

# How to Paraphrase Reading Materials for Successful EFL Reading Comprehension

Naoya HASE

## I . Introduction

The Grammar Translation Method is still a prevalent method of reading instruction in the English as a foreign language (EFL) context in Japan. This method, while serving the purpose of getting readers to comprehend the meaning of English text, has two crucial drawbacks. First, it creates readers who are heavily dependent on their first language (L1) translation in the process of reading. Readers need to, or they feel they need to translate English text into their L1 in order to comprehend its meaning, and this behavior or attitude will likely to continue for an extended period of time. The habit of reading English text through L1 translation makes it very difficult to create 'linguistically independent' readers who can function in the target language alone. Second, translation is a highly conscious cognitive process and depending too much on it is expected to keep the lower-level processing of reading from becoming unconscious and automatic. Automatic lower-level processing will simply not come natural to readers as long as they read English text through Japanese translation.

One way to get rid of this heavy dependence on L1 in the process of reading is for the teacher to paraphrase or rephrase text in easier English and present it to the readers along with the original text. Through the paraphrased version of the original text, not only can the intervention of L1 translation be avoided because the text (paraphrased version) is now more comprehensible to the readers in terms of the language difficulty, but readers are also provided with more chances to process English text in an automatized manner instead of through highly conscious translation process, which again becomes possible through the paraphrased version of the original text.

The effectiveness of paraphrasing as a means of reading instruction was empirically demonstrated by Hase (2000). It was shown that readers became more independent of L1 translation in the process of reading comprehension and that they felt that paraphrasing was helpful as or more helpful than L1 translation in the process of reading. It was also shown that reading instruction with the use of paraphrasing can be expected to promote reading ability to the same extent that L1 translation can, if not more (Hase, 2001). The effectiveness of this method has also been theoretically explained and the rationale behind it has been provided by Hase (2004), who attempted to show the effectiveness of the paraphrasing method in terms of the increase of comprehensible input and the trade-off between lower-level language processing and higher-level cognitive processing.

The importance of lower-level processing and L2 proficiency has been voiced by many researchers including Alderson (1984, 2000). He claims that L2 reading is not so much a reading problem as a language problem, and that there exists a linguistic threshold that must be crossed before L1 reading ability can transfer to L2 reading context. Minowa (2007) says fast sentence processing is related to better reading comprehension, indicating the importance of the role that language difficulty plays in the process of reading comprehension. The speed of sentence processing is subject to the language difficulty. Paraphrasing means lowering the language difficulty and by so doing helping readers with lower-level sentence processing during reading. Paraphrasing is also expected to improve readers' L2 proficiency because it deals with the linguistic aspect of reading rather than the cognitive aspect of it.

Now, how to paraphrase reading materials becomes the issue. Needless to say, paraphrasing should be done in such a way that helps readers who are struggling with reading materials in terms of language difficulty rather than its contents. Therefore, in thinking about how to paraphrase, it needs to be made clear where the difficulty lies for the readers, whether it is language itself or whether it is coming from some other sources. How to paraphrase also depends on which L1 background readers are coming from and how distant English is from their L1. In this sense, the linguistic differences between English and readers' L1 need to be looked at.

In the following study, some effective ways to paraphrase reading materials will be introduced and examined along with empirical data to support the argument.

## II. The Study

### 1. Purpose of the Study

The purpose of the present study is to find out what are the best ways to paraphrase English sentences to make them more comprehensible to Japanese EFL readers.

### 2. Participants

One hundred and eleven freshmen of a private university participated in this study. They were all science majors.

### 3. Materials

First, 12 English sentences, which are called 'sample sentences' in the present study, were prepared. Then a total of 33 paraphrased versions of those sample sentences were created. There were two different categories of paraphrasing. One was a 'word-level paraphrase' in which easier words were substituted for difficult ones. The other was a 'syntax/sentence-level paraphrase' in which structural modifications, not just words, were made to lower the language difficulty. For each of the sample sentences one word-level paraphrase was created. So there were 12 of them. The number of the syntax/sentence-level

paraphrases created for each sample sentence depended on the complexity of the original sample sentences. The number ranged from one to four, with the average being 1.75. The syntax/sentence-level paraphrases totaled 21. For details, please see the appendix.

