

## **CHAPTER II**

### **REVIEW OF RELATED LITERATURE**

This chapter presents the review of related literature. It covers eighteen major sections. They are reading comprehension, nature of reading comprehension, problems in reading comprehension, level of reading comprehension, test of reading comprehension, vocabulary, nature of vocabulary, problems in learning vocabulary, kinds of vocabulary, test of vocabulary, lexical simplification, nature of lexical simplification, importance of lexical simplification, system in lexical simplification, principles in using lexical simplification in language teaching and learning, approaches of lexical simplification and readability.

#### **A. Related Study**

In relation to the study, before conducting the study, the writer reviews some related previous studies. These previous studies give a view about the issue that is discussed in the study. First, thesis entitled “*Analyzing Text Complexity and Text Simplification: Connecting Linguistics, Processing and Educational Applications*”, written by Sowmya Vajjala Balakrishna. In this thesis, researcher proposed computational approaches for both these tasks based on linguistic modeling. The researcher studied the problem of automatic readability assessment of texts and explored its usefulness at the sentence level to compare the degree of simplification between manually simplified sentences. The researcher proposes a

new approach to automatically predict the text complexity using a wide range of word level and syntactic features of the text. Research shows that this approach results in accurate, generalizable models of text readability that work across multiple corpora, genres and reading scales. This thesis is different with writer's study and has similarity just about text simplification.

Second, the thesis was conducted by Advait Siddharthan as entitled "*Syntactic Simplification and Text Cohesion*". The difference of this thesis with writer's study is in this thesis, researcher has presented a theory of text simplification that offers a treatment of the discourse-level aspects of syntactic rewriting. Researcher has also proposed a modular architecture for a text simplification system and described a shallow implementation of each module. While writer's study is about applying of lexical simplification to solve the problem in reading comprehension and vocabulary mastery.

Third, the study that was conducted by Ken Urano entitled "*Lexical Simplification and Elaboration: Sentence Comprehension and Incidental Vocabulary Acquisition*". The study investigated the effects of two different types of input modification, simplification, and elaboration, on second language comprehension and incidental vocabulary acquisition. The results suggested that (a) both lexical simplification and elaboration can improve learner comprehension at the sentence level; (b) lexical elaboration triggers incidental vocabulary acquisition, while simplification does not; and (c) learners of higher proficiency benefit more from lexical elaboration in terms of the acquisition of word meanings. In this case, writer's study is continued study of this thesis.

Based on the previous studies above, the writer does the different study, in this case, the writer has a different subject, in this study the writer's subject is the students at the eleventh grade IPA students of SMA Muhammadiyah Palangka Raya.

In this study, the writer focuses on measuring the effect of using lexical simplification toward vocabulary mastery and reading comprehension of the eleventh grade IPA students at SMA Muhammadiyah Palangka Raya.

## **B. Reading Comprehension**

### **1. Nature of Reading Comprehension**

Reading is an action to understand information in text passages or group of the letter. Reading is the action of a person who looks at and understands the meaning of written or printed words or symbol.<sup>3</sup> According to Grellet reading is assigning meaning and extracting information from written texts. It means reading requires some abilities to extract information from a text and to construct new understanding. Guy states that reading is the recognition of printed or written symbol that serve as stimuli to recall meanings. It shows that reading requires the ability to recognize the symbol or printed words and to construct a meaning from a text. However, according to Klingner, Vaughn and Boardman's reading is a process of constructing meaning that can be achieved through dynamic instruction

---

<sup>3</sup>*Oxford Dictionary*, p. 968.

among the following aspects: the reader's prior knowledge, the information suggested by the text, and the context of the reading situation.<sup>4</sup>

While comprehension according to Hornby is the power of understanding. Comprehension is very important in reading. Without comprehension, a reader cannot know and understand the meaning of the passage being read because comprehension is a combination of the ideas from the text and prior knowledge of the readers (according to Cooper). Karen stated that comprehension is the center of reading. So Reading comprehension based on Bush and Huebner, "Reading comprehension has been defined as (1) an interpretation of written symbols, (2) the apprehending of meaning, (3) the assimilation of ideas presented by the writer, and (4) the process of thinking while deciphering symbols."

Related to the definition above, it can be concluded that reading comprehension is a process of thinking while reading a text or a paragraph so the idea of the text can be understood by the readers. in this study, the writer focuses on reading comprehension of narrative text. We discuss this in more depth below.

#### **a) Narrative Text**

The social function of narrative text is to amuse, entertain and to deal with actual or vicarious experience in different ways. Narratives deal with problematic events which lead to a crisis or turning point of some kind, which in turn finds a resolution. It has the following characteristics.

##### **a. Generic Structure**

- 1) Orientation sets the scene and introduces the participants.

---

<sup>4</sup>Fajar Furqon ,*Correlation between students' vocabulary mastery and their reading comprehension*, Journal of English and Education 2013, 1(1), p. 69.

- 2) Evaluation is a stepping back to evaluate the plight.
- 3) The complication is a crisis arises.
- 4) Resolution is the crisis is resolved, for better or for worse.
- 5) Reorientation is optional

b. Significant Lexicogrammatical Features

- 1) Focus on specific and usually individualized participants.
- 2) Use of material processes (and in this text, behavioral and verbal processes).
- 3) Use of relational processes and mental processes.
- 4) Use of temporal conjunctions and temporal circumstances.
- 5) Use of past tense.<sup>5</sup>

The writer found some problem in thenarrative text. They are the students difficult to comprehend narrative text caused of students' lack vocabulary and the students difficult to comprehend themain idea, topic, and purpose of thenarrative text.

