

MAPPING READABILITY OF THE TEXTS AND READING ABILITY OF THE USERS

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**MAPPING READABILITY LEVELS OF THE TEXTS AND
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I am completely responsible for the content of this. Other's writer opinion or findings included in this are quoted or cited in accordance with the ethical standards.

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Assalamu'alaikum wr. Wb.

Teaching a foreign language is challenging in a matter that it should consider various things such motivation, approaches, methods, techniques, media, references etc. All those things will lead to success in teaching and learning process.

Intensive Language Programm (Program Intensif Bahasa) is one the the prgramms held and organized by Language Development Center (Pusat Pengembangan Bahasa) IAIN WALISONGO Semarang. This main concern is offering English courses for students to prepare the graduates for their workplace. In achieving the purposes, then, Langguage Development Center publishes primary coursebooks. They are “New Step Up1: Listening and Speaking”; “New Step Up 2: Reading”; “New Step Up 3: Writing”.

Composing an understandable, interesting and challenging handbook is really hard thing to do. The composer should consider many aspects to make the book come to reality. Moreover, the coursebook should be readable for the students.

This study, “Mapping Readability levels of the Texts and Reading Abilities of the Users”, is intended to give more detail information about in what levels are the texts in the “New Step Up 2: Reading”, the Students’ ability in comprehending the book, and also the students’ perception about the book.

In the completion of this study, the researcher would like to thank to God Almighty who gives His blessing and mercy. Moreover, the she also express her most gratitudes to IAIN Walisongo as this reasearch is fully funded through DIPA IAIN Walisongo Semarang 2014. The last but not least, the most sincere thank to DR. Muhyar Fanani, M.Ag as the person in charge of the Language Development Center in providing the valuable data.

The researcher realizes that the result is far from the perfection. More critics and suggestion for better improvement are really welcomed.

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ABSTRACT

Reading activity cannot be separated from the process of comprehending the text, which also need the reader's background knowledge. In preparing the materials (texts), the writers usually have to think about whose readers who are going to read the texts to provide the suitable materials (texts) for certain readers. Finding the right fit between the texts and the readers become the main concern for the writers or composers then. In the formal area of learning, students must be provided by the texts or materials which are suit with their different level. Readability is the study about the text and how it is suit with the readers. This study is intended to find the readability of "New Step Up 2: Reading" book published by Center for Language Development (PPB) IAIN Walisongo Semarang and the Students' comprehensibility using this book.

This study use the quantitative and qualitative approach. The data are obtained from the result of the analysis on the readability level of the text and the students' reading final examination scores and the results of students answer on questionnaire and the information dealing with the book are gotten through interview.

The results of readability analysis show that there are four texts that are match for high school levels, one text is match for college graduate level, and five texts is matched for college level. The texts intended to students at college level are 50 % of the

overall texts, it means that the texts are actually in the right level. The students final test is to find out students reading ability and the results are 512 students or 65.56% who get score more than 70. However, it is also obvious that there are 143 students or 18.31% who are in the average level as their scores are in the scale of 60-69. There are only 126 students or 16.13 % who get below 60. This level needs more enrichment and effort to develop students reading ability. In addition, there are several factors affecting students' comprehension. The factors are students familiarity with the topics of the texts including background knowledge, and difficult vocabulary faced by the students.

The study recommend that readability level should be provided to make sure the appropriateness of the texts level as the sources for teaching learning process; factors affecting students' reading ability such as readability level of texts, students' motivation, and teaching-learning strategies should be given serious attention; and fostering reading habit is necessary for students to develop their reading skill.

CONTENTS

Ratification
Declaration of Authorship
Acknowledgment
Abstract
List of Contents
List of Tables

CHAPTER I : INTRODUCTION

- A. Background of The Study
- B. Problems of the Study
- C. Objectives of the Study
- D. Significances of the Study
- E. Limitation of the Study

CHAPTER II : REVIEW OF RELATED LITERATURE

- A. Previous Studies
- B. The Nature of Reading
- C. Reading Process
 - a. Bottom-up and top-down processing in reading
 - b. Word recognition
 - c. Background Knowledge
 - d. Understanding the Reading Process
- D. Reading Comprehension
- E. Determining Reading Level
- F. Factors Affecting Comprehension
- G. Assessing Reading Comprehension
- H. Readability
 - a. Definition of readability
 - b. Factors influencing readability of a text
 - c. Readability Formula
 - d. Readability Uses
 - e. Readability Indices
- I. English Teaching at *IAIN Walisongo* Semarang
- J. English II at *IAIN Walisongo* Semarang and the use of “New Step Up2 : Reading”

CHAPTER III : RESEARCH METHOD

- A. Research Design
- B. Data and Source of Data
- C. Data Collecting Method
- D. Instruments of the Research
- E. Data Analysis

CHAPTER IV: FINDINGS AND DISCUSSION

- A. Findings
- B. Discussion

CHAPTER V : CONCLUSION AND RECOMENDATION

- A. Conclusion
- B. Recommendation

APPENDICES

LIST OF TABLES

Table 1

Table 2

Table 3

Table 4

Table 5

Table 6

Table 7

Table 8

Table 9

Table 10

Table 11

Table 12

Table 13

Table 14

Table 15

Table 16

CHAPTER I INTRODUCTION

A. BACKGROUND OF THE STUDY

Reading, according to Grellet (1996:8), is an active and constant process of predicting, checking and asking one self question. As Hornby (1987:698) defines, reading is as to understand something written. It can also be broadly defined as accessing meaning through printed words (Oakhill and Beard, 1999:109). From those definitions, it is clear that reading is an activity that needs comprehension to get the message from the author in the written text. Although we can read something faster, but without knowing anything about the text, it is nothing. Reading activity is not merely read the text correctly but also knowing the meaning or the message of the text. This best supported by Kustaryo (1988:2) who says that reading may be defined as the meaningful interpretation of printed or written verbal symbols. Moreover, he defines that reading is the combination of word recognition, intellect and emotion interrelated with prior knowledge to understand the message communicated. In brief, it can be said that reading activity cannot be separated from the process of comprehending the text, which also need the reader's background knowledge.

Dealing with the text itself, the writer or composer of the materials should examine the printed materials carefully. When we think about the text, it means that we deal with the printed materials. In preparing the materials (texts), the writers usually have to think about whose readers who are going to read the texts. This kind of question

must be taken into account if they want to provide the suitable materials (texts) for certain readers. They must remember why readers read: “You read because you wanted to get something from the writing: facts, ideas, enjoyment, even feelings of family community. Whatever it was, you wanted to get the message that the writer had expressed.” (Nuttal, 1988: 2)

Finding the right fit between the texts and the readers become the main concern for the writers or composers then. In the formal area of learning, students must be provided by the texts or materials which are suit with their level. Readability is the study about the text and how it is suit with the readers. Moreover, finding the difficulty level of texts are expected to provide the readers or/and learners with the appropriate materials or texts (tasks). The difficulty levels of a task also influence motivation. Tasks that are too easy become boring; task that are too difficult lead to frustration. In addition, learners are more motivated if they can find usefulness of what they learn or understand how they can use it to positively impact others (Bransford et al.2000). So it is quite clear that finding the readability level of text is highly needed.

In IAIN Walisongo context, examining the readability level of the text should be applied to the handbook used for Intensive Language Program, New Step Up 2: Reading, which is published by Language Development Center of IAIN Walisongo Semarang. It is crucial considering the book is claimed to be more appropriate with the students of IAIN Walisongo. The book is used by all students from different majors at faculties so it is designed consisting various topics to meet the students’ needs by providing materials and tasks that enable students developing their comprehension ability. The ability is imperative as it will always be used to comprehend all academic materials that support their study at the university.

The book is at intermediate level based on the texts and exercises available. The level is applied not only for reading skill but also for the other skills; listening-speaking and writing skills. In determining this level, some considerations are taken by the Language Development Center. Firstly, most of IAIN Walisongo students have learned English for at least 6 years since elementary or junior high school to senior high school, but in reality they have different level of English proficiency either high level or low level. Secondly, Intermediate level is assumed as the middle level bridging between the lower and the higher level. Here, it is hoped that students will not feel the materials are too easy or otherwise. Thirdly, the English classes at IAIN Walisongo are not based on the level but the credits taken. Organizing classes based on students' level is very complicated due to the policy stated by the faculty. The policy for English classes at IAIN Walisongo consists of six credit with two credits for each skill; listening-speaking two credits, reading two credits, and writing two credits. All of those skills should be learned by students within six credits. Consequently, conducting English classes that are graded from the lower to higher level will need more credits. This is something difficult to be implemented because students are not majoring in English and they have more credits to learn. That is why determining students at intermediate level is an option for solution in this situation.

The book of *New Step Up 2 : Reading* was used as handbook of English 2 course by the second semester students of *Ushuluddin* and *Tarbiyah* faculties in the academic year of 2012/2013. Although it was assumed at the intermediate level, many students argued that the texts of the book were difficult to comprehend and made them stressful due

to difficult structures and many unfamiliar words. It made them difficult to get the understanding of the text. Moreover, many of them also felt anxiety to learn for they think that English was not their major. There was a gap between what was assumed and the implementation. Therefore, it is it is badly needed to examine whether or not the texts they had read already fit with their levels.

This study is intended to be done on the basis of the problems facing by the students while learning the materials of “Step Up 2: Reading” book published by Center for Language Development (PPB) IAIN Walisongo Semarang 2012. Considering the background stated above, this study mainly aim is Mapping Readability levels of the Texts in New Step Up 2: Reading published by Center for Language Development (PPB) IAIN Walisongo Semarang 2012 and Reading Abilities of the Users ”

B. PROBLEMS OF THE STUDY

The problems of this study are:

1. What are the readibility scores of the texts in “New Step Up 2: Reading” published by Center for Language Development (PPB) IAIN Walisongo Semarang 2012?”
2. What are the Reading Ability of Students Using the Book?

C. OBJECTIVES OF THE STUDY

Based on the problems stated above, the objectives of the study can be formulated as follow:

1. To find out the readibility scores of the texts in “New Step Up 2: Reading” published by Center for Language Development (PPB) IAIN Walisongo Semarang 2012”
2. To find out the Reading Ability of Students Using the Book.

D. SIGNIFICANCES OF THE STUDY

Readability level is important for these following areas:

- a. Providing suitable materials for certain level of learners. It means it can provide the comprehensible input for language learning purposes.
- b. As an input for the materials development in selecting and finding texts of a suitable level and, if necessary help in the adaptation of these texts.

E. LIMITATION OF THE STUDY

This study is limited only to find the difficulty levels (readability levels) of ten texts in “New Step Up 2: Reading” published by Center for Language Development (PPB) IAIN Walisongo Semarang 2012. There are some aspects affecting the readability of the text (from the side of the readers including motivation and background knowledge; and the side of the text including text structure, vocabulary difficulty, text coherence and the readability level (difficulty level) of the text. Considering all aspects of readability really needs big effort to do. It takes years of experiments or researches. So, this study only focuses in calculating the readability scores of texts.

The texts intended to be scored are the texts taken from “New Step Up 2: Reading” published by Center for Language Development (PPB) IAIN Walisongo Semarang 2012. There are 12 texts in the book that the students should understand them. Among

12 texts, this study will take only 10 texts for the last 2 texts belong to TOEFL Preparation and are considered as Standardized Text.

CHAPTER II

REVIEW OF RELATED LITERATURE

A. Previous Studies

There is a lot of research studying reading skill but there are only a few of study on readability on particular. Most researches about readability found so far dealing with the field of health care, advertisements, technology and in military. In the field of education, the work of readability mostly deals with other studies, like writing and reading comprehension. Some studies on readability are previously conducted by Wray and Janan (2013); Plucinski et al (2009); and Ulusuoy (2006).

Wray and Janan (2013) investigate the implication of readability which is redefined as one of text complexity and its significant implications for the teaching and development of reading at all phases of learning toward education literature for producing texts and matching those texts to the abilities and needs of learners and suggest the relevance to the UK situation.

Plucinski et al (2009) analyze the readability of seven introductory financial and managerial accounting texts. They find that one text is clearly more readable than all of the others. Another text is less readable than almost all of the other texts. Consequently, the findings can be useful to adopters and editors of introductory financial and managerial accounting textbooks.

Ulusoy (2006) analyzes texts to find the right fit between students and texts which is very important for comprehension in

Turkey. They do readability studies by clasifying it under quantitative, qualitative and combined quantitative-qualitative readability approaches. The quantitative approach includes readability formulas, cloze test, and checklists and scales. The qualitative approach consists of leveling and checklists. The combined qualitative and quantitative readability approach is new in the field. In this approach, readability formulas can be used together with benchmark passages and checklists. The literature shows that readability formulas rely heavily on surface features of a text, and gives a rough estimate of the text readability. The qualitative approach focuses on the quality of writing style, and is criticised as being too subjective.

In 1993, The National Adult Literacy Study (National Center for Educational Statistics) found that the average reading level of the 107 instructions they examined was 10th grade, too difficult for 80% adult readers in the U.S. By using the readability formula, they found that the instructions were written at the wrong grade level. In addition, the Public Health Specialist Dr. Mark Wegner and Deborah Girasek (2003) found that the readability of the installation instruction of child safety seats was poor. This leads to the improper used of the seats which contribute to the increasing of the fatal injury of infants and children.

In Indonesia, where English considered as foreign language, the study of readability to measure the difficulty of English reading texts still rarely found. When it is exist, it works in the field of advertisements analysis. As what Afasandy (2012) did to analyze the readability of the advertisement of “Honda Blade 110R” which showed that the low level of the readability of the advertisement affected the understanding of the consumers of the products.

The limited works of readability in the field of education, lead this study to an attempting of analyzing the English texts which should be understood by the Indonesian students.

B. The Nature of Reading

Reading is an activity that involves reader and text. Alyousef (2005: 144) sees reading as an “interactive process between a reader and a text which leads to automaticity or (reading fluency)”. He adds that during the reading process, the reader has a dynamic interaction with the text to obtain meaning by involving knowledge such as linguistic or systemic knowledge through bottom-up process or schematic knowledge through top-down process. Here, the reader may choose any process appropriate to gain more benefits while reading.

It is obvious that reading is an activity providing many benefits. It can be used to get knowledge as a basis that support other skills. It can contribute to any learning gain not only in reading ability and vocabulary but also in writing and other language development. Someone may write and speak well when he or she has something to speak or write about. Shen (2009: 89) argues that reading may serves as a stimulus that makes readers arousing feeling and generating ideas as response to the texts read. That is why many teachers always suggest students to read before they do writing. It can be denied the huge benefits of reading as William in McDonough and Shaw (2003) mentions the use of reading for gaining general and specific information through texts

and for pleasure or for interest. Those describe clearly the reasons and purposes why someone should read.

In both studying process and everyday life, reading is supposed to be very important. In the context of studying, about 85 % of students' activities in studying English deal with reading. Muddox (1983: 76) assumes that 90% of private study is taken up in reading, especially English and History. Further, reading comprehension means reading to understand what has been read. Kustaryo (1988: 11) writes, reading with comprehension as an active thinking process that depends not only on comprehension skills but also on students' experience and prior knowledge. Similarly, Simanjuntak (188:4) says that comprehending a text is an interactive process between the reader's background and the text. McDonough and Shaw (2003: 92) note that the recent years reading skills have moved to a view point of the "text as process". The process refers to close interaction between the reader that employs background knowledge, previous knowledge, and general general intelligence and the text or the writer. Such process is quite different to that text as object viewpoint since it like a one-way traffic system and flows in one direction only. The view treats readers just as recipient of ideas or as an empty glass that are passive.

C. Reading Process

a. Bottom-up and top-down processing in reading

Top-down processing of language happens when someone uses background information to predict the meaning of language they are going to listen to or read. Rather than relying first on the actual words or sounds (bottom up), they develop expectations

about what they will hear or read, and confirm or reject these as they listen or read. With top-down processes, on the other hand, the uptake of information is guided by an individual's prior knowledge and expectations. Top-down processing is thought to be an effective way of processing language; it makes the most of what the person brings to the situation. For example asking learners to predict what a newspaper article might be about from the headline or first sentence will encourage them to use top-down processing on the article.

Bottom-up processing happens when someone tries to understand language by looking at individual meanings or grammatical characteristics of the most basic units of the text, (e.g. sounds for a listening or words for a reading), and moves from these to trying to understand the whole text. Bottom-up processes are those that take in stimuli from the outside world -- letters and words, for reading -- and deal with that information with little recourse to higher-level knowledge. Bottom-up processing is not thought to be a very efficient way to approach a text initially, and is often contrasted with top-down processing, which is thought to be more efficient. The example is asking learners to read aloud may encourage bottom-up processing because they focus on word forms, not meaning.

