is a communication by the writer to reader, for instance in textbook, novel, sms (short message service) which is the new development of communication where people can use a written language in the form of spoken daily language, mass media such as newspaper, etc.

A written language becomes very difficult to understand if the text has a high level of grammatical intricacy, it means that in the text there are many clauses per sentence. Furthermore, the text becomes difficult to read when the lexical density
goes up to extent. The difficulty depend on the particular lexical items that are used and on how they are distributed in the grammatical structure. Terms of grammatical intricacy and lexical density influence in understanding a text. Eggins (2004:98) states that in a written language, the level of grammatical intricacy is low, meanwhile the level of lexical density is high. A spoken language tends to use more words whereas a written language is said less words in delivering a message.

Grammatical intricacy refers to the complexity of language in a text. Grammatical intricacy regards the complexity of language in terms of how many clauses are joined in a clause complex and intricacy arises as a result of the ways in which clauses are strung together. Francesconi (2014:55). According to Eggins (2004:97) grammatical intricacy relates to the number of clauses per sentence and can be calculated by expressing the number of clauses in a text as a proportion of the number of sentences in the text.

In a written language, the term of lexical density influence a text, it helps to identify the level of words complexity. The term lexical density is used in a text analysis for describing the proportion of lexical items or content words (nouns, verbs, adjectives, and adverbs) to the total number of words. (Johansson, 2008:65). It also is necessary to distinguish grammatical words or function words (pronouns, prepositions, conjunctions, auxiliary verbs, and some adverbs) from lexical items and the differences between them. (Cindy and James, 2007; Halliday, 1985b in To, 2013:62). Lexical density relates to the number of lexical items as a proportion of all words and can be calculated by expressing the number of content carrying words in a text or sentence as a proportion all the words in the text or sentence. Halliday (1993:76) state that lexical density is a measure of the density of information in any passage of a text, according to how tightly the lexical items (content words) have
been packed into the grammatical structure. The content words are most important for explaining information.

The majority of concept of grammatical intricacy and lexical density relates to scientific text in terms of textbooks, journals, scientific article. The concepts also relate to narrative text, for instance novel, short story, folktale, etc.

Scientific text and narrative text are two types of text which is in different genre. Halliday (1993:69) states that scientific texts are found to be difficult to read because they are written in ‘scientific language’, a ‘jargon’ which has the effect of making the learner feel excluded and alienated from the subject-matter. Commonly narrative texts are easy to read because they are written in a common language and communicative aim as entertainment to a reader or a listener. Narrative texts especially in literary text make greater use of figurative language (metaphor, rhythm, repetition) and poetics (language for the sake of language) than do everyday texts. (Knapp and Watkins, 2005:30).

Textbook is a written language with the target readers are academics student, while the target readers for folktale are all public society. That is why the language used should be suitable to the readers so they can understand the text easily. If a text is written in complex sentences, it is not easy to understand. The words which have high frequency may hinder the understanding of the text which relates to a complexity aspect of the text. A text complexity can be seen in its grammatical intricacy and lexical density. Simply, a text is difficult to understand because it has many clause complexes and it also is difficult to read when lexical items go up to extent. Eggins (2004:255) defines clause complex as a grammatical and semantic unit formed when two or more clauses are linked together in certain systematic and meaningful ways.
The scientific textbook that used ad research data is entitled *History* used for Science Program Grade XII of the Senior High School and the folktale is entitled *Other Folk Tales from Indonesia* used as public reading material for children. Both of the texts are in English.

This research discusses the grammatical intricacy and the lexical density as characteristic features of language mode found in the scientific and narrative texts. The analysis of these texts applied the Systemic Functional Linguistics (SFL) in order to see how the writer conveys message or information to the readers. Language mode can be divided as spoken and written that can be specified through use of the register variables: field, tenor and mode (Gerrot and Peter, 1994:11). Mode is the channel of communication that is being used whether it is spoken or written language. Spoken and written language have their characteristics, such as turn taking vs monologuing, context independent vs dependent, interactive vs rhetoric, spontaneous vs non-spontaneous, standard vs non-standard grammar, grammatical complexity vs simplicity, and lexical sparse vs density.