## 2. The Problems in Reading Comprehension

According to Burns, Griffin and Snow as cited in Westwood stated that having reviewed the extensive research literature on reading and reading difficulties, reached the conclusion that:

*For a child to read fluently, he or she must recognize words at a glance, and use the conventions of letter-sound correspondences automatically. Without these word recognition skills, children will never be able to read or understand text comfortably and competently.*<sup>6</sup>

---

<sup>5</sup> Wido H Toendan, *Reading Comprehension Two*. Palangka Raya: Unpublished Teaching Material, 2013. p. 107-108.

<sup>6</sup>Westwood, Peter. Reading and learning difficulties: approaches to teaching and assessment. 2 The Australian Council for Educational Research Ltd, 2001, p. 12.

Pressley agrees and suggests that to become competent readers' children need to learn two things: word identification strategies and comprehension strategies. These two sets of strategies are very closely interrelated, with comprehension being heavily dependent upon a reader's swift and efficient identification of the words on the page. According to Rayner & Pollatsek 1995 as cited in Westwood stated that to some extent, word identification and comprehension share a reciprocal relationship. Rapid word identification obviously facilitates and supports understanding, and reading with understanding promotes speed and fluency in processing print.<sup>7</sup>

Salvia and Ysseldyke in Westwood stated that refer to three problems children (6-13) may have in comprehension.

- a. They may approach reading as nothing more than a word-pronunciation task and so do not actively engage with the text to make meaning. This is particularly evident when a reader lacks automaticity in word recognition and is therefore very slow in processing the text.
- b. They have no effective strategies to help them process the information or to make meaning. They do not scan the text before reading to get an idea of what the material will be presenting and they do not think ahead. They do not formulate questions in their minds before or during reading and they do not reflect upon what they have read.
- c. They do not monitor their own level of understanding.

---

<sup>7</sup>Ibid, p. 13.

Based on the explanation above, the writer concludes that there are many problems in reading comprehension that might happen when the students understand a text. The main problem is the students can't to recognize the word and identification words.

### **3. Level of Comprehension**

According to Smith 1969 as cited in Westwood state that reading comprehension is considered to occur at four levels of complexity. These levels are often referred to as literal level, inferential level, and critical level and creative level.<sup>8</sup>

#### **a. Literal level**

At the literal level, the basic facts are understood. For example, knowing that the lady's name is Miss Chow; she lives in an apartment on the 10<sup>th</sup> floor; her neighbors are noisy; she has complained to the landlord before. This information is contained explicitly within the text.

#### **b. Inferential level**

At the inferential level, the reader is able to go beyond what is written on the page and add meaning or draw a conclusion. For example, Miss Chow believes that her landlord will tell the neighbors to be less noisy that will sort the matter out for her. It can also be inferred that things may not improve even if the landlord does complain. The reader also gathers that the landlord is becoming a little frustrated or irritated by Miss Chow's complaints.

---

<sup>8</sup>Westwood, Peter. *Reading and Learning difficulties: approaches to teaching and assessment*. 2 The Australian Council for Educational research Ltd. 2001. p. 21.

### **c. Critical level**

At the critical level the reader assesses the good sense of what he or she is reading, it is clarity, accuracy and apparent exaggeration or bias. For example, the reading process 21 when Miss Chow's landlord offer her a different apartment on the 18th floor and says it is the best apartment , with the best view of the harbor, the reader knows he could be exaggerating. Critical and inferential reading together probably make the reader feel that moving up to the 18<sup>th</sup> floor may not suit Miss Chow and it is not a good solution.

### **d. Creative level**

At the creative level, the reader can take information or ideas from what has been read and develop new ideas from them. Then creative level stimulates the reader to new and original thinking. For example, the reader comes to understand that landlords should write a clause in their leasing agreement to say that if the tenant makes noise and the landlord receives complaints, the tenant will be asked to leave within one week. The reader might also be able to suggest other ways of dealing with Miss Chow's problem, or might write a short story indicating what happens next time Miss Chow i disturbed by her neighbors.<sup>9</sup>

It can conclude the writer choose the literal level as the level of comprehension to the eleventh grade IPA student at SMA Muhammadiyah Palangka Raya.

---

<sup>9</sup>Seyliena, *The Effectiveness of Coorporative Learning Approach in Reading Comprehension of Recount Text*. Palangka Raya: STAIN, 2010. p. 33.



#### 4. Test of Reading Comprehension

Tests are simply instruments or procedures for gathering particular kinds of information, typically information having to do with students' language abilities. Miller et al 2009 state that the main goal of classroom testing and assessment is to obtain valid, reliable, and useful information concerning student achievement.<sup>10</sup>

Heaton stated that testing vocabulary there are:<sup>11</sup>

##### 1. Matching Test

The tests described in the first half of this section are concerned purely with word and sentence recognition.

##### a) Word matching

The student is required to draw a line under the word which is the same as the word on the left.

Now	bow/not/how/ <u>now</u> /mow
Sheep	shop/shape/sleep/heap/ <u>sheep</u>
Ever	never/over/ <u>ever</u> /fewer/even
Top	top/stop/tap/pot/ton

##### b) Sentence matching

This item is similar to the word-matching item. The testee is required to recognize as quickly as possible sentences which consist of the same words in the same order.

##### c) Pictures and sentences matching

---

<sup>10</sup>Chandra Arnida, *Assessing students' Reading Comprehension through Multiple Choice and True False Test*, Universitas Pendidikan Indonesia, p. 4.