In most situations, bottom-up and top-down processes work together to ensure the accurate and rapid processing of information. However, theories about the cognitive processes involved in reading differ in the emphasis that they place on the two approaches. Theories that stress bottom-up processing focus on

how readers extract information from the printed page, claiming that readers deal with letters and words in a relatively complete and systematic fashion (e.g., Gough 1972). Theories that stress top-down processing hold that readers form hypotheses about which words they will encounter and take in only just enough visual information to test their hypotheses (e.g., Goodman 1967, Smith 1971). In the words of Goodman, reading is a “psycholinguistic guessing game.”

An example may help to clarify the distinction between theories that stress bottom-up processing and those that stress top-down processing. Suppose that a reader has just read, “Daylight savings time ends tomorrow, and so people should remember to change their ...” According to the top-down view, the reader guesses that the next word in the sentence will be “clocks.” The reader checks that the word begins with a “c” and, because the hypothesis has been supported, does not take in the remaining letters of the word. Theories of reading that stress bottom-up processing claim that the reader processes all of the letters in the last word of the sentence, regardless of its predictability.

Studies of readers’ eye movements provide some insight into the roles of bottom-up and top-down processes in reading. Research has shown that the eye does not sweep across a line of text in a continuous fashion. Rather, the eye comes to rest for somewhere around a quarter of a second, in what is called a fixation, and then makes a rapid jump (a saccade) to the next fixation. It is during the fixation that visual stimulation is taken in; little or no useful information is extracted during a saccade. Researchers have found that skilled readers fixate at least once on the majority of words in a text. They do not skip a large number of

words, as the top-down view predicts, but instead process the letters and words rather thoroughly. Readers do this, in part, because their span of useful vision is fairly small. For example, a reader who fixates on the “a” of “daylight” will be able to see all of the letters in this word. The reader may or may not be able to see enough to identify the next word, “savings,” but will be unable to identify “time.” Thus, the eye movement data portray reading as more of a bottom-up process than a top-down process. (See Rayner and Pollatsek 1989 for a review of the research.)

Comparisons of good and poor readers further may claim that bottom-up processes play an important role in reading. If reading were a linguistically guided guessing game, as top-down theorists maintain, one would expect guessing ability to discriminate between good and poor readers. In this view, good readers are highly sensitive to context and use it to guide their uptake of print, whereas poor readers have trouble predicting the upcoming words in a sentence. However, research has shown that poor and unskilled readers use context at least as much as good readers (Perfetti et al. 1979). Skilled readers’ perceptually based recognition skills are so accurate and automatic that they do not usually need to guess.

Studies have shown that words that are predictable from context are fixated for shorter periods of time and are skipped more often than words that are less predictable, although the effects are relatively modest (Rayner and Pollatsek, 1989). One interpretation of these results is that readers sometimes use their higher-order thinking skills to predict the upcoming words in a sentence. However, the results may alternatively reflect low-level associative

processes within the lexicon (mental dictionary) itself. For example, readers may spend less time on “cake” in the sentence “The guests ate the wedding cake” than in the sentence “The guests ate the large cake” because the activation of “wedding” automatically sends some activation to “cake.” Whatever the mechanism responsible for context effects, we must keep in mind that most words are not predictable or only minimally predictable from context. After “the,” for example, almost any adjective or noun could occur.

b. Word recognition

Many of the processes that are involved in understanding what we read are similar to the processes involved in comprehension of spoken language. In both cases, we must often use our knowledge of the world to make sense of and elaborate on the information. When reading about a wedding, for example, it is helpful to know the about kinds of activities that usually take place on such occasions. The grammatical knowledge that is necessary to understand a sentence is similar, too, whether the words are read or heard. What distinguishes reading from speech is the need to identify words by eye. Readers must recognize printed words accurately and automatically, linking them to representations stored in the mental lexicon. This process of word recognition has been a central focus of reading research.

To understand the processes that are involved in the recognition of words, one needs to consider the way in which printed words map onto speech. Although writing systems differ from one another in many ways, all full writing systems are based on speech (DeFrancis 1989). For example, each syllable roughly

speaking) in spoken Japanese has its own symbol in the writing system called kana and so this system maps onto speech at the level of syllables. In alphabetic languages, in contrast, the link between print and speech is at the level of individual sounds or phonemes. Some alphabetic writing systems, such as Italian and Finnish, exemplify the alphabetic principle almost perfectly, with each letter representing one and only one phoneme. English is not a pure alphabetic writing system, which has led to widespread criticism of the system and many calls for spelling reform. Some English sounds have more than one possible spelling, as when /k/ is alternatively spelled as “c” (“cat”), “k” (“kit”), or “ck” (“pack”). Moreover, some letters have more than one possible pronunciation. For example, “c” can correspond to /k/ as in “cat” or /s/ as in “city.” Although such complications make the English writing system more complex than some other writing systems, they do not negate the usefulness of the alphabetic principle. “Gove” could be pronounced to rhyme with “cove” or “love,” for example, but skilled readers would never pronounce it as “mab.” Certain deviations from the alphabetic principle are themselves principled, reflecting the tendency of English to spell morphemes (units of meaning) in a consistent fashion. For example, the past tense ending is variously pronounced as /t/ (as in “jumped”), /d/ (as in “hemmed”) or /ə d/ (as in “wanted”), but it is generally spelled as “ed.” As another example, the “a” in “health,” which makes the word an exception from an alphabetic standpoint, reveals the relationship in meaning to “heal.”

Just as the printed forms of words reflect their linguistic forms, so the processing of printed words involves the recovery of the words' linguistic forms. In many cases, readers access the phonological (or sound) forms of words as part of the recognition process. This phonological activation is covert, for skilled readers who are reading silently, but psychologists have devised clever ways to detect it. In one technique, people are presented with a category name (e.g., "type of food") and must then rapidly decide whether various printed words belong to the category. College students sometimes misclassify words that sound like category members (e.g., "meet") as members of the category, even when they know the words' correct spellings. Participants make fewer errors on words that look equally like a member of the category but that do not sound like one (e.g., "melt") (Van Orden, 1987 and Frost, 1998).

There is some debate about exactly how readers derive the phonological forms of words from their spellings. Do skilled readers use explicit rules of the kind taught in phonics lessons ("b" corresponds to /b/, "m" to /m/, and so on), or do they rely on a network of implicit connections? Are the links between spellings and sounds based on individual graphemes, or letters and letter groups that correspond to single sounds (e.g., "b", "sh")? Alternatively, do readers sometimes rely on larger units, linking units such as "ead" and "ine" to their pronunciations? These units have been called orthographic rimes; they correspond to the phonological rimes (vowel + final consonant units) of spoken syllables. To investigate questions such as those described above, researchers are devising explicit models of the spelling-to-sound translation process and are testing the predictions of such models

(Coltheart et al. 1993; Plaut et al. 1996; Seidenberg and McClelland 1989). These tests are no longer restricted to small-scale experiments but often involve assessing readers' performance on large samples of words (Spieler and Balota 1997; Treiman, Mullennix, Bijeljac-Babic and Richmond-Welty 1995). Although areas of disagreement remain, it is widely believed that rapid, automatic word recognition is critical to reading success and that such recognition often involves activation of words' spoken forms.

c. Background Knowledge

Having more prior knowledge generally aids comprehension. There are many aspects to prior knowledge, including knowledge of the world, cultural knowledge, subject-matter knowledge and linguistic knowledge. A reader's interest in a subject matter will also influence the level of prior knowledge. All of these factors are important to different degrees, depending on the reading task.

A reader's knowledge of the world depends on lived experience. This is different in different countries, regions and cultures. Reading tasks and reading instruction should be sensitive to the types of prior knowledge that are needed for the reader to understand a text. The practical applications are firstly when choosing books, it is important to consider the students' interests, as well as the subject matter of the text. Secondly, In the classroom, teachers can focus on words and concepts that may be unfamiliar. This is especially important for non-native speakers. Thirdly, discussing new words and concepts with students before reading a text is generally helpful. It helps to activate prior knowledge and

improve comprehension. Fourthly, asking students to tell everything they know about a topic is a useful way to begin to get students to activate their prior knowledge. They should then begin to think about what they don't know. After reading, they should summarize what they have learned about the topic.

d. Understanding the Reading Process

Good readers understand the processes involved in reading and consciously control them. This awareness and control of the reading processes is called metacognition, which means "knowing about knowing." Some students don't know when they don't know. They continue to read even though they are not comprehending. Poor readers tolerate such confusion because they either don't realize that it exists or don't know what to do about it. Poor readers focus on facts, whereas good readers try to assimilate details into a larger cognitive pattern.

Consequently, there are five thinking strategies of good readers namely predict, picture, relate, monitor, and correct and gasp in understanding. Predict means to make educated guesses. Good readers make predictions about thoughts, events, outcomes, and conclusions. As you read, your predictions are confirmed or denied. If they prove invalid, you make new predictions. This constant process helps you become involved with the author's thinking and helps you learn.

The second is picture that means to form images. For good readers, the words and the ideas on the page trigger mental images that relate directly or indirectly to the material. Images are like movies in your head, and they increase your understanding of what you read.

The third is relate that means to draw comparisons. When you relate your existing knowledge to the new information in the text, you are embellishing the material and making it part of your framework of ideas. A phrase of a situation may remind you of a personal experience or something that you read or saw in a film. Such related experiences help you digest the new material.

The fourth is monitor to check understanding. Monitor your ongoing comprehension to test your understanding of the material. Keep an internal summary or synthesis of the information as it is presented and how it relates to the overall message. Your summary will build with each new detail, and as long as the message is consistent, you will continue to form ideas. If, however, certain information seems confusing or erroneous, you should stop and seek a solution to the problem. You must monitor and supervise you own comprehension. Good readers seek to resolve difficulties when they occur; they do not keep reading when they are confused.

And the last is correct gaps in understanding. This suggest not to accept gaps in a reader's reading comprehension. He or she may signal a failure to understand a word or a sentence; stop and resolve the problem; seek solutions not confusion. This may mean rereading a sentence or looking back at a previous page for clarification. If an unknown word is causing confusion, the definition may emerge through further reading. When good readers experience gaps in comprehension, they do not perceive themselves as failures; instead, they reanalyze the task to achieve better understanding.

D. Reading Comprehension

Reading comprehension is the act of understanding what you are reading. While the definition can be simply stated the act is not simple to teach, learn or practice. Reading comprehension is an intentional, active, interactive process that occurs before, during and after a person reads a particular piece of writing.

Comprehension is the goal of reading activity. It is a very complex process of how readers make sense and grasp the texts or the written symbols. Klingner et al (2007) argues that reading comprehension is a multicomponent that involves not only readers' responses to text but also interactions between readers and what they bring to the text, including previous knowledge, strategy use, as well as all variables such as interest in text and understanding the text type, which are related to the text. With such complex process, achieving comprehension is possible to anyone. Laufer in Chen (2011) claims that vocabulary affects a lot to the second language reading comprehension. This means that the more vocabulary that a reader has, the better comprehension that the reader will achieve. However, it is believed that having vocabulary is not the only factor determines the success of reading comprehension. Anastasiou and Griva (2009) mention one of those factors is reading strategy. All of the factors mentioned above are interrelated and built comprehension within reading activity.

Reading comprehension is one of the pillars of the act of reading. When a person reads a text he or she engages in a complex array of cognitive processes. He or she is simultaneously using his or her awareness and understanding of phonemes (individual sound "pieces" in language), phonics (connection between letters and sounds and the relationship between sounds, letters and words) and

ability to comprehend or construct meaning from the text. This last component of the act of reading is reading comprehension. It cannot occur independent of the other two elements of the process. At the same time, it is the most difficult and most important of the three.

There are two elements that make up the process of reading comprehension namely vocabulary knowledge and text comprehension. In order to understand a text the reader must be able to comprehend the vocabulary used in the piece of writing. If the individual words don't make the sense then the overall story will not either. Children can draw on their prior knowledge of vocabulary, but they also need to continually be taught new words. The best vocabulary instruction occurs at the point of need. In addition to being able to understand each distinct word in a text, the child also has to be able to put them together to develop an overall conception of what it is trying to say. This is text comprehension. Text comprehension is much more complex and varied than vocabulary knowledge. Readers use many different text comprehension strategies to develop reading comprehension. These include monitoring for understanding, answering and generating questions, summarizing and being aware of and using a text's structure to aid comprehension

E. Determining Reading Level

Determining reading level involves two tasks. One is to determine whether a student can successfully read a specific selection. Texts that are used in a classroom, or those that are

available to students for independent reading, can vary widely in difficulty level. The topic of the text, the presence or absence of pictures, the length of the text, and the vocabulary that is used are just some of the factors that can make one selection more difficult than another. The teacher or coach needs to know which texts the student can handle independently. Which ones can the student read and understand if given support? Which ones represent a frustrating experience for the student?

The teacher or coach also needs to have an estimate of the student's general reading level. Can the student handle most of the selections that are used at his or her grade level? What is the first indication of a reading problem? It is generally that a student cannot read as well as his or her classmates. If a third grader can read and comprehend selections that are appropriate for third grade, we say that this student is reading at grade level. A third grader who can read and comprehend selections appropriate for fifth grade is reading above grade level. One who is only comfortable with a first-grade selection is reading below grade level. An important category of reading assessment is determining what general level of text the student can read successfully.

The seriousness of a reading problem often depends on the gap between a student's reading level and his or her chronological grade level. A third grader reading at a second-grade level may have a less severe reading problem than a fifth grader reading at that same level. How big a discrepancy signals the possibility of a problem? Spache (1981) has offered the following guidelines. For first through third graders, a difference of one year or more between grade placement and reading level is cause for concern. For fourth through sixth graders, a difference of two years or more

warrants concern. For students in seventh grade and above, a difference of three years or more is a signal that a reading problem exists. The younger the student, the less difference is needed to indicate a severe problem. Why is it important to consider severity? Students with severe reading problems often need more concentrated intervention in the form of daily and/or individual classes.

What makes a selection appropriate for one grade and not for another? In other words, how do we decide that a selection is at a specific grade level? One way to identify the grade level of a selection is to use a readability formula. Readability formulas are based upon the premise that longer sentences and longer words make text more difficult. These formulas count such things as the number of words in a sentence, the number of syllables in the words, and the number of words that are not considered common or frequent. There is software that will help you do this and you can also do it by hand. However, it is very timeconsuming, and busy teachers and coaches generally leave it to others to fix grade levels through readability formulas.

F. Factors Affecting Comprehension

In the process of reading, there might be some factors influencing the readers in comprehending the text. These factors can be from the internal factors and the external factors. The internal factors mean reader variable or the factors from the reader his/herself such as the prior knowledge, reading ability and motivation (Simanjuntak, 1988:2); anxiety and age (Caldwell,

2008:13); cognitive abilities and affective characteristics (Sadegi, 2007). Other factors can be called as external factors coming from the text itself or called text variable. Nuttal (188: 25) says that obviously a text should be at the right level of difficulty for the students. The question is, then, how readable is your text for your students? Dealing with the text itself, there are many factors affecting the difficulty of text to be comprehended. Here are those factors:

- a. *Text structure*. This deals with the pattern the texts are written. According to Nuttal (1988:26), new grammatical forms (tenses structural words) may cause problems. It also deals on the pattern the text organized. Narratives tend to follow a predictable structure of setting-character-goal/problem-events-resolution and are easier to comprehend and remember than expository text (Caldwell, 2008:15). Moreover, he states that Expository text is usually organized around any of five patterns: sequence or time order, listing or description, compare and contrast, cause and effect, and problem and solution. However, these patterns are not always clearly signaled by the author, who may combine two or more patterns in one segment of text.
- b. *Vocabulary difficulty*. The role of vocabulary in reading the foreign language is obviously great. Many unfamiliar numbers of words faced while reading text will make the process of comprehending text hard to do. They might use the dictionary when facing new difficult and unfamiliar words, however, it will be time consuming. Therefore, it can be denied that vocabulary difficulty is closely related to vocabulary knowledge of a reader. Many studies have shown that good readers have good vocabulary knowledge. In order to understand a text,

readers need to know the meanings of individual words. They construct an understanding of the text by assembling and making sense of the words in context. Vocabulary knowledge is difficult to measure. It is, however, very important in learning to read and in future reading development. Words that are recognized in print have to match a reader's oral vocabulary in order to be understood. This is important for children who are developing oral proficiency, as well as for non-native speakers of a language. In later reading development, when students read to learn, they need to learn new vocabulary in order to gain new knowledge of specific subject matter. The implications of these, vocabulary should be taught directly and indirectly. Direct instruction includes giving word definitions and pre-teaching of vocabulary before reading a text. Indirect methods refer to incidental vocabulary learning, e.g. mentioning, extensive reading and exposure to language-rich contexts. Repetition and multiple exposures to vocabulary items (e.g. through speaking, listening and writing) are important. This should ideally be done in connection with authentic learning tasks. vocabulary learning should involve active engagement in tasks, e.g. learning new vocabulary by doing a class project. Word definitions in texts aid vocabulary development. Multiple methods, not dependence on a single method, will result in better vocabulary learning.