Grammatical intricacy refers to the complexity of sentence in a text. It relates to the number of clauses per sentence. If the number of clause complex is more dominant than clause simplex, it means that the text is difficult to understand. In a sentence there are some clauses together comprise a clause complex. To identify a clause in the sentence marked with double slash (//) or full-stop. Below are examples of grammatical intricacy in a text taken from the history textbook which is a scientific text and the Indonesian folktale is a narrative text.
Scientific text:

a) Another important land transportation mean was rail transport. This mean had developed since colonial time through many railroad constructions in some areas in Indonesia. Since Indonesian independence, railway network was only in Java, West Sumatra, South Sumatra and Lampung. While, tram was all eliminated in the early 1970s. In colonial time, railway industry was owned by the state and private sectors. But after Indonesian independence, all railway industry was under the government using colonial technology and management.

Narrative text:

b) South to Aceh, in the area where the Karos live, there is a small lake // called Lau Kawar. It had been a prosperous village, full of fertile rice-fields, // while the inhabitants were very-industrious in ploughing them. Through working together, they often got a good harvest. Nobody expected // that the village would sink into the earth // and become a lake. People said // it was because of a neglected old woman. The story runs as follows.

In two examples above, text (a) has 6 (six) clauses and 6 (six) sentences. Text (b) has 11 (eleven) clauses and 6 (six) sentences. By using Eggins’s formula is proportion of the number of clauses to the number of sentences in the text, so the grammatical intricacy would be 1.0 for text (a) and 1.8 for text (b). The grammatical intricacy level in text (b) is higher than text (a). Simply, text (b) is more difficult to understand than text (a) due to many clauses per sentence.

In addition to the text complexity, the lexical density refers to complexity of words. It relates to the number lexical items as a proportion of all words and can be
calculated by the formula proposed by Ure, if the number surpasses forty per cent, it accounts for higher lexical density. (Ure in To, 2013:37). Below are examples of a lexical density. The lexical items are in bold type.

Scientific text:

c) Another important land transportation mean was rail transport. This mean had developed since colonial time through many railroad constructions in some areas in Indonesia. Since Indonesian independence, railway network was only in Java, West Sumatra, South Sumatra and Lampung. While, tram was all eliminated in the early 1970s. In colonial time, railway industry was owned by the state and private sectors. But after Indonesian independence, all railway industry was under the government using colonial technology and management.

Narrative text:

d) South to Aceh, in the area where the Karos live, there is a small lake called Lau Kawar. It had been a prosperous village, full of fertile rice-fields, while the inhabitants were very industrious in ploughing them. Through working together, they often got a good harvest. Nobody expected that the village would sink into the earth and become a lake. People said it was because of a neglected old woman. The story runs as follows.

In the examples above, text (c) has 37 lexical items and 78 words. Text (d) has 33 lexical items and 82 words. By using Ure’s formula is proportion of the total number of lexical items to the total number of words multiplied by 100%, so the lexical density of text (c) is 47.4% and 40.2% for text (d). The lexical density level in
text (c) is higher than text (d), thus text (c) is more difficult to read than text (d) because text (c) has a high number of lexical items as a proportion of all words.

In a written text, the level of grammatical intricacy and lexical density should always be considered by the writer and the reader, thus the intended information can be exchanged. By doing analysis of grammatical intricacy and lexical density in scientific and narrative texts, so the readers know the level of grammatical intricacy and lexical density both of the texts which are use English. Thus, the teachers, students and the readers can be selected material for studying or reading. Commonly, folktale (narrative text) is considered easier to understand than scientific text. It is caused in scientific text is written in scientific language which will be understood by well educated people in specific field.

1.2. Problem of the Study

This research covers the following questions:

1. What is the level of grammatical intricacy in scientific and narrative texts?

2. What is the level of lexical density in scientific and narrative texts?

1.3. Objective of the Study

In general view, this research aims at:

1. Describing the level of the grammatical intricacy in scientific and narrative texts.

2. Describing the level of the lexical density in scientific and narrative texts.
1.4. Scope of the Study

This study is restricted to the analysis of scientific texts in a textbook entitled *History* used for Grade XII of Science Program of the Senior High School and narrative texts in Indonesian folktale text entitled *Other Folk Tales from Indonesia* which are specifically deal with applying systemic functional linguistics, they are grammatical intricacy which is referred to the complexity of clauses per sentence in a text and lexical density which is referred to the complexity of words in a text.

1.5. Significance of the Study

This research is expected to be able to give some contributions both theoretically and practically. Theoretically, this study will benefit as a medium to apply the linguistics theory in English text. Practically, this study is expected to be useful as references for the readers who are interested in analyzing similar subject as well as giving better understanding on the grammatical intricacy and the lexical density and also as the reference in teaching and learning activity.