<sup>11</sup>JB. Heaton, *Language Testing*, p. 105-121.

In the remainder of this section, the items will concentrate on the word and sentence comprehension, using pictures to test this skill.

## 2. True/False

The true/false test is one of the most widely used tests of reading comprehension.

E.g. put a circle round the letter T if the statement is true. If it is not true put a circle round the letter F.

- |   |   |   |
|---|---|---|
| 1. The sun rises in the west.           | T | F |
| 2. Fish can't fly, but birds can.       | T | F |
| 3. Lagos is as large as London.         | T | F |
| 4. When ice melts, it turns into water. | T | F |

## 3. Multiple-choice Items (1): short texts

Multiple-choice item is one of the most popular item formats used in the educational assessment. A multiple choice item consists of a problem and a list of suggestion solutions.

1. John is not as tall as Miss Green but he's a little taller than Bill.
  - a. Miss Green is taller than John and Bill
  - b. John is not as tall as Bill
  - c. Miss Green is taller than John not as tall as Bill
  - d. Bill is taller than John and Miss Green.

## 2. Multiple-choice Items (2): long texts

It is a useful way of testing reading comprehension.

Example: At four o'clock on September 30th two men armed with iron bars attacked a soldier in Green Street.

A. Two men armed with iron bars attacked a soldier, etc.

### 3. Completion items

Completion items measure recall rather than recognition. Although such items are supply-type items and thus similar in many ways to open-ended questions in a test of reading comprehension, they are often regarded as belonging more to the objective category of test items. There is very little difference, however, between the following open-ended reading comprehension questions:

Why was the author surprised to meet Dr. Short?

And the equivalent completion:

The author was surprised to meet Dr. Short because.....

In this study, the writer will use multiple choice questions test for measuring the students' comprehension in reading.

## C. Vocabulary

### 1. Nature of Vocabulary

Vocabulary is all the words that used in a language. Vocabulary consists of many words, where they are needed to be known and mastered in learning a language. According to Ristati, "Vocabulary is the number of words which can be used for communicating."<sup>12</sup>

---

<sup>12</sup> Ristati, *Vocabulary*. Palangka Raya: Unpublished Teaching Material, 2008. p.88.

Vocabulary plays important role in learning a language that is how it builds up the language. It is believed that no one can learn a language without knowing any vocabulary. Readers cannot understand what they read without knowing what most of the words mean. As children learn to read more advanced texts, they must learn the meaning of new words that are not part of their oral vocabulary. Vocabulary size has an impact throughout the life span. Students with inadequate vocabularies are at a much higher risk of performing poorly in high school or in community college.

Therefore, it is very important to master vocabulary as much as possible. People will have difficulties to study English if we do not have an adequate vocabulary. Some people say that vocabulary is the most important aspect of studying English.

Related to vocabulary, Bush and Huebner classified vocabulary into four general types:

1. Hearing vocabulary, the words a child understands when he/she listens. This is the first to be developed and is the largest.

2. Speaking vocabulary, the range of words a child uses orally and meaningfully.

This is the second to be developed. It develops most rapidly from ages one to eight in normal, stimulating environments.

3. Reading vocabulary, the range of words a child can recognize in printed form.

Usually, by the end of elementary school, the reading and hearing vocabularies are about equal, the speaking vocabulary is smaller.

Writing vocabulary, the words a child uses in authorship activities, such as writing letters and report. It remains the smallest throughout the school years.<sup>13</sup>

Vocabulary also can be classified into two kinds: Receptive and productive vocabulary. Receptive vocabulary refers to words for lexical items which only can recognize and comprehend in the context of reading and listening materials, while productive vocabulary refers to words which can be recalled and used appropriately in writing and speaking (speech).

Vocabulary mastery is one component to master English as a foreign language in elementary, intermediate, and advanced levels. In learning the four language skills (listening, speaking, reading, and writing), vocabulary is one basic component to be mastered. It is reasonable; remembering that the four language skills need knowledge of vocabulary because will get nothing without vocabulary. Mastering vocabulary is the ability to get or to receive a lot of words, and the ability in understanding and using the vocabulary. By mastering vocabulary will know the meaning of vocabulary in the context. The larger the students master vocabulary the better they perform their language.

There are several criteria that learner can master or know vocabulary in a target language. The learner is able to:<sup>14</sup>

1. Recognize it in its spoken or written form.
2. Recall it at will.
3. Relate it to an appropriate object or concept.

---

<sup>13</sup> Clifford L Bush and Mildred H Huebner, *Strategies for Reading in the Elementary School*. London: Mcmillan Company, 1970. p.

<sup>14</sup> Uswatun Kasanah, *The Students' Problems in Mastering Vocabulary at the Fourth Grade Students of Integrated Islamic Elementary School Al-Furqan*, Palangka Raya: STAIN, 2007. p.27.

4. Use it in the appropriate grammatical form.
5. Pronounce it in a recognizable way.
6. Spell it correctly-in writing.
7. Use it with the words it correctly goes with – i.e. in the correct collocation.
8. Be aware of its connotations and associations.
9. Use it on the appropriate level of formality and in appropriate situations.