- c. *Text coherence*. Coherence is something behind the structure. This is more to deal with how to organize the ideas into the paragraph or text. Caldwell (2008:17) says that at the sentence level, author clarify how each new piece information relates to

what already been presented. Moreover, he explains that readers are influenced by coherence. When the text full of unnecessary expression and repetition, not well organize and confusing ideas, the readers will be hard to understand the text. The smooth flows of the ideas in texts are greatly affected by coherence.

- d. *Readability level.* Text readability is a measure of how well and how easily a text conveys its intended meaning to a reader of the text. Nuttal (1988:26) argues that difficulty beyond the elementary levels is sentence length and complexity, which can make the relationships between the various parts of the text difficult for the reader to sort out. The use of readability formula to find the difficulty level of texts is useful to find which text will be suitable to certain readers. There are many formulas to count the readability index of the text. Most of them are based on the words sentences counting. The one used in this study is the readability formula by Roudolf Flesch which is considered easy to follow and can give quick result. Although this calculation is kind of rough estimation of difficulty level of text, it is quite useful when it is used carefully.

G. Assessing Reading Comprehension

It is necessary to assess the reading comprehension. To perform it, there are some general principles regarding the assessment of comprehension skills. Firstly, reading comprehension is not a unitary construct but a complex skill dependent on a number of cognitive processes. To understand written text, a child needs to decode printed words and to access their meanings; relevant background knowledge needs to be

activated, and inferences have to be generated as information is integrated during the course of reading. In addition, control processes monitor both ongoing comprehension and the internal consistency of text, allowing the reader to initiate repair strategies if comprehension breakdown is detected (at the simplest level, re-reading a section of the text). The complexity of reading comprehension presents challenges for assessment, especially as many of the cognitive processes that contribute to reading comprehension are covert and therefore cannot be directly observed or measured.

Secondly, the simple model shows that children may be at risk of reading comprehension failure because of difficulties with word-level decoding accuracy and fluency, with linguistic comprehension, or with both. A thorough assessment should include tests designed to measure both decoding and comprehension. Decoding is much simpler to assess than comprehension and certainly unless they have a reasonable level of decoding skill, a child will struggle to comprehend text. However, it is important always to remember that successful decoding is no guarantee that successful comprehension will follow; in the extreme case of 'hyperlexia' a child's decoding far outstrips their comprehension and such children have been said to 'bark at print'.

Thirdly, tests of reading comprehension vary in terms of the nature of text that the child reads, and the response format via which comprehension is measured (see Box 3). Some texts are as short as a single sentence whereas others contain extended passages comprising a number of paragraphs. Some texts are read silently

whereas others are read aloud. Of those that are read aloud, some allow for reading errors to be corrected by the tester. Different response formats include multiple-choice, true-false judgements, sentence completion, open question-answer and story-retell. Across all response formats, the nature of the question varies substantially with some items being more or less dependent on decoding, specific vocabulary, background knowledge and the particular type of inference needed. Tests also vary with respect to the load they place on cognitive resources such as working memory.

Fourthly, since tests of reading comprehension vary in task demands, it is important to be clear that the nature of the assessment influences which children may be identified – or fail to be identified – as having comprehension impairments. Some tests that are marketed as measures of reading comprehension are in fact very highly dependent on decoding. Hence, children can fail because they have decoding rather than specific comprehension difficulties or, on the other hand, some children may pass leaving their comprehension impairments undetected. Indeed, some children perform well on tests of reading comprehension that measure sentence-level comprehension yet have quite substantial comprehension impairments when reading extended discourse. Another common problem with many comprehension tests is that certain questions can be answered correctly using background knowledge (without the text having to be read). Thus, some children's reading comprehension difficulties may be masked because they can rely on general knowledge to answer the comprehension questions while conversely, children with low levels of background knowledge may be penalized.

Fifthly, Given the complexity of comprehension, it seems likely that children may fail to understand what they have read for a variety of different reasons. Thus, a comprehensive assessment should include measures of decoding accuracy and fluency, oral language, general cognitive resources and working memory as well as reading comprehension. In addition, every effort should be made to assess comprehension of extended text or discourse, not just word- or sentence-level comprehension.

H. Readability

a. Definition of readability

Readability is a crucial issue dealing with a textbook. A text or book is considered easy-to-read when it has relation with the readers. Dubay (2004) defines readability as what makes texts are easier to read and it does not only concern with typeface and layout. He adds that readability also focuses on writing style which separates from issues of content, coherence, and organization. McLaughlin in Plucinski (2009) defines it as degree to which a reading material is compelling and comprehensible. Those definitions refer to the ease of being read and qualities of writing which are related to reader comprehension. The information of readability is helpful for book's writer, reader and any institution making textbook adoption or selection decision.

Readability aims at finding the right fit between students' reading ability and text difficulty. Ulusoy (2006) argues that doing it is critical because students may have different reading level either below or high level. In addition, it is obvious that reading

texts have a difficulty range in which a text may be considered easy to read by a students but other may not. Those are considerations why readability is urgent as it can help not only the writer but also the users of the book to know whether the book read appropriate. Finding out how well and easily a meaning is conveyed by a text to its readers may be influenced by several factors. The factors influencing readability of a text include physical factors such as typeface, font size, spacing and layout; reader factors such as prior knowledge, reading ability, and motivation of the reader; vocabulary difficulty; text structure; text coherence and cohesion; and syntax.

Given all of these determinants of text difficulty, how do teachers or coaches choose appropriate texts for instruction? Often they have little choice with regard to these texts. Many schools and districts employ reading anthologies, often referred to as basal readers. Publishers of such anthologies generally do an acceptable job of matching selections to appropriate grade levels. Even if a teacher or coach can choose instructional texts, he or she is probably too busy to use readability formulas or extended analyses of text features in order to determine whether a text is appropriate for a group of students. Sometimes the difficulty level of a book is indicated. If it is not stated, the teacher or coach may be able to locate other sources for estimating difficulty level, such as publisher catalogues. However, this takes time, and time is a precious commodity. A simple but effective way to choose an appropriate selection is to examine it in relation to other selections that your students have read and enjoyed. Would your students be interested in the topic? Is it a relatively familiar topic? Does the new text look like past selections (as far as length, number of

pictures, size of print, etc., are concerned)? Ask one or two students to read a few pages out loud, to determine whether they can handle most of the words. The teacher can use the same process to choose texts for individual students. If the text seems suitable, then the teacher can go for it. With more and more experience, a teacher will become very adept at choosing selections that are appropriate for all of his or her students. These are how readability works in a textbook.

b. Factors influencing readability of a text

Text readability is a measure of how well and how easily a text conveys its intended meaning to a reader of that text. A number of factors influence the readability of a text are as follows:

1. *Physical Factors*

There are a number of features not directly related to the reader which may affect readability (some of these features may interact with characteristics of the reader, e.g. a picture may be motivating or demotivating). Obviously, if the print on the page is difficult to read either because it is too small or the font is an odd one, then this will contribute to reading difficulty. Clear design and layout is also important and again the reader must be taken into consideration. What may be suitable for a younger reader (comic book style, large print, etc) would be patronising for others.

Background knowledge (about content and text structure) is an important component of the reading process. The first person to use this idea in educational texts was probably Ausubel. Ausubel suggested that "*use of appropriate.....advance organizers in the*

teaching of meaningful verbal material would lead to more effective retention" (1960:269). His first results were not conclusive however, but Ausubel & Fitzgerald (1962) did find statistically significant results with students of "relatively poor verbal ability". Ausubel quite reasonably suggested that "*[t]he pedagogic value of advance organizers obviously depends in part upon how well organized the learning material itself is.*"(1960:271). It seems reasonable to suggest that well written texts pitched at the right level for the intended audience might not need an advance organizer (or might need a reduced one). However, even articles written for readers who are presumably well capable of reading and understanding the text are often provided with advance organizers of one kind or another; the abstract usually provided at the beginning of an academic journal article is an example).

Advance organizers have been criticised on the grounds that they are vague (Hartley & Davies, 1976) but Ausubel claims (1978) that this is not the case and that they can only be described in general terms since the construction of an organizer "*depends on the nature of the learning material, the age of the learner, and his degree of prior familiarity with the learning passage.*" (1978:251). This focus on individuals and individual texts seems important - we cannot apply a universal rule to all texts and all readers. Other researchers have come to similar conclusions about the value of extra textual aids: Levin found that by using pictures and inducing readers (especially poor ones) "*to attend to semantic characteristics and relationships (i.e., by having them visualize the thematic content of the passage), their reading comprehension improved dramatically.*" (1973:23). Rasco *et al* (1975) found that

the use of drawings and of "imagery instructions" (instructions to use mental imagery) facilitated learning from text.

Royer and Cable found that illustrations facilitated recall of information presented in abstract passages. They also suggest that *"illustrations are likely to prove beneficial only in the situation where the text material to be learned is difficult to comprehend"* (1976:206). Illustrations should have a purpose and need not be used merely to embellish easily read texts. In fact Samuels (1970) in his review of earlier literature on the use of illustrations in basal readers aimed at teaching L1 reading concluded that *"pictures, when used as adjuncts to the printed text, do not facilitate comprehension"*. So although a picture may be worth a thousand words perhaps it depends on exactly which thousand words they are. Samuels also suggests that pictures may be useful for their effect on attitude and that pictures and text could be used separately - in separate parts of a book for example - to be referred to as needed. This idea can easily be incorporated into computer based texts. Hypertext links can call up pictures if the reader needs them. Different readers could proceed at their own pace calling up facilitative non-text aids as they wish.

The use of extra textual aids is not confined to activating content schemata and facilitating content recall. Geva (1983) used a flowcharting technique to illustrate the paragraph structure. Her technique was to represent graphically both the content and structure of the text. This is a useful technique because it both facilitates comprehension of content and sensitises the reader to the relations which hold between "idea-units and propositions" at a

local and global level. As with other researchers, she found that such techniques were useful especially for less skilled readers. Lee & Riley (1990) found that readers who had been presented with a framework which indicated rhetorical organisation of the passage found it easier to recall passage information.

McGee & Richgels (1985) also advocate teaching rhetorical structure, and the use of graphic organizers as aids to text comprehension with elementary L1 students. Similarly, Tang (1992) found that graphic representation of knowledge structures facilitated comprehension and learning of academic texts. (see also Brown, Campione, & Day 1981; Wood & Mateja, 1983).

Use of extra-textual aids may facilitate comprehension but, more than that, they may also show readers how they themselves can use and create their own aids in the form of charts, diagram etc. to help them comprehend a text. This, in the end, may be a much more valuable exercise. When readers begin to analyse a text and transfer information to another medium or format they are processing information at a much deeper level (Craik & Lockhart, 1972) and in the process learning the language. There are many ways that graphic aids may be used for learning and their usefulness are normally indicated by the text types and the information they contain, (see Johnson, 1989) but even the simple process of getting readers to underline key items helped their understanding (Fass & Schumacher, 1978). It might be noted here that students from certain cultures where texts are considered with some reverence should be encouraged to treat printed texts with less respect.

Much has been written about semantic mapping (Sinatra *et al*, 1986; Johnson *et al*, 1986; Clarke, 1991) normally used for activating schemata or introducing vocabulary. Clearly this is another similar idea that can be incorporated into extra-textual aids. However, like underlining mentioned above it is probably better if this is done by the readers themselves. Stahl & Vancil (1986) propose that it is not so much the mapping itself which is of use but the discussions with other readers or the teacher which accompany their drawing up which is helpful. Dean & Kulhavy (1981:63) also note that people who are forced to encode a spatial organizer prior to reading are more likely to retain the material studied. Merely presenting the organizer and leaving readers to use it or not is not enough.

The aids that a teacher or materials writer chooses to make available will depend not only on the readability of the text for the students he has in mind but also on the specific aspects of the textual features he wishes to highlight or reading strategies he wishes to induce.

It could be said that by providing extra-textual features we are not rendering the text itself more readable (i.e. less complex), but merely diminishing the amount of information the reader needs to decode (in a bottom-up sense) in order to make sense of it . But this is a quibble. No reader comes to a text with no background knowledge or expectations at all and the text itself activates schemata in the reader as he progresses through the text. All we are doing by providing these aids is anticipating this process so that the reader can "get stuck in" that much sooner.

From a language learning point of view the aids, in helping to make the text more comprehensible, allow the reader to draw more inferences about the language (there is more comprehensible input). From a content point of view more content can be integrated with the readers own knowledge and so more is retained. Pictures may provide information which is not present in the text or which is not stated explicitly but must be inferred. Clearly this type of extra information would help any reader (as long as it is relevant - pictures could also provide distracting or false information). But the important point is that, as Glenburg & Langston have shown that pictures facilitate comprehension and memory for texts, even when the pictures add no information. (1992:140).

We have assumed that texts are central and that it is the aids which are peripheral (in fact we call them adjuncts). This assumption is perhaps based on the idea that texts are the best way of getting a message across. And perhaps this is true in most cases. But there are cases where visual imagery has prime importance- advertising for example.

One problem with text is that because it is normally read in a linear fashion it constrains how mental models are built. Pictures are not constrained in such a way (there may be other constraints such as conventions of iconography). Pictures may particularly facilitate comprehension of visuo-spatial concepts but Glenberg & Langston suggest that pictures help the comprehension and retention of text in a variety of ways (1992:131). They also suggest that pictures may ease the search for referents and that they may serve as a type of external memory (1992:149). However they operate they seem to be powerful facilitators of comprehension.

But they should not be used just to repeat information explicitly stated in the text. If we wish to use them to facilitate comprehension maximally for the readers we have in mind they should be used also to illustrate features for which text is not the best means as in non-linear spatial organization of ideas (e.g. represents hierarchical rhetorical organisation of the text), concepts which may be deduced from the text but which are not explicitly stated, and background knowledge which the writer assumes the reader to have but which may not be the case.

2. *Reader Factors*

That readers understand more of a text when they know something of the content schema is now well established. Bransford & Johnson (1972) found that knowledge of the subject matter of a text was of fundamental importance in understanding the text; Steffensen, Joag-Dev & Anderson (1979) found that texts based on known cultural background knowledge were easier to understand than similar texts based on different cultures; Carrell (1987) found similar results in investigating the effects of both cultural and formal schemata.

A distinction is sometimes made between formal and content schemata (Carrell, 1987) but we can deal with formal schemata under rhetorical organisation. Apart from the distinction between content (background knowledge) and cultural schemata, other distinctions have been made; Context/ concreteness-abstractness, Bransford & Johnson, (1972); context/ transparency, Carrell (1983); familiarity, Anderson, Reynolds, Schallert & Goetz (1977),

Carrell (1983), but it is unclear whether these distinctions have any basis in reality and for present purposes we can conflate these categories.

Carrell (1983) found that non-native readers did not utilise background knowledge to make appropriate predictions about the meaning of a text - a surprising finding. However, Lee (1986) found that asking non-native readers to recall the text in their L1 revealed that they had utilised background knowledge. Nowadays most researchers would agree that background knowledge of all kinds is of fundamental importance in text comprehension.

It is easy to lose sight of the importance of background knowledge and its effect on readability. Although it is often assumed that writers have particular readers in mind, they may not appreciate the difficulties readers face when there is a lack of shared background knowledge. Writers in specialist fields often assume more background knowledge in their readers than is warranted. What is obvious to specialists may not be so for others. If readers lack prior content knowledge in the domain, ideas presented in the text may seem disconnected even though connections among the ideas seem "obvious" to domain experts (Goldman 1997:367).