If someone wants to communicate in English smoothly he or she should have many vocabularies which they cannot speak fluently without developing vocabularies. It is very important to learn vocabulary. These are the reasons why vocabulary is important:

- a. An extensive vocabulary aids expressions and communication.
- b. Vocabulary size has been directly linked to reading comprehension.
- c. Linguistic vocabulary is synonymous with thinking vocabulary.
- d. A person may be judged by others based on his or her vocabulary.<sup>15</sup>

## **2. Problems in Learning Vocabulary**

In learning vocabulary, the students still get barriers in the process. The barriers arise from many things. Related to this problem, according to Thornbury in learning vocabulary of second language the learners will get challenges covers:<sup>16</sup>

---

<sup>15</sup>Scoot Thornbury. *How to Teach Vocabulary*. England: Longman. 2002. p. 3-8.

<sup>16</sup>Ibid, p. 2

1. Making the correct connections when understanding the second language between the form and the meaning of words, including discriminating the meaning of closely related words.
2. When producing language, using the correct form of a word form meaning intended.

To meet these challenges the learner needs to:

1. Acquire a critical mass of words for use in both understanding and producing language.
2. Remember words over time, and be able to recall them readily.
3. Develop strategies for coping with gaps in word knowledge, including coping with unknown words, or unfamiliar uses of known words.

In relation to the problem in learning vocabulary, according to Riddell, there are some problems when learning new vocabularies, such as:<sup>17</sup>

#### 1. Meaning

In mastering vocabulary, to master the meaning is the main purpose. In fact, most of the students still get barriers when doing the translating process both orally and writing. This problem arises because they do not master many meanings of the target language. The reason why the meaning causes the problem in mastering vocabulary stated by Riddell are:

- a. A word may have then one meaning
- b. First Language interference such as “false friend”-words with a similar appearance or sound to words in their first language but with a different meaning. For example, compare *sympathetic* with the French *sympathique*, meaning a “nice” person.

---

<sup>17</sup>David Riddell, *Teaching English as a Foreign Language*, London: Hodder Headline. Ltd, 2003, P.58.

- c. Words may have different connotations, i.e. the meaning can be interpreted in different ways (examples: slim/thin/skinny)
- d. A student may understand the meaning of a word, but not the appropriate context in which to use it. This particularly true of the language which is especially formal and informal.
- e. A student may understand the meaning of a word, but not the appropriate context in which to use it. This particularly true of the language which is especially formal and informal.

## 2. Form

The various forms of words in English seem to give a big contribution of difficulties for the students who want to master and develop their vocabulary. Some problems that often appear because of the form are the spelling may be very different from the sound (example: a cough). Besides that, students may be a competent speaker of the language but poor writers.

Another problem that caused by form of word are:

- 1. A word may be more than one part of speech (e.g. it may be a verb and a noun).
  - 2. If you teach a word like *to rely on*, you also need to teach that it is followed by *on*.
  - 3. Some words are irregular (e.g. the plural of *person* is *people*; the plural of *sheep* is *sheep*).
  - 4. Different varieties of English have different spelling e.g. *color/colour*.
  - 5. Spelling patterns are not obvious, e.g. *happy/happier...hit/hitting*
- ## 3. Pronunciation

Students may have difficulties in producing and receiving the pronunciation are:

- a. The sounds may not correspond to the spelling, as form above (another example being *sigh*)
- b. Students may have difficulty how many syllables the word is
- c. It is hard to know which syllable is stressed.
- d. Some words have shifting stress, e.g. his *conduct/to conduct*.
- e. A group of consonants together-a consonant cluster-can be difficult, e.g. *crisps*.
- f. A speaker of particular language might have difficulty with certain sounds, e.g. Japanese with /l/ and the French with /h/.



- g. Some word with different spellings and meaning are pronounced the same, e.g. *bear/bare*.

Based on the explanation above, the writer concludes that the main problem in learning new vocabulary is caused by three things. The first, problem is about meaning. The students get many difficulties in mastering the meaning of the new language. The second, problem arises from the forms of the target language, the various forms of words in English seem to give a big contribution of difficulties for the students' who want to master and develop their vocabulary. The third, problem arises from the pronunciation of target language. Students may have difficulties in producing and receiving the pronunciation of the target language. Furthermore, in order, the students are able to master the English vocabulary. Well, the teacher must give more attention about these all due to the fact that in the school, the activities for enriching vocabulary is not enough provided.

### **3. Kinds of Vocabulary**

According to Thornbury, there are two kinds of vocabulary, such as;<sup>18</sup>

#### **a. Function Words (Grammatical Words)**

Function words (Grammatical Words) are words that have little lexical meaning or have ambiguous meaning but instead serve to express grammatical relationships with other words within a sentence or specify the attitude or mood of the speaker.

---

<sup>18</sup> Ibid, p. 4.

### **1) Prepositions**

Prepositions are words or group of words that are used to show the Why in which other words are connected. Example, for, of, in, etc.

### **2) Conjunctions**

Conjunctions are words that connect sentences, phrases or clauses. Example, and, so, but, etc.

### **3) Determiners**

Determiners are a definite article, the indefinite article, possessives, demonstrative, and quantifiers. Example, the, a, an, my, this, some, etc.

### **4) Pronoun**

A pronoun is a word that used in place of a noun or noun phrases. Example, her, she, they, etc.

### **b. Content Words (lexical words)**

Content words (lexical words) are words that carry the content or the meaning of a sentence and are open-class words.

#### **1) Nouns**

Nouns are words or group of words that are the name of the person, a place, a thing or activity or quality or idea; nouns can be used as the subject or object of a verb. Example, Eleanor, book, etc.

#### **2) Verbs**

Verbs are words or group of words which is used in describing an action, experience or state. Example, write, ride, etc.

### **3) Adjectives**

Adjectives are words that give more information about noun or pronoun.

Example, kind, better, etc.

### **4) Adverbs**

Adverbs are words or group of words that describe or adds to the meaning of a verb, adjectives another adverb, or a whole, sentence. Example, carefully, at home, etc.

## **4. Test of Vocabulary**

Heaton states that “A test of vocabulary measures the student’s knowledge of the meaning of certain words and word groups. Such as a test may test the student’s active vocabulary (the words he should be able to use in speaking and in writing) or his passive vocabulary (the words he should be able to recognize and understand when he is listening to someone or when his is reading.”<sup>19</sup>

The first task for the writer of the vocabulary test is to determine the degree to which he wishes to concentrate on testing the students’ active or passive vocabulary. His next task is then to decide whether the lexical items in the test should be taken from the spoken or the written language. The test constructor’s task is made much easier if the entire test has followed a particular syllabus. Lexical items can then be selected from the syllabus, the students’ textbook, the students’ reading material, and lexical errors taken from the written work of the students. In addition, a test of vocabulary should avoid grammatical structures which the test may find difficult to comprehend.

---

<sup>19</sup>JB. Heaton, *Language Testing*, p. 41-42.

Heaton stated that testing vocabulary there are:<sup>20</sup>

## 2. Selection of items

A careful selection, or sampling, of lexical items for inclusion in a test, is generally a most exacting task. Many of the more traditional types of vocabulary tests are designed in such a way that they test knowledge of words, which through frequently found in many English textbooks, are rarely used in ordinary speech situations. Selection of vocabulary can thus be thought of as falling into the following rough division according to the four major language skills:

Listening : passive/spoken

Reading : passive/written

Speaking : active/spoken

Writing : active/written

## 3. Multiple-choice items (1)

It is useful to distinguish between the following two major kinds of multiple-choice vocabulary items:

Group A: Choose the letter of the word which is the nearest in meaning to the word in italics.

He's been very *feeble* since his illness.

A. Unwell B. thin C. foolish D. weak

Group B: Choose the letter of the correct or best word to complete each sentence.

---

<sup>20</sup>Ibid, p.41-55.

Have you heard the planning committee's ..... for solving the city's traffic problems?

Theory B. design C. proposal D. purpose

#### 4. Multiple-choice (2)

The guidelines given in two for constructing vocabulary items apply equally to the group B items now being treated. In certain ways, the items shown in this section are more difficult to construct than those in the previous section.

Many multiple-choice vocabulary test items of the type being dealt with in this section rely on the context itself to provide grammatical clues, which automatically rule out at least one of the options.

#### 5. Sets (Associated words)

Many of the difficulties arising from the testing of collections are avoided by the testing of word sets. In such tests, the student's familiarity with a range of associations is measured.

#### 6. Matching items

Type 1 of the following test items suffers from testing together lexical items from different word class while type 2 tests a mixed bag of tense forms, etc. Both items need to be rewritten. Therefore, if a higher degree of reliability is to be obtained.

#### 7. More objective items

This section contains examples of types of vocabulary items, which have appeared in the certain test.

## 8. Completion items

Several types of completion items can be used for the testing of vocabulary. Again, tests, which incorporate such items in a context, are generally preferable to those, which rely on single words or on definitions.

In this study, the writer will use multiple choice questions test for measuring the students' vocabulary mastery.

## D. Lexical Simplification

### 1. Nature of Lexical Simplification

Knowing a language means knowing what words and morphemes are in the language, and that means what they mean. These are basic units of meaning constitute the vocabulary or lexicon, which is part of grammar.<sup>21</sup>

There are two kinds of word meaning, lexical meaning, and grammatical meaning. Hofmann stated that lexical or lexicon is the collection of all the words or lexical items, i.e. association between sound and meaning that a language has. Often a language has a single word for a concept that another language does not.<sup>22</sup> Meanwhile, "Lexical morphemes have a sense (i. e. meaning) in and of themselves. Nouns, verbs, and adjectives are typical of lexical morphemes."<sup>23</sup>

Related to lexical, Chaer stated:

*Maknaleksikaldapatdiartikansebagaimakna yang bersifatleksikon, bersifatleksem, ataubersifat kata. Lalu, karenaitudapat pula*

---

<sup>21</sup>Victoria A Fromkin, *An Introduction to Language*. Australia: CBS Publishing Australia PTY Limited, 1986. p.

<sup>22</sup>Th R Hofmann, *Realms of Meaning. An Introduction to Semantics*. New York: Longman Publishing, 1993. p.

<sup>23</sup>Ristati, *Vocabulary*. Palangka Raya: Unpublished Teaching Material, 2008. p.17.

*dikatakan makna leksikal adalah makna yang sesuai dengan referennya, makna yang sesuai dengan hasil observasi indra, atau makna yang sungguh-sungguh nyata dalam kehidupan kita.*<sup>24</sup>

Meanwhile, “Lexical difficulty is easy to assess if the teacher knows his students. He can list or mark all the words or phrases, remembering to include the new use of familiar words and new idiomatic combination (such as phrasal verb) whose meaning is more than the sum of their part.”<sup>25</sup>

Grammatical meaning, on the other hand, is meanings do not really have a sense in and themselves; instead, they express some sort of relationship between lexical meanings. Grammatical meaning is restricted to a closed class of elements. For example, the grammatical semantic feature would yield the lexeme *richer*, meaning roughly “having more wealth.”

Normally lexical meaning consists of an open class of elements, whereas grammatical meaning is restricted to a closed class of elements.