Although mainly concerned with textual characteristics of readability, we cannot dismiss schemata as a contributory factor in the readability of a text. First of all a text is more or less readable according to how far the reader is able to activate the necessary schemata required for comprehension, so the reader's background knowledge has to be taken into account. Secondly readability can only be assessed by adopting some measure of how the text has

been comprehended by a reader or group of readers and comprehension must involve schemata: integrating new textual information with background knowledge. Whether we are aware of it or not, it is this interaction of new information with old knowledge that we mean when we use the term comprehension (Anderson & Pearson, 1988:37)

Since content is so important it is not surprising that it influences the way the text is organised - for example that introducing topic early in a paragraph facilitates reading (Kieras, 1978,1980), a feature which is mirrored at sentence level in the normal organisation of given/new, topic comment. Although for the purposes of this section we have conflated cultural and content schemata, cultural factors may influence reading in other ways.

3. *Vocabulary Difficulty*

There does not seem to be much agreement in the earlier literature about how vocabulary knowledge influences the reading process. Intuitively it would seem that vocabulary would be of great importance. There are many researchers who have cited vocabulary as being of prime importance in both L1 and L2 studies (Davis,1971; Kruse, 1979; Chall, 1958; Loban, 1970; Yorio, 1971 and Phillips, 1974, cited by Adams 1982), but there are others who disagree. Duffy and Kabanec found that simplifying vocabulary and sentences has little, if any, effect on performance even though the readability, according to formula is greatly improved (1982:738). They found that their data "add[ed] substance to the

hypothesis that word and sentence difficulty are correlative but not causative factors in comprehension (1982:744).

There are many factors related to vocabulary difficulty to which traditional readability formulae are not sensitive and which may be very complex to investigate. Readability formulae have been criticised for omitting many factors such as syntactic complexity and rhetorical organisation. To these we could also add factors which make a word hard or difficult to process - factors which go some way beyond the length of the word or the number of syllables it contains. Bernhardt (1984) is also sceptical about the presumed relationship between word length and difficulty pointing out that graphemic uniqueness of a word may make it much more accessible than shorter words such as the, them, they, their, there, this, that, and those [which for L2 readers] are extremely difficult words despite their length.

So far we have considered only single words but it may be that what readability indices do not pick up is the fact that they do not account for lexical phrases. Lexical "chunks" (Nattinger & DeCarrico, 1992; Moon, 1997) may account for a large proportion of vocabulary. In fact research on French has shown that there are more complex units than simple ones. For instance, there are 6,000 adverbial expressions compared with 2,000 adverbs, 300,000-400,000 compound nouns versus 80,000 simple nouns (Arnaud & Savignon 1997:160). L2 readers' lack of awareness that a combination of words may constitute a chunk may affect their reading ability in a variety of ways. When chunking is impeded, less information can be stored at one time in short-term memory. Such a reduction in storage capacity means that less linguistic data can be analyzed simultaneously, which results in inefficient use of

redundancy and contextual clues. Because of limitations in human attention and memory processing capacity, these additional cognitive demand may account for the observation that good L1 readers are often not able to apply their reading skills to L2 texts (Nattinger & DeCarrico, 1992:159-160).

It surely seems to be that it is this inability to get going and process larger stretches of text which slows readers down. Laufer makes a similar point that since the amount of information that can be cognitively manipulated at one point of time by controlled processing is limited, focussing on slightly or completely unfamiliar words will take up some cognitive capacity that would otherwise be used for higher level processing of the text. Automatic recognition of a large vocabulary, or a large sight vocabulary, or the other hand, will free one's cognitive resources for (1) making sense of the unfamiliar or slightly familiar vocabulary and (2) interpreting the global meaning of the text (Laufer, 1997a:22-23).

So we have to accept that whether we are talking about words or lexical phrases, vocabulary is a fundamental consideration in assessing difficulty. So the first and most important point is that it should not be too difficult to arrive at some rough estimate of what percentage of words are unknown. One can simply get the readers to scan the text and underline the words they do not know. One can use a cloze test. Or if one had an estimate of the reader's vocabulary size one could simply eliminate the words the readers are expected to know and count up the rest . There are various tests available for estimating vocabulary size (see Read, 1997 for a review). But these are rough and ready methods because a word

may not simply be known or unknown. Difficulty from the point of view of the reader is not just a question of knowing or not knowing a word. (leading to the simplistic notion that a count of unfamiliar words will give an index of difficulty) There is a cline of word knowledge from the idea of having seen it before to knowing and being able to use the word in all its forms and collocations and this is less easily measured.

The second is to identify which words or chunks are likely to cause difficulty for, or be unknown to, specific readers. Williams and Dallas (1984) examined vocabulary difficulties in content area textbooks and identified the following problems a) difficult words used in definitions (e.g. too many abstract words, definitions which are too broad rather than narrowly related to the meaning in context, few examples), b) idiomatic expressions (difficult to infer the meaning from constituent vocabulary), c) homonyms (especially problematic where they occur in a high density) d) specialised vocabulary from 'imported text'. Their approach was not to predict vocabulary difficulty but rather to give the texts they were investigating to the readers for whom they were intended and to analyse certain aspects of vocabulary by a multiple choice test. Readability formulae are an attempt at a shortcut but evaluating texts through testing (or other procedures such as think aloud) with their target readership is the only way of ascertaining whether they are suitable and the only way of investigating specific causal variables of text difficulty.

4. *Text Structure*

There is evidence that knowledge of the structure of a text facilitates comprehensibility and recall. In investigating both

structure and content variables, Thorndyke (1977) found that comprehensibility and recall were found to be a function of the amount of inherent plot structure in the story, independent of passage content. Recall probability of individual facts from passages depended on the structural centrality of the facts: Subjects tended to recall facts corresponding to high-level organizational story elements rather than lower-level details (1977:77).

This fitted in with a great deal of other work on schema theory (Bartlett, 1932; Rumelhart, 1975; Schank & Abelson, 1977). On the other hand, Kintsch, Mandel & Kozminsky (1977) used scrambled stories to investigate text macrostructure. They concluded that the reader's story schema permits him to reorganize the scrambled story, if that story corresponds to his schema and that the macrostructure of a story is formed during reading, as part of the comprehension process (1977:552).

Similar results were obtained in work by Mandler & Johnson (1977), and Kintsch & van Dijk (1975). Cirilo & Foss also found that readers are sensitive to the structure of a story as they read it (1980:104) and were able to distinguish high and low level propositions. All this work was conducted using narrative texts. Thorndyke proposed that like sentences, narratives have their own internal structure and grammar rules for simple stories were proposed. But similar results were found in other text types including expository texts. Meyer (1975a,b) found five basic organisations of discourse: collection, description, causation, problem/solution, and comparison. Meyer and Freedle (1984) investigated the effects of different

discourse types on memory. They found that the more organised types of discourse such as comparison and causation facilitated learning and memory. Taylor (1980) found that children who were more sensitive to text structure recalled more expository material than those who were less able to use organisational structure of expository text. Likewise, Meyer, Brandt & Bluth (1981) investigating a reading strategy (identifying and using an author's prose organisation) found a strong relationship between comprehension skills and the use of the top-level structure in text (1981:82). McGee (1982), and Richgels, McGee, Lomax & Sheard (1987) came to similar conclusions.

All of these studies are concerned with high level organisation concerning whole stories or long stretches of expository prose. But it is clear that there are lower levels of organisation from the paragraph level down to relations between individual sentences and clauses. And, not surprisingly, clear structure on these levels also facilitates comprehension. Kieras investigated structure in simple paragraphs. He found that paragraphs that violate the coherence and topicalization conventions yield longer reading times, poorer recall, and distortion of apparent theme (1978:27).

All the above studies were conducted with native English speakers. Carrell (1984: 449 & 458) investigated the effect of different prose organisations on the reading comprehension of ESL readers of various L1 backgrounds. She asked whether different groups of ESL readers possess the formal schemata against which to process these various rhetorical structures and whether there is a differential impact of these various rhetorical structures on different ESL readers. She found that

as for native English readers, some variations in discourse type influence the amount of information recalled from prose by ESL readers. Further, the more highly organised types of discourse are generally more facilitative of recall than the less organised collection of descriptions.

Urquhart (1984) investigated the effect of rhetorical ordering (specifically, time-ordered and space ordered texts) on readability and, unsurprisingly, concluded that well ordered texts were easier to read. Carrell also found that the effects of discourse type were not the same for each language group (1984:460) indicating that text readability is also a function of the text schemata that readers from different L1 backgrounds possess. (See also Connor & McCagg, 1983; Connor, 1984).

It might be a strong claim to suggest that there are certain types of rhetorical organisation which are more readable (i.e. comprehensible, memorable) than others in any absolute sense, since there are so many other factors involved. Perhaps some are more readable simply because they match our expectations about how a narrative or expository text should be structured. Also, causation and comparison are perhaps, in general, more memorable because they require deeper levels of processing than descriptions. Whatever the case, since L2 learners are going to have to read more of these texts it seems only fair to make sure that the texts they are presented with conform to recognised types. As with all learning, it is difficult to induce patterns if we are presented either with aberrant patterns or with too few examples of each type of pattern. (See Evans, 1967 cited in Perkins & Angelis, 1985). One reason for

using the same type of texts with learners rather than a selection of different texts often to be found in reading skills texts is so that students can familiarise themselves with these formal schemata. Hopping about from text type to text type gives the learner no chance to make inferences about any one type. Texts whose formal schemata do not conform to recognize structures should be classified as difficult (all other things being equal). It may be possible to classify certain formal schemata as more or less difficult for particular readers. But this can only be done by those who are familiar with the difficulties those readers have.

5. *Text Coherence and Cohesion*

a. Text coherence

Most readers are aware that some texts, whatever their content, seem to "hang together" better than others and are therefore easier to read. In part this is a function of how they conform to expectations about text types (rhetorical organisation) but is mainly a function of how they "cohere". Understanding a discourse may be regarded as the construction of a mental representation of the discourse by the reader. An acceptable discourse representation has a property that distinguishes it from the representation a reader might make of an arbitrary set of utterances: The representations of the segments in the discourse are linked coherently (Sanders *et al* 1997:1-2).

First of all we have to accept Carrell's (1982) assertion that cohesion is not coherence. Few would now dispute that cohesion relates only to the interconnectedness of the components of the surface text while coherence relates to how the configuration of concepts and relations which underlie the surface text, are mutually

accessible and relevant (de Beaugrande and Dressler 1981:3-4). Similar distinctions are made by Hoover, (1997:195) and Sanders *et al* (1997:2). For the purposes of this discussion, a distinction can be made between cohesive devices operating on a surface, textual level, and discourse relations which may or may not be explicitly signalled.

Many researchers have looked at logical relations and conjunctions in investigating text comprehension. The Kintsch & van Dijk model of the reading process involves making inferences about how propositions are linked, (1978:365): the Just & Carpenter model provides for "interclause integrations" (1980:343). Meyer, (1977), Geva (1983), Winter (1982), Meyer, Brandt & Bluth (1981) have all investigated the effects of signalling of relations on the perception of the organisational structure of texts.

Analysis of coherence relations would seem to offer insights into the difficulty of text because coherence relations are ultimately cognitive relations Sanders *et al* (1992:1). Winter and Hoey have made the same point that a clause relation is the cognitive process whereby we interpret the meaning of a sentence or group of sentences in the light of its adjoining sentence or group of sentences (Winter, 1971) and its refinement by Hoey a clause relation is also the cognitive process whereby the choices we make from grammar, lexis and intonation in the creation of a sentence or a group of sentences are made in the light of its adjoining sentence or group of sentences (Hoey, 1983).

It seems unclear whether readers process text merely for local coherence or whether they try to integrate information into a

rhetorical framework (global coherence) or with background knowledge (Kintsch, Mandel & Kozminsky (1977:552) in which the formation of macrostructures is an integral part of the comprehension process and occurs during reading and Albrecht & O'Brien (1993:1062) suggest they do; McKoon & Ratcliffe (1992) suggest they do not). Whether they do or not might also depend on the reader's ability, his motivation and his reading goal. It might also depend on the length and type of text. Texts which conventionally have a fairly fixed rhetorical structure might force more sensitivity to breaks in global coherence (in the way that it is easy enough to amuse a child by introducing a few inconsistencies into a well-known story) whereas other genres might be less constrained (e.g. academic texts -because they present a lot of new information). Kieras makes the point by stating that quite often readers are required to understand material whose content is basically novel, lacking in stereotypical organization, and about which they have few expectations (1978:14).

Whatever the case, we need to be able to compare texts from a clausal relations point of view in order to be able to say that one text is more difficult than another. A simple way might be to count the ratio of conjunctions per number of sentences (marked relations presumably being easier to understand than unmarked ones). But there may be a problem here because relations are signalled by other devices than conjunctions such as lexis and repetition (see Hoey, 1983, Hoey & Winter 1986) and causal verbs (Singer 1995). A more sophisticated method would be to take into account; first, the ratio of explicitly marked relations to those that have to be inferred, and; second the type of relations used. (On the assumption that certain relations are easier to process than others).

Signalling of clause relations is generally discussed at a micro level (relations between propositions, clauses or sentences) but relationships at a super-ordinate or macro-level are also signalled by such markers. So these markers also help readers who know how to use them (Meyer, Brandt & Bluth, 1981) to establish the rhetorical framework of the text. A number of lists or classifications of coherence relations have been proposed (e.g. Martin's conjunctive relations (1992), Mann & Thompson's Rhetorical Structure Theory, (1987), Winter (1977, 1982), Lascarides & Asher (1991).

Bateman & Rhonduis (1997) have tried to draw some of these together in a synthesis. It is clear that understanding a text involves understanding the explicit and implicit relations that bind the text together. But how readers actually do this on line as they read is far from clear. Actually analysing a text to make explicit these relations takes an extremely long time and not all analysts will come up with exactly the same analysis. Any thorough comparison of texts would require such an analysis using one of the systems mentioned above. O'Brien (1995) used RST to investigate a college essay and such an analysis could be used to investigate any text. Those which were less coherent could be presumed to be more difficult and the analysis would point out directions for improvement. Britton & Gülgöz (1991) used a propositional analysis to investigate and improve the readability of text. Both these methods require considerable time and no little expertise.

What we really need to identify is whether explicitly stated relations are easier to process than ones which have to be inferred,

whether certain relations are more difficult to process than others, and if so which relations they are. A list of relations which are more difficult to process is one thing but it would be even better to know why they are more difficult. Sanders *et al* (1992) attempt at drawing up a taxonomy of coherence relations seems promising in this regard. They propose that relations can be defined in terms of four factors; a) basic operation (causal or additive) b) source of coherence (semantic or pragmatic) c) order of the segments and d) polarity. It may be that the last two provide clues as to difficulty, non basic order and negative polarity being more difficult to process. This would be an interesting research question.

Text difficulty might then be assessed in two ways 1) If we accept that some texts are better written than others and that texts can be rewritten or edited to present the same information in a more accessible way, then we can assess readability by looking at how easy or difficult it is to assign coherence relations to segments of text. Texts which are difficult to analyse might be classified as more difficult. 2) Different types of texts are likely to exhibit different coherence relations. It may be the case that certain relations are more difficult to process than others. For example, Black & Bern (1981:267) who say that causally related events in narratives were remembered better than events that were not causally related. Sanders *et al* (1992:31) state that in general it takes longer to verify denials than affirmatives (see Wason & Johnson-Laird, 1972), and it takes longer to judge the truth or falsity of unless sentences than that of equivalent if sentences.

If we are concerned with particular readers it may also be the case that as in L1 acquisition (Bloom, *et al* 1980: Wing &

Scholnick, 1981, Kail & Weissenborn, 1985, cited in Sanders *et al* 1992:30) acquisition of coherence relations follows a fixed order. Geva (1992:732) states that there is evidence in the L1 literature to suggest that understanding conjunctions as marking the focus of topical relations between sentences is a gradual process that is mastered by literate adults (Johnson & Pearson, 1982; McClure & Geva, 1983; Zinar, 1990). She also states that skilled and less skilled readers have been shown to differ in the degree to which they infer logical relations in text (Bridge & Winograd, 1982; Evans & Balance, 1980; Geva, 1986, Geva & Ryan, 1985; Irwin, 1980). If this is the case it might be possible to identify texts too rich in relations the readers have not acquired for them to be readable (a process teachers already do on an intuitive basis).

b. Cohesion

We have seen that coherence relations may be inferred or explicitly signalled by conjunctions or other devices. Other forms of signalling give the text cohesion and indicate that it is coherent without giving actual clues to the precise relations that hold between propositions. These cohesive ties may also affect readability as we shall now see. Whereas coherence is assigned to a text by a reader, cohesion is a property of the text itself. Of the cohesive devices (reference, substitution, ellipsis, conjunction and lexical) identified by Halliday and Hasan (1976), the most common by far are reference and lexical (see Binkley, 1988:112).