Thus, the lexical meaning is that aspect of meaning which is codified in a lexicon or a dictionary can be semantically analyzed and together with the grammatical elements of meaning. In other words, the lexical meaning is meaning that is explained or described in the dictionary.

Then, lexical simplification is defined operationally as replacing the unknown words in a text with easier words. In this case, the unknown words are replaced with their synonyms wherever possible. If it is not possible to replace the unknown word with its synonym, its definition is given in parentheses

---

<sup>24</sup>Abdul Chaer, *Psikolinguistik. Kajian Teoritik*. Jakarta: Rineka Cipta, 2002. p.62.

<sup>25</sup>Edithia Gloria Simanjuntak, *Developing Reading Skills for EFL Students*. Jakarta: Departemen Pendidikan dan Kebudayaan. Dirjen Pendidikan Tinggi, 1988. p.32.

immediately after the unknown word. Through lexical simplification is hoped the students can comprehend text being read.

## **2. Importance of lexical Simplification**

The linguistic modification is a common occurrence in second language communication, as demonstrated in almost any case of a native English speaker interacting with a beginning English learner. The slow rate of speaking, the emphasis of key words, use of common vocabulary, and repetition are all modifications to aid comprehension. These adaptations are all ways that an English learner's negotiation of language can be facilitated, and they are performed almost instinctively by native speakers. Spoken language can be negotiated between the speaker and receiver as the language is generated, and the speaker can adapt the message according to their perception of the receiver's understanding and proficiency (Hatch; Krashen)<sup>26</sup>.

Generally, many learners find some difficulties in reading comprehension. They sometimes cannot understand the meaning of some words and this can often cause confusion in understanding the meanings as a whole. Lexical simplification helps children, illiterate, foreign, and disabled people to read texts, by replacing difficult words with words that are easier to understand. One way of performing lexical simplification was implemented by Carroll et al, their simplifier used word frequency count to estimate the difficulties of words.<sup>27</sup>

---

<sup>26</sup>Beth Brewer, *Effects of Lexical Simplification and Elaboration on ESL Readers' Local-Level Perceived Comprehension*, Brigham Young University, 2008, p.9

<sup>27</sup>Robin Keskis arkk, *Automatic Text Simplification via Synonym Replacement*, p. 9.



Lexical simplification conducive incidental vocabulary acquisition from reading. In lexically simplified condition on two vocabulary measures showed any meaningful acquisition of vocabulary, but lexical simplification did not help to learn new lexical items. The finding was suitable with Chung's and Urano's probably due to the fact that when difficult lexical items are substituted for easier one's acquisition of new lexical items can be expected.<sup>28</sup>

By using lexical simplification reduce the perceived difficulty of texts. Perceived text difficulty in learning from text can be difficult. For a text to be effective at conveying information, students need to be both willing to read it (perceived difficulty) and capable of understanding its contents. Not all readers understand the information in the text they read. Of the text and their topics are often difficult and the reader would benefit from a text written in an easier form. Reducing the actual difficulty of a text in an efficient manner is a difficult task. And this effect was mainly due to worse scores for function words but not for content word.<sup>29</sup>

### **3. System in Lexical Simplification**

Research on Lexical Simplification has tended to fall into one of two categories, expanding difficult words with dictionary definitions (e.g., Kaji et al.) or other explanations, and lexical substitutions – replacing difficult words with easier synonyms.

---

<sup>28</sup>Mahdieh Rouhi, *Effects of Lexical Modification on Incidental Vocabulary Acquisition of Iranian EFL Students*. Vol. 5. p.100.

<sup>29</sup>Gondy Leroy, David Kauchak, and Obay Mouradi, *A user-study measuring the effects of lexical simplification and coherence enhancement on perceived and actual text difficulty*. p 125.

Zeng-Treitler et al and Kandula et al go one step further. They identify difficult terms in the text and simplify them either by replacing them with easier synonyms or by explaining them using simpler terms that are related, using a short phrase to describe the relationship between the difficult term and the selected related term; e.g., the technical term “Pulmonary atresia” is simplified as “Pulmonary atresia (a type of birth defect)”

Several groups have studied lexical substitution. The PSET project (Devlin & Tait) implemented a synonym substitution system that aimed to replace difficult words (particularly nouns and adjectives) with simpler synonyms. They used WordNet (Miller et al.) to identify synonyms and obtained word frequency statistics from the Oxford Psycholinguistic Database (Quinlan) to determine the relative difficulty of words. De Belder & Moens extend this approach to using limited word sense disambiguation using a latent words language.

#### **4. Principles in Using Lexical Simplification in Language Teaching and Learning**

To perform the correct sentence simplification, the system must pay attention to ensure that each replacement word: 1) has the same meaning as was intended in the original sentence; 2) is grammatically correct, and 3) is simpler than the candidate word it replaced. We discuss how SIMPLE achieves these goals in the following subsections.<sup>30</sup>

---

<sup>30</sup>Nikolay Yakovets and Ameeta Agrawal, *SimpLe: Lexical Simplification using Word Sense Disambiguation*, York University, Canada. p.4-5.

### **a. Preserved Meaning**

We rely on word sense disambiguation to ensure that the replacement word has the same meaning as intended in the original sentence. For each candidate word, the Disambiguation phase gives us its base form, its part-of-speech and its sense in WordNet. We use this meta-data to extract all synonyms of the candidate word from WordNet in the correct sense and part-of-speech. This way we ensure that the possible replacement words preserve the meaning of the original candidate.