Not surprisingly studies have found the closer referents were to their pronouns, the easier they were to process (e.g. Clark & Sengul, 1979; Cirilo, 1981). Since then, others factors influencing

the ease of resolution of anaphors have been found whether the antecedent is in focus (e.g. Garrod, Freudenthal, & Boyle, 1994) syntactic constraints (e.g., Nicol & Swinney, 1989; Swinney & Oosterhout, 1990), syntactic prominence (e.g., Gernsbacher & Shroyer, 1989), as well as pragmatic constraints (e.g., Garnham & Oakhill, 1985; Hirst & Brill, 1980; Tyler & Marslen-Wilson, 1982) (O'Brien, et al 1997:2).

Hoover (1997) has also reviewed the literature on this, and concludes that factors which facilitate reading are whether there is continuity of reference, whether pronouns are in focus and whether there was a parallel syntactical function between the pronoun and the referent (pronouns and referent which were grammatical subjects were easier to process). He also state that pronouns that referred to the agent rather than the patient of the preceding sentence were easier to process, regardless of their syntactic position. (1997:201). But it is unclear whether cohesive ties in general have a serious effect on readability in their own right, or whether the difficulty that might arise is caused by vocabulary effects or the inability to establish the semantic relations that obtain in the text. Freebody and Anderson found weak and inconsistent effects of cohesion (1983:291) in their experiments on reading comprehension. They suggest that cohesion, in the specific sense of linguistic ties, simply is not very important in reading (1983:291).

This may not be a very popular or accepted conclusion given all the effort and emphasis put on this topic in teaching reading of late, but they may be right. Interesting though analysis of text is from this point of view, we have to remember that we are analysing a product (the text itself) and this might not throw much light on what a reader actually does (with these features) as he processes a

text. Brown and Yule make this point stating that it is important, however, that the discourse analyst should be clear just what it is that Halliday & Hasan are doing and should not assume that the account of textual relations produced as a post hoc analysis of the structure of a completed text should necessarily be revealing about how a processor working 'on-line' as a the discourse unfolds experiences that discourse. (Brown & Yule 1983:204).

The most important function of cohesive ties may not be the links themselves but simply the reduction they afford the reader: repeating antecedents in full (some of which may be long noun phrases or even a concept outlined in a whole paragraph or more in the case of anaphoric nouns) would render the discourse so unwieldy as to be uninterpretable, placing demand on memory which might become intolerable. Tempting as it might be to use cohesion as an indicator of text difficulty (since it is analysable in an objective manner and not difficult to do) cohesion does not have much bearing on text difficulty. Binckley (1988) has made a case for using cohesion in this way and although he rightly relates the analysis to the readers for whom the text is intended, it probably falls down on two counts; a) that cohesion is not a serious indicator of text difficulty, b) the effects measured in the cloze tests he uses are vocabulary effects not cohesion. It is very tempting to agree with Morgan & Sellner that cohesion is "an epiphenomenon of coherence content" (1980:181). Although cohesive devices are clues to the coherence of a text, a text is only coherent to the reader if the textual relations are clear to

him or her. This can only be investigated with the co-operation of the reader not by just examining a text.

However, It may be that we can identify some features of cohesion which are more difficult for some readers to interpret. Cooper (1984) in a comparison of practised and unpractised readers found that the features which discriminated most clearly between practised and unpractised readers were lexical cohesion (in particular hyponymy,{..}) and cataphoric reference; but both groups were unsure with synonyms. Grammatical cohesion achieved by anaphoric reference (e.g. locative reference..), substitution and ellipsis did not appear to present much difficulty to either group. We concluded again that practised readers are distinguished from unpractised readers by their relatively superior lexical competence. Practised readers not only have larger vocabularies, but have greater knowledge of lexical relationships. In particular, they have a better grasp of the ways in which writers use words to create and maintain textual relationships by exploring features like hyponymy and synonymy. (Cooper, 1984:131)

And Berman identified and number of factors she thought might cause problems. He suggests, next, that the FL reader needs maximal 'transparency' in marking the relations between one part of the text and another. That is certain kinds of cohesive devices may render a text opaque to the FL reader. These may take the form of deletion - for instance, by means of gapping, lack of relative pronouns in English relative clauses, wh+be deletion in post-nominal modifiers, etc. - or of substitution of, say, nominal one or verbal do as grammatical substitutes for repeated lexical material, as well as of lexical substitution (Berman, 1984:42).

Whilst these may cause difficulty, they do not seem to be promising candidates on which to base any indicator of readability. So we can probably dismiss reference, substitution and ellipsis as major factors contributing to text difficulty. What remains (conjunction having been dealt with under clause relations) is lexical cohesion and is a vocabulary effect.

6. *Syntax*

Traditional indices estimate text difficulty by measuring sentence length. Here, in considering the effect of syntax, we have a similar problem to that of vocabulary; correlation and causation. As Klop (1978) points out: It may seem surprising that counts of the two simple variables of word length and sentence length are sufficient to make relatively good predictions of readability. No argument that they cause ease or difficulty is intended: they are merely good indices of difficulty. Consequently, altering word or sentence length, of themselves, can provide no assurance of improving readability. How to achieve more readable writing is another and much more complex endeavour (Davies, 1984:188-9).

It is hardly surprising that sentence length correlates with difficulty. Apart from memory considerations, longer sentences are likely to contain more complex structures such as coordination and subordination (Beaman 1984). As long ago as 1964 Coleman pointed this out It is almost certain that sentence (or clause) length can predict readability only because it is correlated with more fundamental predictors of syntactic complexity such as nesting,

transformational complexity, and others (Miller & Chomsky, 1963); (Coleman 1964:190).

If it is indeed true that certain structures do cause more difficulty than others, what we would like to know is which they are and why they cause difficulty. Chomsky, C (1969) provides a theoretical consideration of linguistic complexity. She postulates that difficulty of interpretation of the grammatical relations which hold among the words and phrases of a sentence is increased by the presence of four conditions. The first is the true grammatical relations which hold among the words in a [sentence] are not expressed directly in its surface structure. The second is the syntactic structure associated with a particular word is at variance with a general pattern in the language. The third is a conflict exists between two of the potential syntactic structures associated with a particular verb. And the fourth is restrictions on a grammatical operation apply under certain limited conditions only (Chomsky, 1969:6-7).

However, it is difficult to see how this can be translated into a workable (i.e. fast and simple) model for assessing readability. It may also be true that learners from different L1 backgrounds find different structures more or less difficult, but for the moment we will think about the question in general terms. Coleman (1964) found that transforming nominalizations, adjectivalizations and passives to their active verb transforms improved comprehensibility of texts. Others found similar results (Bhatia, 1984) and it has long been an article of faith that structures such as nominalizations are difficult to decode (Klare, 1985; Price, 1984). Berman uses the notion of "heaviness" to describe items which may cause processing difficulties. It says note that the notion of

'heaviness' is not a straightforward function of linear length in any simple terms. Rather, the problem seems to concern the amount and depth of information which the reader must store in memory in moving from one construct to the next, and how hard the transition becomes as a result. And in fact, in the experiment [..], students said things like: 'I was so busy working on this part of the sentence, I forgot it was connected with something else'. Heaviness may also occur where the basic NVN or 'kernel' structure is violated by a process such as nominalization - there are grounds for believing that nominalizations are often more complex than corresponding sentences with simple verbs or adjectives. (Berman, 1984:142-3)

However, experimental rewriting of EST texts by Strother & Ulijn (1987) showed that syntactic simplification had no significant effect on comprehension (but see criticism by Coady (1987:101-103) of their statistical analysis). Ulijn & Strother (1990) conducted similar experiments which largely confirmed their previous results. They conclude at advanced levels, syntactic simplification into a more common register does not really increase readability (Ulijn & Strother, 1990:49). Their restriction of these findings to advanced levels is probably suitably cautious. It may also be true that syntactic simplification may have an effect on groups other than those tested in this experiment, such as limited proficiency language users (Ulijn & Strother, 1990:49).

However Berman seems to suggest that syntax complexity is an important factor and that efficient FL readers must rely in part on syntactic devices to get at text meaning. (Berman, 1984:153). Cooper found that practised

readers are not distinguished clearly from unpractised readers by their ability to understand the meaning carried by syntax (1984:130). Laufer in her review of the literature stated in interpreting texts, students tend to regard words as the main landmarks of meaning. Background knowledge is relied on to a lesser extent, and syntax is almost disregarded (Laufer, 1997(a):21). And Ulijn and Kempen suggested that L1/L2 contrasts were not a problem as far as syntax was concerned. Under normal conditions reading comprehension is little dependent on a syntactic analysis of the text's sentences. It follows that second language reading comprehension is possible without mastery of the second language' syntax. Usually the reader's conceptual knowledge will compensate for the lack of knowledge about linguistic contrasts between L1 and L2. (Ulijn and Kempen (1976:499) cited in Alderson, 1984:12)

Perhaps we could say that low proficiency L2 reading does not constitute "normal conditions" and that complex syntax may cause problems for less proficient readers. Chaudron (1983:437) found that learners with relatively low English proficiency tended to have poorer recall ability on the syntactically more complex structures. Similarly, Barnett found in her experiments that recall increases according to level of syntactic proficiency (1986:346). So in examining readability (especially if syntactic simplification is envisaged) the proficiency of the intended readership has to be taken into account.

One problem with trying to simplify texts syntactically (whether for experimental purposes or to facilitate readability) is that it is difficult to change a text on one level without changing it on another. Simply breaking long sentences up into smaller ones

while it may affect conventional readability indices does not make a text more readable as Blau discovered that short, primarily simple sentences typical of low readability levels of the version 1 passage actually are an obstacle to comprehension. Choppy, unnatural sentences are difficult to read and the relationships and meaning revealed by the formation of complex sentences are apparently lost. Readers do indeed seem to benefit from the information regarding relationships that is revealed by complex sentences (Blau 1982:525).

Thus making sentences shorter will necessarily increase the number of sentences thereby perhaps increasing the number of clausal relations which have to be inferred or explicitly signalled. The distance between anaphors and their antecedents may also increase rendering anaphor resolution more difficult.

So if we assume that for some readers (low ability or non-proficient L2 learners) syntactic complexity does cause problems. What syntactic features may affect readability? Some have questioned the widely accepted notion that subordination is a cause of complexity: Beaman claimed her investigation showed that the basic assumption of many linguists in the past, i.e. that subordination implies complexity, is false. The evaluation of syntactic complexity is simply more complex than that. (1984:79,80). Similarly, Schleppegrell Linguistic complexity, although used as an indicator of language skill or of higher levels of linguistic development, is a construct which is not yet well defined. Sentence-level indicators, such as the use of subordinate

clauses, are not adequate as measures of linguistic complexity. (1992:129)

It is also a common assumption that written language is more complex than spoken. Beaman has demonstrated that this is not the case. But one difference between written and spoken language which may cause difficulties is the increased lexical density manifested through non-finite subordinate clauses and complex noun phrases. (Halliday, 1979, cited in Beaman, 1984:50).

Many students learn English for scientific and technical purposes. The genres involved are often far different from much of what the students have previously been exposed to either in their own language or in the texts which have been used in their previous language learning activities. These genres are often characterised by nominalization of processes and the use of complex noun phrases (Bloor & Bloor, 1995:222). And it may be the case that any syntactic device to pack more propositional content into fewer words (e.g. nominalization, use of verbal nouns (Rutherford 1987:50,51)) contributes to processing difficulties. But it is one thing to pick out particular difficulties which individual learners may have with specific genres, it is another to say why they have these difficulties or point out an underlying reason why certain features cause difficulties in general. The problem with simply looking at the text is that we assume that all sources of difficulty lie with the text itself. While this may be a reasonable approach in the investigation of complexity as far as native speakers are concerned, it does not take into account extra difficulties that L2 learner may experience because of their developing (but as yet undeveloped L2) competence or, perhaps, because of L1/L2 contrastive difficulties. It might be, for example,

that if we could plot the course of the learner's developing interlanguage, we could make some predictions about syntactic features which might cause difficulties. The assumption, complexity = difficulty, may have been debunked as far as native speakers are concerned but it may be the case that for L2 learners, complexity just adds to processing constraints, compounding any other problems the reader has. It is difficult to hold a great deal in working memory once you come across a difficulty and stop to fathom it out.

c. Readability Formula

Readability formulas have serious limitations (Zakaluk & Samuels, 1988). Various factors beyond sentence and word length interact to make a selection easy or difficult, or appropriate for one grade level and not for another. Readability formulas do not take account of these factors. The presence or absence of pictures can make a text easy or difficult. Predictable text with often-repeated refrains or rhyme is generally easier and more appropriate for the lower grades. Text structure is another factor. Narratives are easier to understand than expository text. Page layout and the presence or absence of headings and other graphic aids are other considerations. Text coherence also influences difficulty level. Coherent texts are well organized, and authors clarify how each new piece of information is related to what has already been presented. They signal the introduction of new topics and organize ideas according to importance. In addition, a reader's prior knowledge is a powerful determinant of text difficulty. A student

who knows quite a bit about the topic of the text will find it easier to read and understand than an unfamiliar text at the same readability level.

Classic Readability Studies

The first readability formula is by Bertha A. Lively and Sidney L. Pressey (1923) were concerned with the practical problem of selecting science textbooks for junior high school. The books were so overlaid with technical words that teachers spent all class time teaching vocabulary. They argued that it would be helpful to have a way to measure and reduce the “vocabulary burden” of textbooks. Their article featured the first children’s readability formula. In each count of a thousand words, it measured the number of different words, the number of words not on the Thorndike list of 10,000 words, and the median index number of the words found in the Thorndike list of 10,000 words. They tested their formula on 11 textbooks of different difficulties, along with one newspaper. At the low end, there were a second and a fourth-grade reader and Stevenson’s *Kidnapped*. At the high end, there was a college physics textbook and an elementary chemistry textbook. They found that the median index number was the best indicator of the vocabulary burden of these reading materials: the higher the index number, the easier the vocabulary; the lower the index, the harder the vocabulary. The Lively-Pressey study had a great influence on the readability studies that would shortly follow.

Other early school formulas Mabel Vogel and Carleton Washburne (1928) of Winnetka, Illinois carried out one of the most important studies of readability. They were the first to study the structural characteristics of the text and the first to use a criterion

based on an empirical evaluation of text. They studied ten different factors including kinds of sentences and prepositional phrases, as well as word difficulty and sentence length. Since, however, many factors correlated highly with one another, they chose four for their new formula. Following Lively and Pressey, they validated their formula, called the Winnetka formula, against 700 books that had been named by at least 25 out of almost 37,000 children as ones they had read and liked. They also had the mean reading scores of the children, which they used as a difficulty measure in developing their formula. Their new formula correlated highly ($r = .845$) with the reading test scores.

With this formula, investigators knew that they could objectively match the grade level of a text with the reading ability of the reader. The match was not perfect, but it was better than subjective judgments. The Winnetka formula, the first one to predict difficulty by grade levels, became the prototype of modern readability formulas. Vogel and Washburne's work stimulated the interest of Alfred S. Lewerenz (1929, 1929a, 1935, 1939), who produced several new readability formulas for the Los Angeles School District. W. W. Patty and W. I. Painter (1931) discovered the year of highest burden in high school is the sophomore year. They also developed a formula to measure the relative difficulty of textbooks based on a combination of frequency as determined by the Thorndike list and vocabulary diversity (the number of different words in a text).

With the rise of the plain-language movement in the 1960s, several critics of the formulas claimed that the formulas do not test

comprehensibility (Kern 1979, Duffy and Kabance 1981, Duffy 1985). The history of the formulas, however, shows that from the beginning their scores correlate well with comprehension difficulty as measured by reading tests. The formulas rate very well when compared with other widely used psychometric measurements such as reading tests (Chall and Dale 1995). Their validity correlations make them useful for predicting the comprehension difficulty of texts (Bormuth 1966).

Waples and Tyler: What adults read.