### **b. Correct Grammaticality**

The replacement synonyms are obtained from WordNet in their respective base forms. In our work, we make sure that the replacement synonym appears in the same form as the candidate appeared in the original sentence. For example, consider a candidate word “espouses”. Based on WordNet usage counts and word lengths we choose synonym “to marry” as a replacement. We build a collection of all possible form pairs: (*to espouse*, *to marry*), (*espouses*, *marries*), (*espoused*, *married*), etc. From this collection, we choose the replacement so that it matches the form of the candidate.

### **c. Ensuring Simplification**

Once we obtain the list of replacement synonyms, we need to find one that is simpler than the original candidate word. In our work, we calculate the complexity of a word using its length and WordNet usage count. Specifically, we consider the word to be simpler than other words if it has the highest usage count

and is shorter than other words. In this manner we identify the simplest candidate replacement if it exists.

In this study, the writer only focuses on alexical item in the form of thenoun, verb, adjective, and adverb.

#### **a. Noun**

A noun is a word used to name a person, animal, place, thing, and abstract idea. Nouns are usually the first words which small children learn.

Examples:

- *Jakarta* is the capital of Indonesia.
- *Udin* listens to the radio.

#### **b. Verb**

The verb is the most important. It is the moving power, the motor of thesentence. A verb is a word that tells of an action or state of being and the time of when it is.

Examples:

- My friend *drives* a car.
- Karim *received* my invitation.

#### **c. Adjective**

An adjective modifies a noun or a pronoun by describing, identifying, or quantifying words. An adjective usually precedes the noun or the pronoun which it modifies.

Examples:

- Dina is a *diligent* girl.
- My mother buys *wooden* chairs.

#### **d. Adverb**

An adverb can modify a verb, an adjective, another adverb, a phrase, or a clause. An adverb indicates manner, time, place, cause, or degree and answers questions such as "how," "when," "where," "how much".

While some adverbs can be identified by their characteristic "ly" suffix, most of them must be identified by untangling the grammatical relationship within the sentence or clause as a whole. Unlike an adjective, an adverb can be found in various places within the sentence.

Examples:

- He walks *slowly*.
- I submitted my homework *yesterday*.

#### **5. Approaches to Text Simplification**

Lexical simplification approach generally consists of the following stages:

- analyzing the sentence and picking up words or phrases that might be difficult to the target reader.
- preparing a list of possible substitutes using various methods (e.g., finding synonyms)
- ranking them in the order of their simplicity as well as suitability to the sentential context.

Yatskar et al. (2010) and Biran et al. (2011) proposed approaches based on Wikipedia corpus, which involved all the above stages. Yatskar et al. (2010) described the process of unsupervised extraction of lexical simplifications from

Wikipedia, using the edit histories. Biran et al. (2011) too followed an unsupervised context-aware learning based approach, which did not require an aligned corpus. Their method also ensured meaning preservation and grammatical correctness. It involved two stages: learning simplification rules and performing sentence simplification considering both word-sentence similarity and context similarity. The evaluation was based on human judgments. In this approach, they considered only with word-word simplifications and not phrases<sup>31</sup>.

As discussed briefly above, material writers have a few choices when simplifying texts. To evaluate the comprehensibility of a simplified text, writers can depend on word or structure lists, traditional readability formulas, on their natural intuition, or a combination of all three. For this study, the writer is most interested in the use of readability formulas. We discuss this in more depth below.

### **1. Traditional Readability Formulas**

Another approach to text simplification is the use of traditional readability formulas (Bamford; Brown; Carrell; Greenfield). Traditional readability formulas are simple algorithms that measure text readability based on sentence length and word length. They have found success in predicting first language (L1) text readability, but have been widely criticized by discourse analysts (Davison & Kantor) as being weak indicators of comprehensibility and for not closely aligning with the cognitive processes involved in text comprehension (Crossley, Dufty, McCarthy, & McNamara; McNamara & Magliano).

---

<sup>31</sup>Sowmya Vajjala Balakrishna, *Analyzing Text Complexity and Text Simplification: Connecting Linguistics, Processing and Educational Applications*, 2015, p. 62.

Traditional readability formulas have also been faulted in the production of L2 texts because they do not account for reader characteristics or text-based factors such as syntactic complexity, rhetorical organization, and propositional density (Carrell). Carrell argued that more accurate readability formulas were needed to ensure a good match between L2 reading texts and L2 learners. However, the attraction of simple, mechanical assessments has led to traditional readability formulas' common use for assessing a wide variety of texts, readers and reading situations beyond those for which the formulas were created (Greenfield).

A few researchers have examined the potential for traditional readability formulas to explain L2 text difficulty, with contradictory findings. Brown (1998), for instance, examined the validity of traditional readability formulas for L2 learners using cloze procedures on passages from 50 randomly chosen English adult reading books read by 2,300 Japanese learners of English as a foreign language (EFL). Brown compared the observed mean cloze scores for the passages with scores predicted by readability measures including Flesch Reading Ease and Flesch-Kincaid Grade Level. The resulting correlations ranged from .48 to .55, leading Brown to conclude that traditional readability formulas were not highly predictive of L2 reading difficulty.

Later, Greenfield analyzed the performance of 200 Japanese university students using cloze procedures on a set of 32 academic passages used in Bormuth's study. Pearson correlations between the observed mean cloze scores of the Japanese students and the scores predicted by traditional readability formulas

were .85 for both Flesch Reading Ease and Flesch-Kincaid Grade Level. Greenfield, unlike Brown, thus found that traditional readability formulas were predictive of reading difficulty. Noting the difference between Greenfield's study and Brown's study, Greenfield argued that Brown's passage set was not sufficiently variable in difficulty and too difficult overall to provide a robust passage set for L2 learners. Overall, these studies offer some evidence that classic readability measures discriminate reading difficulty reasonably well for L2 students, but are limited to the appropriate academic texts for which they were designed and do not reach the level of accuracy achieved in L1 cross-validation studies (Greenfield).