During the Depression in the '30s, adult education and the increased use of libraries stimulated studies in reading. Sociologists studied "who reads what and why over consecutive periods," looking at reading as an aspect of mass communication. Douglas Waples and Ralph W. Tyler (1931) published *What People Want to Read About*, a comprehensive, two-year study of adult reading interests. Instead of using the traditional library circulation records to determine reading patterns, they interviewed people divided by sex and occupation into 107 different groups. It showed the types and styles of materials that people not only read but also want to read. It also studied what they did not read and why. They found that the reading of many people is limited because of the lack of suitable material. Readers often like to expand their knowledge, but the reading materials in which they are interested are too difficult.

Ralph Ojemann: The difficulty of adult materials.

The year 1934 marked the beginning of more rigorous standards for the formulas. Ralph Ojemann (1934) did not invent a formula, but he did invent a method of assessing the difficulty of

materials for adult parent-education materials. His criterion was 16 passages of about 500 words taken from magazines. He was the first to use adults to establish the difficulty of his criterion. He assigned each passage the grade level of adult readers who were able to answer at least one-half of the multiple-choice questions about the passage. Ojemann was then able to correlate six factors of vocabulary difficulty and eight factors of composition and sentence structure with the difficulty of the criterion passages. He found that the best vocabulary factor was the difficulty of words as stated in the Thorndike word list.

Dale and Tyler: Adults of limited reading ability.

After working with Waples, Ralph Tyler became interested in adults of limited reading ability. He joined with Edgar Dale to publish (1934) their own readability formula and the first study on adult readability formulas. The specific contribution of this study was the use of materials specifically designed for adults of limited reading ability. Their criterion for developing the formula was 74 selections on personal health taken from magazines, newspapers, textbooks, and adaptations from children's health textbooks. They determined the difficulty of the passages with multiple-choice questions based on the texts given to adults of limited reading ability. From the 29 factors that had been found significant for children's comprehension, they found ten that were significant for adults. They found that three of these factors correlated so highly with the other factors that they alone gave almost the same prediction as the combined ten. They were number of different

technical words; number of different hard non-technical words; number of indeterminate clauses. They combined these three factors into a formula to predict the proportion of adult readers of limited reading ability who would be able to understand the material. The formula correlated .511 with difficulty as measured by multiple-choice reading tests based on the 74 criterion selections. The Ojemann and Dale-Tyler studies mark the beginning of work on adult formulas that would continue unabated until the present time.

Lyman Bryson: Books for the average reader

During the depression of the 1930's, the government in the U.S. put enormous resources into adult education. Bryson Lyman first became interested in non-fiction materials written for the average adult reader while serving as a leader in adult-education meetings in New York City. What he found was that what kept people from reading more was not lack of intelligence, but the lack of reading skills, a direct result of limited schooling.

He also found out there is a tendency to judge adults by the education their children receive and to assume the great bulk of people have been through high school. At that time, 40 to 50 million people had a 7th to 9th grade education and reading ability.

Writers had assumed that readers had an equal education to their own or at least an equal reading ability. Highly educated people failed to realize just how much easier it is for them to read than it is for an average person. They found it difficult to recognize difficult writing because they read so well themselves. Although college and business courses had long promoted ideas expressed in a direct and lucid style, Bryson found that simple and clear

language was rare. He said such language results from “a discipline and artistry which few people who have ideas will take the trouble to achieve... If simple writing were easy, many of our problems would have been solved long ago” (Klare and Buck, p. 58). Bryson helped set up the Readability Laboratory of the Columbia University Teachers College with Charles Beard and M. A. Cartwright. Bryson understood that people with enough motivation and time could read difficult material and improve their reading ability. Experience, however, showed him that most people do not do that. Perhaps Bryson’s greatest contribution was the influence he had on his two students, Irving Lorge and Rudolf Flesch.

Gray and Leary: what makes a book readable?

William S. Gray and Bernice Leary (1935) published a landmark work in reading research, *What Makes a Book Readable*. Like Dale and Tyler’s work, it attempted to discover what makes a book readable for adults of limited reading ability. Their criterion included 48 selections of about 100 words each, half of them fiction, taken from the books, magazines, and newspapers most widely read by adults. They established the difficulty of these selections by a reading-comprehension test given to about 800 adults designed to test their ability to get the main idea of the passage.

No subsequent work has examined readability so thoroughly or investigated so many style elements or the relationships between them. The authors first identified 228 elements that affect readability and grouped them under these four headings: content;

style; format; features of Organization. The authors found that content, with a slight margin over style, was most important. Third in importance was format, and almost equal to it, “features of organization,” referring to the chapters, sections, headings, and paragraphs that show the organization of ideas.

Formula limitations

Readability researchers have long taken pains to recommend that, because of their limitations, formulas are best used in conjunction with other methods of grading and writing texts. Ojemann (1934) warned that the formulas are not to be applied mechanically, a caution expressed throughout readability literature. Other investigators concerned with the difficulty and density of concepts were Morriss and Holversen (1938) and Dolch (1939). E. Horn (1937) warned against the mechanical use of the word lists in the re-writing of books for social studies. George Klare and colleagues (1969) stated, “For these reasons, formula scores are better thought of as rough guides than as highly accurate values. Used as rough guides, however, scores derived from readability formulas provide quick, easy help in the analysis and placement of educational material.”

Readability researchers such as Flesch (1949, 1964, 1979), Klare and Buck (1954), Klare (1980), Gunning (1952), Dale (1967), Gilliland (1972), and Fry (1988) wrote extensively on the other rhetorical factors that require attention such as organization, content, coherence, and design. They use the formulas creatively along with techniques of good writing results in greater comprehension by an audience of a specified reading ability (Klare 1976, Chall and Conard 1991).

Rudolf Flesch and the art of plain writing

The one perhaps most responsible for publicizing the need for readability was Rudolf Flesch, a colleague of Lorge at Columbia University. Besides working as a readability consultant, lecturer, and teacher of writing, he published a number of studies and nearly 20 popular books on English usage and readability. His best-selling books included *The Art of Plain Talk* (1946), *The Art of Readable Writing* (1949), *The Art of Clear Thinking* (1951), *Why Johnny Can't Read —And What You Can Do About It* (1955), *The ABC of Style: A Guide to Plain English* (1964), *How to Write in Plain English: A Book for Lawyers and Consumers* (1979). Flesch was born in Austria and got a degree in law from the University of Vienna in 1933. He practiced law until 1938, when he came to the U.S. as a refugee from the Nazis.

Since his law degree was not recognized, he worked several other jobs, one of them in the shipping department of a New York book manufacturer. In 1939, he received a refugee's scholarship at Columbia University. In 1940, he received a bachelor's degree with honors in library science. That same year, he became an assistant to Lyman Bryson in the Teachers' College Readability Lab.

In 1942, Flesch received a master's degree in adult education. The next year, he received a Ph.D. in educational research for his dissertation, "Marks of a Readable Style" (1943). This paper set a course for his career and that of readability.

In his dissertation, Flesch published his first readability formula for measuring adult reading material. One of the variables

it used was affixes and another was “personal references” such as personal pronouns and names. Publishers quickly discovered that Flesch’s formula could increase readership by 40 to 60 percent. Investigators in many fields of communication began using it in their studies.

In 1948, Flesch published a second formula with two parts. The first part, the Reading Ease formula, dropped the use of affixes and used only two variables, the number of syllables and the number of sentences for each 100-word sample. It predicts reading ease on a scale from 1 to 100, with 30 being “very difficult” and 70 being “easy.” Flesch (p. 225) wrote that a score of 100 indicates reading matter understood by readers who have completed the fourth grade and are, in the language of the U.S. Census barely “functionally literate.” The second part of Flesch’s formula predicts human interest by counting the number of personal words (such as pronouns and names) and personal sentences (such as quotes, exclamations, and incomplete sentences).

The formula for the updated Flesch Reading Ease score is:

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

Where:

Score = position on a scale of 0 (difficult) to 100 (easy), with 30 = very difficult and 70 = suitable for adult audiences.

ASL = average sentence length (the number of words divided by the number of sentences).

ASW = average number of syllables per word (the number of syllables divided by the number of words).

This formula correlates .70 with the 1925 McCall-Crabbs reading tests and .64 with the 1950 version of the same tests. In

The Art of Readable Writing, Flesch (1949, p. 149), described his Reading Ease scale in this way:

Reading Ease Score	Style Description	Estimated Reading Grade	Estimated Percent of U.S. Adults (1949)
0 to 30:	Very Difficult	College graduate	4.5
30 to 40:	Difficult	13 th to 16 th grade	33
50 to 60:	Fairly Difficult	10 th to 12 th grade	54
60 to 70:	Standard	8 th and 9 th grade	83
70 to 80:	Fairly Easy	7 th grade	88
80 to 90:	Easy	6 th grade	91
90 to 100:	Very Easy	5 th grade	93

Table 1: Flesch Reading Ease Scores

Flesch's Reading Ease formula became the most widely used formula and one of the most tested and reliable (Chall 1958, Klare 1963). In an attempt to further simplify the Flesch Reading Ease formula, Farr, Jenkins, and Paterson (1951) substituted the average number of one-syllable words per hundred words for Flesch's syllable count. The modified formula is:

$$\text{New Reading Ease score} = 1.599 \text{ nosw} - 1.015 \text{ sl} - 31.517$$

Where: nosw = number of one-syllable words per 100 words;

sl = average sentence length in words

This formula correlates better than .90 with the original Flesch Reading Ease formula and .70 with 75% comprehension of 100-word samplings of the McCall-Crabbs reading lessons. In 1976, a study commissioned by the U.S. Navy modified the

Reading Ease formula to produce a grade-level score, This popular formula is known as the Flesch-Kincaid formula, the Flesch Grade-Scale formula or the Kincaid formula

In 1949, Flesch published the results of a 10-year study of the editorial content of several magazines. He found that about 45% of the population can read The Saturday Evening Post; nearly 50% of the population can read McCall's, Ladies Home Journal, and Woman's Home Companion; slightly over 50% can read American Magazine; and 80% of the population can read Modern Screen, Photoplay, and three confession magazines. Flesch (1949, pp. 149-150) compared the reading scores of popular magazines with other variables:

Style	Flesch Reading Ease Score	Average Sentence Length in Words	Average No. of Syll. Per 100 Words	Type of Magazine	Estimated School Grade Completed	Estimated Percent of U.S. Adults
Very Easy	90 to 100	8 or less	123 or less	Comics	4th grade	93
Easy	80 to 90	11	131	Pulp fiction	5th grade	91
Fairly Easy	70 to 80	14	139	Slick fiction	6th grade	88
Standard	60 to 70	17	147	Digests	7th or 8th grades	83
Fairly Difficult	50 to 60	21	155	Quality	Some high school	54
Difficult	30 to 50	25	167	Academic	High school or some college	33
Very Difficult	0 to 30	29 or more	192 or more	Scientific	College	4.5

Table 4. Flesch's 1949 analysis of the readability of adult reading materials.

Table 2: Flesch's 1949 analysis of readability of adult reading material

Flesch's work had an enormous impact on journalism. Like Robert Gunning, who worked with the United Press, Flesch was a consultant with the Associated Press. Together, they helped to

bring down the reading grade level of front-page stories from the 16th to the 11th grade, where they remain today.

d. Readability Uses

Readability is important in at least four main areas such as improving the accessibility of website texts; providing comprehensible input for language learning purposes; providing criteria for the selection, adaptation or writing of materials for content instruction; and comparing texts used for examination purposes.

Dealing with improving the accessibility of website texts, the W3C Web Content Accessibility Guideline 14 states that readability ensure that documents are clear and simple so that they may be more easily understood. Consistent page layout, recognizable graphics, and easy to understand language benefit all users. In particular, they help people with cognitive disabilities or who have difficulty reading. (However, ensure that images have text equivalents for people who are blind, have low vision, or for any user who cannot or has chosen not to view graphics). Using clear and simple language promotes effective communication. Access to written information can be difficult for people who have cognitive or learning disabilities. Using clear and simple language also benefits people whose first language differs from your own, including those people who communicate primarily in sign language.

The second use of readability is providing comprehensible input. Even without invoking the input hypothesis (Krashen, 1985),

it is obvious that learners cannot learn through reading if what they are trying to read is almost incomprehensible. Even trying to read material which is accessible with difficulty is likely to be demotivating unless the reader is spurred on by special interest or aided by a great deal of relevant background knowledge. Demotivation soon leads to abandonment of the effort. But reading provides some learners with most of their best input for learning purposes. Providing reading material at the right level not only provides input from which students can learn, it provides more of it since reading efficiency is enhanced and more is read. Readers can get a sense of achievement from reading longer stretches of text and success breeds success. For these reasons finding suitable texts is extremely important and probably more important than providing the variety of text types often found in L2 reading materials. Krashen suggests that narrow reading, and perhaps narrow input in general, is more efficient for second language acquisition (Krashen 1981:23). Reading teachers usually provide short and varied selections which never allow students to adjust to an author's style, to become familiar with the specialized vocabulary of the topic, or to develop enough context to facilitate comprehension. Rather, such selections force students to move from frustration to frustration. (Carrell & Eisterhold 1988:86) argue that finding suitable texts, of interest to the reader and at a suitable level of difficulty is extremely important.

The third use is providing criteria for the selection, adaptation or writing of materials for content instruction. Many (perhaps most) learners of English as a second language need English for access to content. The provision of comprehensible input to non-native learners is the principal task of teachers, not only in second

or foreign language classrooms, but also in many other educational programs throughout the world in which L2 learners must learn subject matter via the medium of L2." (Chaudron 1983:440). In many educational and training establishments thought is given to the comprehensibility of textbooks and training materials. Many teaching materials (for content instruction) are also written or adapted in these institutions with particular students in mind. An awareness of the factors which influence comprehensibility can help materials writers produce better instructional materials. Although it is not the place of language teachers to say how subject matter should be taught, they can help to sensitise subject matter instructors to the difficulties students have in learning in a second language and make suggestions as to how instructional materials can be made more accessible. A strong case has also been made for content based language instruction, (Brinton, Snow & Wesche, 1989) and teachers need to be able to assess the difficulty of content based materials in order to decide what difficulties their students are likely to encounter with such texts, how to use them for language learning purposes and how to make them more accessible (not necessarily by altering the texts themselves).

The last use is comparing texts used for examination purposes or testing reading comprehension. Factors which affect readability must be taken into account in the testing of reading comprehension. First of all there is the question of trying to ensure that parallel tests are equivalent. Different texts used in parallel tests have to be shown to be of equivalent difficulty. Along with other factors, this will clearly affect the reliability of the tests. The effect of

background knowledge on performance in reading tests will also have an effect on results (Perkins & Jones, 1985; Perkins & Brutton, 1988; Alderson & Urquhart, 1988).

Cultural factors may be said to include expectations about text structure (Floyd & Carrell, 1987; Johnson, 1981) and reading strategies (Pritchard, 1990; Parry, 1996) so tests should also take account of the different populations of students taking the test. Much of this is not new. Such considerations were pointed out by Steffensen & Joag-Dev in 1984 who say that recent TESL and foreign-language pedagogy has moved away from the idea that comprehension involves abstracting meaning that is in some sense present on the page and is recognizing the creative contribution made by the reader. Interference is now understood as extending beyond the affective domain to the denotative values of words, and the propositional content at the sentence and text level. While such an awareness is a major step forward, teachers, publishers and test developers can move beyond recognizing interference to minimizing it and maximizing students' success in bridging to the target culture . Text developers can perform an important service by employing writers with a detailed (or native) knowledge of the students' cultural background to produce reading materials and by using ethnic reviewers to screen out potential misunderstandings. Finally, evaluators must recognize that tests will more accurately reflect the reading ability of non-native groups vis-à-vis their native speaking peers if passages with heavy cultural loadings are avoided (Steffensen & Joag-Dev 1984:61).

e. Readability Indices

Attempts to identify factors which affect readability can be traced back a long way, probably back to the dawn of writing. But for our purposes they can be traced back to Thorndike (1921), who examined word frequencies and started a strand of thought which lives on today in corpus studies. Most subsequent readability formulae have included word frequency and/or word length. The first real readability formula was that of Lively and Pressey (1923) which was based purely on vocabulary difficulty.

A number of other factors affecting readability have been considered. Vogel and Washburne (1928) counted number of different words in a sample the number of prepositions, the total number of words not on the Thorndike 10,000 most frequent word list, and the number of clauses in 75 sentences. Gray and Leary (1935) listed factors under a) content, b) style, c) format, and d) general factors of organisation, although their readability formulae took into account only variables listed under style.