Psycholinguistic and cognitive models of reading also underscore the limitations of traditional formulas (McNamara & Magliano; Perfetti; Rayner & Pollatsek). These models are premised on the notion that reading comprehension is a multi-component skill focusing on information processing involving both psycholinguistic and cognitive representations (Just & Carpenter; Koda; McNamara & Magliano). The theories underlying the models necessitate a readability measure that takes account of comprehension factors such as coherence (Gernsbacher; McNamara, Kintsch, Butler-Songer, & Kintsch) and meaning construction and cognitive processes such as lexical decoding and syntactic parsing (McNamara & Magliano; Perfetti; Perfetti, Landi, & Oakhill; Rayner & Pollatsek). Cognitive processes are obliquely accounted for in traditional readability formulas (i.e., word length and sentence length are proxy



measures of decoding and syntactic parsing), but they are not directly addressed. Comprehension factors are not accounted for in traditional readability formulas.

## 2. Readability

The concept of readability has defined in various ways. Dubay explored readability as something makes the text easy to read and in this case, Dubay focused on type and layout<sup>32</sup>. It refers to how easy a written text is to read and understand<sup>33</sup>. However, Klare looked at readability from the style of writing such as content, coherence, and organization. In more detail Gretchen Hargis and her colleagues supported Klare, they stated that readability is talked about how easy we read words and sentences. Dale and Chall<sup>34</sup> indicated that readability is the sum of the total of all those elements, which a given piece of printed material has that affect the success of a group of readers. The success is the extent to which they understand it, read it at an optimal speed and find it interesting. Thus, well-written material should be highly readable in order to be clearly understandable by a wide audience<sup>35</sup>. To measure readability level of reading the text, we need readability assessment. Readability assessment is the way is used to measure readability level or we can say that readability assessment is a method of estimating the level of difficulty of a piece of writing. In this study, the writer uses readability formula as assessment readability. Actually, there are 7 readability formulas, but writer focus on the Flesch reading ease formula.

---

<sup>32</sup>DuBay, W. H., 2004. *The principles of readability*. 2004, p.3.

<sup>33</sup> Charles Owu-Ewie, *Readability Of Comprehension Passages In Junior High School (Jhs) English Textbooks In Ghana*, Ghana Journal Of Linguistics 3.2: 35-68 , 2014, p.37

<sup>34</sup> DuBay, W. H., 2004. *The Principles of Readability*.

<sup>35</sup> Charles Owu-Ewie

### ***The Flesch Reading Ease Formula***

The Flesch Reading Ease Readability Formula is one of the oldest and most accurate. It was developed in 1948 by Rudolph Flesch who is an author and a reading consultant. It is a simple approach to assessing the grade-level of readers. This formula is best suited for school text<sup>36</sup>. The formulas were to match a student's typical grade level with such a comprehension of texts with given individual readability scores<sup>37</sup>. Eventually, the Flesch Reading Ease grew to be the most common formula, at least for other than pure educational purposes<sup>38</sup>. Studies have also established it to be one of the most tested and reliable<sup>39</sup>.

The formula for the Flesch Reading Ease Score (FRES) test is:

$$\text{RE} = 206.835 - (1.015 \times \text{ASL}) - (84.6 \times \text{ASW})$$

Note:

RE = Readability Ease

ASL = Average Sentence Length (i.e., the number of words divided by the number of sentences)

ASW = Average number of syllables per word (i.e., the number of syllables divided by the number of words)<sup>40</sup>

---

<sup>36</sup> Liselott Langeborg, *Readability-An Analysis of English Textbooks for Swedish School Years 7-9*, Essay, Hogskolan I Galve, 2010, p.7.

<sup>37</sup> R. F. Flesch. A New Readability Yardstick. *Journal of Applied Psychology*, 32:221-233, 1948 in Lau Tak Pang, *Chinese Readability Analysis and Its Applications on the Internet*, Thesis, The Chinese University of Hong Kong, 2006, p.8 t.dt

<sup>38</sup> Klare, G. R. 1988. The Formative Years. in Zakaluk, B. L. And Samuel, S. J. (Eds.). *Readability: Its Past, Present, and Future*. Newark: International Reading Association, 14-34, P.20. in Lau Tak Pang, *Chinese Readability Analysis and Its Applications on the Internet*, Thesis, The Chinese University of Hong Kong, 2006, p.8 t.dt

<sup>39</sup> Dubay, W. E. (Ed.). 2006. *The Classic Readability Studies*. Costa Mesa: Impact Information, P.97 in Lau Tak Pang, *Chinese Readability Analysis and Its Applications on the Internet*, Thesis, The Chinese University of Hong Kong, 2006, p.8 t.dt

<sup>40</sup> *Ibid*, p. 43-44.

Table 2.2 Flesch Reading Ease Formula Score<sup>41</sup>

Reading Ease Score	Style	School Level
90-100	Very Easy	5th grade
80-89	Easy	6th grade
70-79	Fairly Easy	7th grade
60-69	Standard	8th – 9th grade
50-59	Fairly difficult	10th – 12th grade
30-49	Difficult	13th – 16th grade
0-29	Very difficult	College graduate

---

<sup>41</sup>*Ibid*, p. 45.