Perhaps one of the best known indices of readability (not least because it is still available in modern word-processing programs) is that of Flesch (1943, 1946, 1947, 1962). The Flesch Reading Ease Formula takes into account only words/sentence and syllables/word. Dale and Chall (1948) also used two variables (average sentence length and word familiarity) in their formula. Many other formulae of varying complexity followed, notably those of Fry (1964, 1977), Bormuth (1966), Coleman & Liau (1975). Many other factors to insert in regression formulae or different methods of establishing readability have also been proposed such as (to name only two) counting abstract words

(Flesch, 1943, Cohen, 1975) and propositional density, and inferences, (Kintsch, 1974) There are difficulties, however, in defining exactly what is or is not abstract and difficulties with conducting propositional analyses of long texts.

The objective of compilers of such formulae was to find a few simple text variables which correlated with reading difficulty in order to be able to predict the difficulty readers would have of comprehending a particular text. It is probably unfair to suggest that anyone was under the illusion that the few factors used in the formulae were the sole contributors to text complexity. It also seems to be the case that readability formulae were used for purposes for which they were not intended: formulae using few variables were intended as quick predictors of readability and not as suggestions as to how texts should be written. Nevertheless, the usefulness and validity of such formulae were called into question (Irwin and Davis, 1980; Davison & Kantor, 1982).

Criticisms of Formula-based Approaches

It is not surprising that formulae based on so few factors should have been criticised given the intuitive feeling that reading is a complex process (see Klare 1984 pp682-683 for a list of criticisms and critics). Although readability formulae can usually be shown to correlate to some extent with text difficulty (or comprehensibility), they have little to say about causality. Furthermore, the percentage of variance attributable to the factors used in formulae has been shown to be quite small. Freebody and Anderson (1983) showed that vocabulary accounted for less than 5% and Davison, Wilson & Herman (1983) similarly showed that sentence length accounted for a very small percentage. Davison

and Kantor (1982:189) state that Objections may be made to readability formulas in general. Reading difficulty may be affected by the purposes and background of the reader and the inherent difficulties of the subject matter; it is not just a function of measurable properties like length and vocabulary. It is quite possible that sentence length correlates with difficulty simply because length correlates with other factors which might contribute to comprehensibility (sentences with complex co-ordination or subordination are likely to be longer and it is surely the difficulty of establishing the relations of, for example, subordination which causes difficulty rather than sentence length *per se*). Smith (1988) considers length to be just one of a number of factors which may contribute to linguistic complexity. She distinguishes between systematic complexity, surface syntactic complexity, interpretive complexity, and phonological complexity and suggests that there are interactions between these components. Since sentences that are high in interpretive complexity (with missing elements) tend to be low in amount, or length in number of words (1988:250), it seems that length may not be a good indicator of difficulty simply because different types of complexity are confounded and length is not positively correlated with all of them.

Intercorrelation of indices

It is easy enough nowadays with a modern word processor to compare the readability indices of a few texts. The results are often surprising. While there may be a doubling of difficulty for two different texts according to one index, another may register hardly

any change at all. This fact alone should serve as a caution against uncritical use of such devices. Problems of intercorrelations and the problems of relating reading difficulty indices to American grade levels have been pointed out by Klare (1984:706).

I. English Teaching at *IAIN Walisongo Semarang*

To gain the educational goals, all the activities of Walisongo State Institute for Islamic Studies (*IAIN Walisongo*) must be based on *Tri Etika Kampus* (The Ethical Codes of campus) that consist of Religious ethic, Scientific ethic, and Brotherhood ethic (IAIN Walisongo, 2012: 129). The institution characteristics are based on Islamic values as stated in religious ethics that emphasis on religious aspects such as developing understanding, appreciating and performing Islamic teaching and making Islamic teaching as foundation for all activities. In addition, since the majors and programs in *IAIN Walisongo* are mostly about Islamic studies, the academic activities including their course contents are valued from the Islamic teaching and value. The Islamic values are embedded in all subjects and contents so that students can establish Islamic values-based knowledge.

English teaching learning in *IAIN Walisongo* is named with General English carried out by the Language Development Center or *Pusat Pengembangan Bahasa* (PPB) under Intensive Language Program or *Program Intensive Bahasa* (PIB). PPB (2012:12) states that PIB is language learning program at *IAIN Walisongo Semarang* conducted programmatically and sustainably to develop students' language skills. The language taught in the program consists of three languages they are *Bahasa Indonesia*, English and Arabic. The program designed for undergraduate students is aimed

to develop students' ability, language learning effectiveness and to guarantee the English class meets standard of competence, material and learning process throughout faculties at *IAIN Walisongo Semarang*.

General English is a course aimed for all students of *IAIN Walisongo Semarang* except English department students. General English consists of three levels namely General English I, II, and III with two credits for each. The relationship among those three levels of course is complementary, equal and not stratified. They are not graded from the lower level to the upper level. English I focuses on listening-speaking skill, while English II and III focus on reading and writing skill. The current skills focused is developed from the previous English I design that focuses more on reading, vocabulary and grammar teaching.

The character of the General English course reflects the Islamic values. The course contents include Islamic teaching and values which is same as the character building stated in the lower education. Therefore, the reading texts are about various passages on Islamic studies such as fasting month of Ramadan, pilgrimage, etc. This value should also be included in the redesigned syllabus in this study.

J. English II at *IAIN Walisongo Semarang* and the use of “New Step Up2 : Reading”

The English II or usually called General English II is aimed to provide basic language skills for university students. The course consist of two credits in one semester. The design of the course is

actually aimed to develop students' reading skills that can support their study at the university. The skill is crucial since most of the references are written in English. To facilitate the learning process at Intensive Language Program, the students are accompanied by a handbook namely "New Step Up 2: Reading."

New Step Up 2: Reading is the second book, which particularly emphasizes on reading skills. The book provides various activities that enable students to read as well as to communicate in different kinds of English texts. The book is divided into 14 units, in which each unit consists of activities "Before you read" in which students get questions related to their background knowledge in this section; "A wide variety of texts" in which students get many reading texts from Islamic studies to TOEFL reading texts. In Unit 1 to 10 students get Islamic studies and science texts while in Unit 11 – 14 students get TOEFL reading texts; "After you read" in which in this section, first of all, students get multiple-choice scanning questions, in which they have to get specific information from the text. In the second place, they get some skimming questions, in which they have to get the main idea, topic or subject of the text. In the third place, they get vocabulary building, in which they can get exercises of synonyms, antonyms, vocabulary, crossword puzzle and reference.

CHAPTER III RESEARCH METHOD

A. Research Design

This study will use the quantitative and qualitative approach. It means that this study will try to analyze the text through certain procedures and formula. However, the analysis will be descriptive qualitative. It means that the quantitative data will be described qualitatively. Following are the procedures of the study:

- a. Collecting the texts from Language Development Center of IAIN WALISONGO Semarang;
- b. Analyzing the readability scores of the texts using Flesch's Reading Ease Formula.
- c. Describing the reading ability of the book users. It sources from the document of English Two scores.
- d. Giving questionnaire to the users of the book
- e. Conducting interview with the head of Language Development Center
- f. Analyzing data.
- g. Interpreting the data.

B. Data and Source of Data

There are mainly two data explored in this study. They are quantitative and qualitative data. Quantitative data gotten from the result of the analysis on the readability level of the text and the students' reading final examination scores. The qualitative data are

gotten from the results of the answer of the students through questionnaire and the information dealing with the book are gotten through interview. Both qualitative data and quantitative data are gotten from the Language Development Center.

The quantitative data are taken through the documents provided by the Language Development Center as the institution in charge of the Intensive Language Program (Program Intensif Bahasa) that also published the book. Language Development Center further conducts the evaluation for the programmes. All test items for the final examination are made, set and prepared by the Language Development Center.

The perception about the book which is gotten through questionnaire are done by the users of the book. In this study, the questionnaire is given to the 5th semester students who took *Bahasa Inggris 2* (English 2: Reading) subject on the second semester of 2012/2013 academic year. The questions are mainly about the content, format, utility and style of the book.

The information about the programmes run by the Language Development Center is gotten through interview. Moreover, the policy in running the programmes, the goals of the programmes and the students levelling process are also explored in this study.

C. Data Collecting Method

a. Documents.

The documents explored in this study are from the texts from the “New Step Up 2: Reading” published by Language Development Center (PPB) IAIN Walisongo Semarang 2012 and the students’ reading final examination scores. All data are gotten from the Language Development Center.

b. Questionnaire.

The questionnaire is given to the students to get the data, generally about the book "Step Up 2: Reading" published by Language Development Center (PPB) IAIN Walisongo Semarang 2012 that has been studied by them in English 2: Reading subject conducted by Language Development Center. The questions in the questionnaire divided into 4 (four) aspects dealing with the content, format, utility and style of the book.

The content of the book includes the questions about the familiarity of the topics, the students' prior knowledge, new vocabulary, vocabulary difficulty and the understanding of the text.

The format of the book dealing with the illustration of the book and how it eases students' reading, the font and the layout of the book in affecting students' reading process.

The utility of the book dealing with some activities set in the book. The activity includes pre-reading, whilst-reading, post-reading activities that support the students' understanding of the texts.

The style of the book dealing with the unity between one sentence to another and one paragraph to other paragraphs within each text.

The students are asked to answer 'yes' or 'no' for each question in the questionnaire. To make it easier for the students to answer, the question in the questionnaire is given in Bahasa Indonesia and later will be translated in English.

c. Interview

The interview is conducted with the head of Language Development Center. The information gathered mainly about the programs, the policy of the intensive language program, the goal of

the program, the process of composing the “New Step Up 2: Reading” published by Language Development Center (PPB) IAIN Walisongo Semarang 2012 and the process of students’ levelling. This interview is conducted with the head of Language Development Center, DR. Muhyar Fanani, M.Ag.

D. Instruments of the Research

In collecting the data, the instruments are prepared thoroughly for both qualitative and quantitative data. For quantitative data, some documents are needed. They are ten texts from the “New Step Up 2: Reading” published by Language Development Center (PPB) IAIN Walisongo Semarang 2012 and the students’ reading final examination scores. Final examination for English 2; Reading (Bahasa Inggris 2) subject was conducted by Language development Center. The test items for this final examination was administered with the TOEFL question approach. It means that each type of questions is adapted from the TOEFL questions such as questions of main idea, stated and unstated detail, implied detail, and vocabulary questions.

The questionnaire and interview guide are prepared to get the qualitative data. The number of students who took English 2 class is 781 students. Sugiyono (2010:71) suggests if the number of population is 781 with degree of error 0.05, then the samples are 243 students. Therefore, the questionnaire sheets are distributed only to 243 students as the sample. The questionnaire sheet can be seen in the appendix I.

The interview used in this study is semi guided one. It means a set of questions is prepared as interview guide. However, other questions are possible to gain more information and sharpen the data. The interview guide can be seen in the appendix II.

E. Data Analysis

Below is the explanation on how all the data, both qualitative and quantitative data will be analyzed in this study.

a. Analyzing the data from the documents.

There are two documents in this study, the text are ten the texts from the “New Step Up 2: Reading” published by Language Development Center (PPB) IAIN Walisongo Semarang 2012 and the students’ reading final examination scores.

1. The analyses of text uses the readability formula by Flesh as follows:

1. The Count any single word contractions, hyphenated words, abbreviations, figures, symbols and their combination.
2. Count the syllables in words as they pronounced. Count abbreviations, figures, symbols and their combinations as one-syllable words.
3. Count the sentence each full unit of speech marked off by a period, colon, semicolon, dash, question mark or exclamation point. Disregard paragraph breaks, colons, semi colons, dashes or initial capitals within a sentence.
4. Figure the average number of syllables per word by dividing the numbers of syllables by the number of words.
5. Figure the average number of words per sentence by dividing the number of words by the number of sentences.
6. Find your readability score by using the Flesch’s Reading Ease Formula. The formula is as follow:

$$Re = 206.835 - \{ (AWL \times 84,6) + (ASL \times 1,01) \}$$

NOTE:

AWL : Average number of syllables per word by dividing the number of syllables with the numbers of words;

ASL : Average number of words per sentence by dividing the words with the number of sentences;

Re : Readability scores

7. Consult the results of the analyses to the readability chart below:

Scores	School Level
90 to 100	5 th Grade
80 to 90	6 th Grade
70 to 80	7 th Grade
60 to 70	8 th and 9 th Grade
50 to 60	10 th to 12 th Grade (high school)
30 to 50	college
0 to 30	college graduate

2. The analysis of students' reading final examination scores:

The scores of the students' reading final examination is compiled and then it will be clustered based on certain level.

a. Analyzing of Questionnaire

The students' answer gotten from the questionnaire sheet will be collected. Each 'yes' question is scored 1, while 'no' answer is scored 0 (zero). Then, the results of the answer is analyzed using the formula below:

$$\frac{\sum n}{\sum N} \times 100\%$$

Note: $\sum n$: total answer for each categories

$\sum N$: total respondents

The results of the calculation then will be consulted with criteria described. The criteria for each question on the questionnaire is as follows:

The percentage category as proposed by Arikunto

(1998:246), is as follows:

Table 3: Percentage category

Very Good	76 % - 100 %
Good	56 % - 75 %
Fair	40 % - 55 %
Poor	Less 40 %

CHAPTER IV

FINDINGS AND DISCUSSION

A. Findings

The chapter discuss the findings of the study including the readability level of the book of “New Step Up 2: Reading”, Students’ English 2 final semester scores, interview results, and results of questionnaire sheets.

a. Readability Level

Ten chapters from book of “New Step Up 2: Reading” are analyzed to find out the readability levels of the texts. As stated previously this study only focuses in calculating the readability scores of texts. Based on the data in table 4, the analysis of text 1 describes that the text consists of 403 words of 16 sentences. There are 586 syllables of the overall sentences. After dividing the number of syllables with the number of words, the average number of syllables per word (AWL) is gained 123.01637717. Meanwhile, the words which are divided by the number of sentences result the average number of words per sentence (ASL) with 25, 439375. From those results the readability score is 58. 37924783 that means the text 1 is at the 10th to 12th grade of high school.

Table 4. Detail of text 1 readability analysis.

Word	403
Sentence	16
Syllable	586
AWL	123.01637717
ASL	25.439375
Re	58.37924783
Grade	50 to 60 10 th to 12 th Grade (high school)

The results of text 2 in table 5 show that the text consist of 476 words in 21 sentences. Among those sentences, it can be brokendown into 703 syllables of the overall. The average number of syllables per word (AWL) is 1.4768907563 while the average number of words per sentence (ASL) is 22.666666667. From those results, it is gained readability score of 58.99670869 that refers to 10th to 12th grade (high school) since it is within the range of 50 to 60.

Table 5. Detail of text 2 readability analysis.

Word	476
Sentence	21
Syllable	703
AWL	1.4768907563
ASL	22.666666667
Re	58.99670869
Grade	50 to 60 10 th to 12 th Grade (high school)

The table 6 below shows the results of text 3 readability analysis that consists of 359 words and 15 sentences. Among those sentences, we can break it down into into 684 syllables. Based on the overall words, sentences and syllables of text 3 we can gain the average number of syllables per word (AWL) with 1.9052924791 while the average number of words per sentence (ASL) is 23.9333. From those results, it is gained readability score of 21.47459627 that refers to college graduate grade since it is within the range of 0 to 30.

Table 6. Detail of text 3 readability analysis.

Word	359
Sentence	15
Syllable	684
AWL	1.9052924791
ASL	23.9333

Re	21.47459627
Grade	0 to 30 college graduate

The data in table 7 shows the results of text 4 readability analysis that consist of 391 words and 20 sentences. Among those sentences, we can break it down into into 654 syllables. Based on the overall words, sentences and syllables of text 4 we can gain the average number of syllables per word (AWL) with 1.6726342711 while the average number of words per sentence (ASL) is 19.55. From those results, it is gained readability score of 45.58464066 that refers to college grade since it is within the range of 30 to 50.

Table 7. Detail of text 4 readability analysis.

Word	391
Sentence	20
Syllable	654
AWL	1.6726342711
ASL	19.55
Re	45.58464066
Grade	30 to 50 college

The results of text 5 in table 8 show that the text consists of 389 words in 20 sentences. Among those sentences, it can be brokendown into 722 syllables of the overall. The average number of syllables per word (AWL) is 1.8560411311 while the average number of words per sentence (ASL) is 19.45. From those results, it is gained readability score of 30.16842031 that refers to college grade since it is within the range of 30 to 50.

Table 8. Detail of text 5 readability analysis.

Word	389
Sentence	20
Syllable	722

AWL	1.8560411311
ASL	19,45
Re	30.16842031
Grade	30 to 50 College

The results of text 6 in table 9 show that the text consists of 390 words in 17 sentences. Among those sentences, it can be broken down into 613 syllables of the overall. The average number of syllables per word (AWL) is 1.57 while the average number of words per sentence (ASL) is 22.94. From those results, it is gained readability score of 74.02 that refers to 7th (high school) since it is within the range of 70 to 80.

Table 9. Detail of text 6 readability analysis.

Word	390
Sentence	17
Syllable	613
AWL	1.57
ASL	22.94
Re	74.02
Grade	70 to 80 7 th Grade

The results of text 7 in table 10 show that the text consists of 556 words in 28 sentences. Among those sentences, it can be broken down into 857 syllables of the overall. The average number of syllables per word (AWL) is 1.54 while the average number of words per sentence (ASL) is 19.86. From those results, it is gained readability score of 46.5 that refers to college grade since it is within the range of 30 to 50.

Table 10. Detail of text 7 readability analysis.

Word	556
Sentence	28
Syllable	857
AWL	1.54
ASL	19.86
Re	46.5
Grade	30 to 50 College

The results of text 8 in table 11 show that the text consists of 423 words in 24 sentences. Among those sentences, it can be broken down into 631 syllables of the overall. The average number of syllables per word (AWL) is 1.49 while the average number of words per sentence (ASL) is 19.23. From those results, it is gained readability score of 61.57 that refers to 8th and 9th grade since it is within the range of 30 to 50.

Table 11. Detail of text 8 readability analysis.

Word	423
Sentence	24
Syllable	631
AWL	1.49
ASL	19.23
Re	61.57
Grade	60 to 70 8 th and 9 th Grade

The data in table 12 shows the results of text 9 readability analysis that consist of 417 words and 22 sentences. Among those sentences, we can break it down into into 680 syllables. Based on the overall words, sentences and syllables of text 9 we can gain the average number of syllables per word (AWL) with 1.63 while the average number of words per sentence (ASL) is 18.95. From those results, it is gained readability score of 49.80 that refers to college grade since it is within the range of 30 to 50.

Table 12. Detail of text 9 readability analysis.

Word	417
Sentence	22
Syllable	680
AWL	1.63
ASL	18.95
Re	49.80
Grade	30 to 50 College

The data in table 13 shows the results of text 10 readability analysis that consist of 423 words and 19 sentences. Among those sentences, we can break it down into into 694 syllables. Based on the overall words, sentences and syllables of text 10 we can gain the average number of syllables per word (AWL) with 1.64 while the average number of words per sentence (ASL) is 22.26. From those results, it is gained readability score of 45.62 that refers to college grade since it is within the range of 30 to 50.

Table 13. Detail of text 10 readability analysis.

Word	423
Sentence	19
Syllable	694
AWL	1.64
ASL	22.26
Re	45.62
Grade	30 to 50 College

b. Students English 2 Final test score

The book of “New Step Up2: Reading” is used by students in two faculties, namely Ushuluddin and Tarbiyah faculties. After the

book is used, the results of students English 2 final test score are described in the following table.

Table 14: Students English 2 Final test score

Score	Number of Students	Percentage
80-100	354 Ss	45.33 %
70-79	158 Ss	20.23 %
60-69	143 Ss	18.31 %
50-59	64 Ss	8.19 %
≤ 50	62 Ss	7.94 %

The table 14 above shows that of 781 students from two faculties who take the final test, there are 354 students or 45.33 % who get score in the scale of 80-100. There 158 students or 20.23 % who get score in the scale of 70-79. 143 students or 18.31% get score in the scale of 60-69. There are 64 students or 8.19% who get score within the scale of 50-59. And there are 62 students or 7.94 % who get the score below 50.

c. Interview

The interview is conducted to gain data on the book “New Step Up2: Reading”. The interview is conducted with the head of Language Development Center. The information gathered mainly about the programmes, the policy of the intensive language program, the goal of the program, the process of composing the “New Step Up 2: Reading” published by Language Development Center (PPB) IAIN Walisongo Semarang 2012 and the process of students’ levelling. This interview is conducted with the head of Language Development Center, DR. Muhyar Fanani, M.Ag.

The book of “New Step Up 2: Reading” is composed to facilitate English learning. The goals of English 2 are the same as English 1 and 3, since they are under the program of Intensive Language Program. The program states that English 1 focuses on listening and speaking skills, the English 2 focuses on reading skill, and the English 3 focuses on writing skill. The program aims to develop students’ English competence in speaking, listening, reading and writing. All of those skills are needed for communication. Consequently, with the four language skills students will be able to communicate in written and spoken forms. However, the program does not only provide the students with basic language skill but also bridge the students to the TOEFL.

Since the English 2 focuses on reading skill, it necessary to provide students with the handbook to facilitate teaching and learning. The book is used in all faculties in IAIN Walisongo namely Dakwah and Communication faculty, Education and Teacher Training Faculty, Sharia Faculty, Economic and Islamic Business Faculty and Ushuluddin (theology) faculty. Considering the users’ different major, the book of “New Step Up 2: Reading” consists of Islamic topics and other various topics that represent students’ field of study. In addition, the book is not designed in the form of English for specific purposes one. Yet, the book is designed to develop vocabulary and reading skills that can be applied in any reading materials. It is believed that when students have good reading skills, they will be able to read any passages of reading. To bridge students for TOEFL, the questions and exercises in the book are adapted from the TOEFL questions approach. In

addition, two chapters are also included in the book with the real examples of TOEFL questions and exercises.

d. Questionnaire

In this study, 243 students are taken as the samples. The students are the fifth semester students who took English 2 in their third semester. They are asked some questions related the book of “New Step Up 2: Reading”. The items of question are presented in the following table:

Table 15: Questionnaire results on book “New Step Up2: Reading”

No	Questions	Yes		No		Category
		Number	Percentage	Number	Percentage	
Content						
1	Are you familiar with the topics of book “New Step Up 2: Reading”?	167	68.7%	76	31.3 %	
2	Does your background knowledge on certain topics help you to understand the passages in the book of “New Step Up 2: Reading”?	202	83.1 %	41	16.9 %	
3	Is there any topics in the book of “New Step Up 2: Reading” that you do not know before?	180	74.1 %	63	25.9 %	
4	Do you find any new vocabulary in the passages of the book? If yes, in what scale is it?	238	97.9 %	5	2.1 %	
	a. 1-10 words	65	27.3 %			
	b. 11-20 words	105	43.2 %			
	c. 21-30 words	68	28.4 %			

5	Do you find any difficult words in the passage of the book? If yes, in what scale do you find them?	239	98.4 %	4	1.6 %	
	a. 1-10 words	68	28.5 %			
	b. 11-20 words	78	32.6 %			
	c. 21-30 words	93	38.9 %			
6	Are the difficult vocabularies you find influence your understanding to comprehend the passage?	206	84.8 %	37	15.2 %	
FORMAT						
7	Does the book of “New Step Up 2: Reading” has an interesting illustration?	114	42.8 %	129	53.1 %	
8	Does the illustration of “New Step Up 2: Reading” help you to understand the passage?	137	56.4%	106	43.6 %	
9	Do the size, type, and density of the book font help you to read and understand the passage?	199	81.9 %	44	18.1 %	
10	Does the lay-out of book “New Step Up 2: Reading” help you to read and understand the passage?	182	74.9 %	61	25.1 %	
UTILITY						
11	Do the activities (Pre , Whilst, after reading) of the “New Step Up 2: Reading” book help you to understand more the passage?	190	78.2 %	53	21.8 %	
STYLE						
12	Are the paragraphs in every topic of the book of “New Step Up 2: Reading” cohesive?	146	60.1 %	97	39.9 %	

Based on the data above, the interview questions are categorized into four areas namely content, format, utility, and style of the book. There are six question asking the content of the book. The results show that of the 243 students, there are 167 students or 68.7 % are familiar with the topics in “New Step Up 2: Reading” and 76 students or 31.3 % are not familiar. In term of students background knowledge, there are 202 students or 83.1% say that their background knowledge on the topics help them to understand the passage in the book. In addition to their familiarity to the topics, most students also find topics that they do not know before as stated by 180 students or 74.1% and there are only 63 or 25.9 % students who said that they know all the topics in the book before.

Vocabulary is crucial to understand the passage and to know the readability of a book. It seems that almost all students finds new vocabularies from the book as stated by 238 students or 97.9 % of the students or there are only 5 students who do not find any new vocabulary. From 238 students who find new vocabulary, there are 65 students or 27.3% who find new vocabularies in the scale of 1-10 words; there are 105 or 43.2% students who find new vocabularies in the scale of 11-20 words; and 68 students or 28.4% of students find new vocabulary in the scale of 21-30 words.

In terms of difficult vocabularies, there are 239 or 98.4% of the students who find difficult words. Of 239 students, there are 68 students or 28.5% who find difficult words in the scale of 1-10 words; 78 students or 32.6 % find difficult words in the scale of 11-20 words; and 93 students or 38.9 % find difficult words in the scale of 21-30 %. It is obvious that vocabulary plays significant role in reading comprehension. It is supported by the data that say 206 students or

84.8% consider the difficult vocabularies they found influence their comprehension toward the passage of the book. There are only 37 or 15.2 % of the students who argue that the difficult vocabularies do not influence their understanding.

In the book format category, students are asked about book's illustration, font, appearance, and lay-out. There are only 114 students or 42.8% who have opinion that the book has interesting illustration. More students or 129 or 53.1% of the students argue that the book's illustration is uninteresting. This is because most of students consider that the interesting illustration can help them to comprehend the passage. Such argument is stated by 137 students or 56.4 % while 106 or 43.6 % argue that it does not help the comprehension.

In addition to illustration, font size, type, density and lay-out are also crucial to measure readability of a book. There are 199 or 81.9% students who argue that the size, type, and density of the book font help them to understand the passage. While 182 or 74.9 % students argue that the lay out of the book help the reading comprehension or there are only 61 or 25.1 % who argue that it does not help to comprehend the passage.

How the book can be used is also important to identify. In terms of book utility, there are 190 students or 78.2 % who say that the activities in the book including pre, while, and after reading, are important to understand more the passage in the book. Only 53 or 21.8 % who believe that the activities in the book do not help them to understand the passage.

In terms of the book style, students also have different opinions. There are 146 or 60.1 % of the students who say that the

paragraphs of the passage in every topic are cohesive and coherence. Meanwhile, there are 97 or 39.9 % of the students who say that the paragraphs are not cohesive.

B. Discussion

Readability level

So far, it has been described the detail of readability analysis of the ten texts of “New Step Up 2: Reading”. The results of readability analysis show that the texts’ grades are varied as concluded in table 11. There are four texts that are match for high school levels, one text is match for college graduate level, and five texts is matched for college level.

Table 16. The grade of each text in “New Step Up 2: Reading”.

Text	Grade
Text 1	10 th to 12 th Grade (high school)
Text 2	10 th to 12 th Grade (high school)
Text 3	college graduate
Text 4	College
Text 5	College
Text 6	7 th Grade
Text 7	College
Text 8	8 th and 9 th Grade
Text 9	College
Text 10	College

Since fifty (50) percent of the texts are are intended to students at college level, it means that the texts are actually in the right level. On the other hand, the other four texts can be used as a bridge from high school to college level. Those texts can also be used as warm-up for both reading and vocabulary building activities. While another text that is at college graduate level can be used as challenge for students to develop their reading skill.

College level is the level that the institution wants to achieve because the students will be assessed with TOEFL (Test Of English as a Foreign Language) by the end of learning. The TOEFL test is considered appropriate at the level of college. Therefore, the students should be adjusted with the texts and the level intended.

Adjusting students with both level and texts are needed to to gain the institution objectives. Some efforts can be made then such as providing student with the appropriate learning strategies and techniques as well as motivating them. Then, evaluation and assessment can be administered to evaluate the teaching-learning process. Here, this is the aim of identifying readability level of the texts.

The students score

It has been clearly identified the readability level of the texts in the book of “New Step Up2: Reading”. It is necessary then to find out the students reading ability as reflected in their English 2 final examination. It is previously stated that the students reading ability is influenced by some factors. One of them is the readability level of the texts. Therefore, the results of students final test can be used to map the students reading ability. This is because the students have used the book of New Step Up 2: Reading and the final test questions are taken from the book. In addition, the questions of the final test are adapted from the TOEFL questions. It is because TOEFL is acknowledged as an trusted instrument to measure English ability and proficiency one of the proficiency is reading ability.

The criterion is debatable one as the results of final test cannot be used as the only variable to determine students reading ability. There are actually several factors affecting the results of the final test such as

teaching strategy used and students' motivation. However, it is also significant to consider the results of final test to find out students reading ability. At least, this can be used as preliminary step before further detail analysis is taken.

From the data, it is clear that there 512 students or 65.56% who get score more than 70. The score 70 is considered at Good level since the score is converted into B. However, it is also obvious that there are 143 students or 18.31% who are in the average level as their scores are in the scale of 60-69. There are only 126 students or 16.13 % who get below 60. This level needs more enrichment and effort to develop students reading ability.

The Questionnaire

The readability level of the texts in the book of “New Step Up2: Reading” is affected by several factors. These factors affect the students significantly in comprehending the texts. The factors are students familiarity with the topics of the texts including background knowledge, and difficult vocabulary faced by the students. These are the major factors influencing the comprehension beside other factors such as illustration, lay out, and font. However, it is also interesting to note that there are 37 students or 15.2% who state that the difficult vocabulary found does not influence them to comprehend the texts. Some of them say so because they know how to read effectively and some say that the lecturer can facilitate them with effective learning strategies or technique. This is something important to consider in order to foster students comprehension so that readability, students level, and learning strategy can work together to create a synergy in teaching and learning reading. Consequently, students who find more difficult

vocabularies will not open the dictionary too often as it can affect the learning process and comprehension.

CHAPTER V

CONCLUSION AND RECOMENDATION

A. Conclusion

The results of the study have been explained in detail in the previous chapter. The conclusion of the study can be drawn as follow:

1. The results of readability analysis show that the texts' grades are varied. There are four texts that are match for high school levels, one text is match for college graduate level, and five texts is matched for college level. Since fifty (50) percent of the texts are are intended to students at college level, it means that the texts are actually in the right level. On the other hand, the other four texts can be used as a bridge from high school to college level. Those texts can also be used as warm-up for both reading and vocabulary building activities. While another text that is at college graduate level can be used as challenge for students to develop their reading skill.
2. Based on several considerations, the students final test is to find out students reading ability. From the data obtained, it is clear that there are 512 students or 65.56% who get score more than 70. The score 70 is considered at Good level since the score is conversed into B. However, it is also obvious that there are 143 students or 18.31% who are in the average level as their scores are in the scale of 60-69. There are only 126 students or 16.13 % who get below 60. This level needs more enrichment and effort to develop students reading ability. In addition, there are several factors affecting students' comprehension. The factors are students familiarity with the topics of the texts including background knowledge, and difficult vocabulary faced by the students. These are the major

factors influencing the comprehension beside other factors such as illustration, lay out, and font.

B. Recommendation

Based on the result of the study, I offer some recommendations to be considered. The recommendations are intended to lecturers, Language Development Center, and IAIN Walisongo Semarang.

1. Readability level should be provided to make sure the appropriateness of the texts level as the sources for teaching learning process.
2. There are many factors affecting students' reading ability such as readability level of texts, students' motivation, and teaching-learning strategies. Those factors should be given serious attention. All the people in charge of the process of teaching learning process and the policy makers should be aware of the problems and provide thorough and carefull solution for the problems. Some problems arising during the teaching learning of Intensive language program are as follows:
 - a. Workshop on foreign langugae teaching skill development must be held intensively due to the limit number of lecturers with language teaching background.
 - b. Researches to explore approaches, methods, techniques and media that support the teaching learning especially teaching reading are badly needed. This is crucial to provide interesting, effective, and efficient teaching reading. Therefore, the institution can support by giving the responsibility to Language Development Center to manage language researches. The follow-up should be realized so that the researches focused on

language will be more effective. The results of those researches are expected to evaluate the Language Intensive Program to provide future improvement and development.

3. The Test Of English as a Foreign Language (TOEFL) should be used as selection tool for students' admission. Selecting new students by considering good language competence will also provide better and competitive alumni quality.
4. Reading must be made as habit. It is necessary to provide reading time and structured reading program. This can be initiated by several actions. One of them is that the lecturer should ask the students to read literatures in English. This will give more benefits as well as establish students reading habit.

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