#### 4. Procedure for Data Collection and Analysis

According to the difficulty they felt about both the sample sentences and their paraphrased counterparts, the participants were asked to rate all the sentences on a 5-point likert scale. The rating scores were statistically processed with SPSS 16.0J using the data analysis technique of Wilcoxon to find out to what extent the participants found each sentence comprehensible.

Also, two readability formulas, Flesch Reading Ease and Flesch-Kincaid Grade Level, were used to calculate the readability of each sentence.

### III. Results

Although there were originally 12 sample sentences, two of them turned out to be too easy and therefore inappropriate for the study. So, in order to avoid the ceiling effect, those two sentences and their paraphrased versions were eliminated from the data analysis. The two eliminated sample sentences were 2-1 and 3-1. Their rating scores measured 4.35 and 4.39 respectively on the 5-point likert scale.

So there were now 10 sample sentences and their paraphrased counterparts. As was mentioned earlier, one word-level paraphrase was created for each of them, so there were 10 word-level paraphrases in total. Syntax/sentence-level paraphrases for the 10 sample sentences totaled 18.

#### (1) Word-level paraphrases

Out of 10 word-level paraphrases, the participants found nine to be significantly easier than the original sample sentences ( $p < .01$ ). The only exception was sentence 9-2, which was perceived to be slightly easier than 9-1 but not at the significant level. Below is the only exceptional pair in which the participants found no significant difficulty difference. The underlines are added by the author to indicate the replaced words. For all the other pairs, refer to the appendix.

**9-1. The composition of the atmosphere determines the nature of the scattering of sunlight.**

9-2. The makeup of the atmosphere decides the character of the scattering of sunlight.

With the exception of the above, the participants found all the other word-level paraphrases significantly easier than the original sample sentences.

(2) Syntax/sentence-level paraphrases

Five out of 18 syntax/sentence-level paraphrases turned out to be significantly easier for the participants ( $p < .01$ ). Below are the five pairs of sentences. In each pair the participants found the bottom sentence significantly easier to comprehend than the top one. Again, the underlines are added to indicate the paraphrased parts. The figures in the parentheses represent the readability data calculated with Flesch Reading Ease (FRE) and Flesch-Kincaid Grade Level (FKGL).

4-2. This structure has unusual characteristics which are of great biological interest.  
(FRE = 11.0, FKGL = 12.0)

4-3. This structure has unusual characteristics which are biologically very interesting.  
(FRE = somehow unable to calculate, FKGL = 12.0)

7-5. It seems that the atmosphere is important in deciding the color of our Sun and the sky.  
(FRE = 70.1, FKGL = 7.6)

7-6. It seems that the atmosphere decides the color of our Sun and the sky.  
(FRE = 83.8, FKGL = 5.0)

8-2. These colors cannot be separated and recognized with the naked eyes but can be with a scientific tool called a spectroscope. (FRE = 52.5, FKGL = 11.1)

8-3. These colors cannot be separated and recognized with the naked eyes, but they can be separated and recognized with a scientific tool called a spectroscope.  
(FRE = 39.3, FKGL = 12.0)

9-2. The makeup of the atmosphere decides the character of the scattering of sunlight.  
(FRE = 50.4, FKGL = 9.4)

9-3. The makeup of the atmosphere decides how the sunlight is scattered.  
(FRE = 64.9, FKGL = 6.9)

10-2. They took as their guide the method of Linus Pauling for discovering the  $\alpha$ -helix structure of proteins.  
(FRE = 60.1, FKGL = 9.0)

10-3. As their guide, they took the method of Linus Pauling for discovering the  $\alpha$ -helix structure of proteins.  
(FRE = 60.1, FKGL = 9.0)

Six out of 18 syntax/sentence-level paraphrases turned out to be more comprehensible to the participants but not at the statistically significant level. Below are the six pairs of those sentences. The rating scores indicated that the bottom sentence in each pair was easier to comprehend than the top one, but the difference was not statistically significant. The underlines are added by the author in order to indicate the paraphrased parts. The figures in the parentheses represent the readability data calculated with FRE and FKGL.

5-2. None of these books say that an event of lucky accident including a chemist was a key to the discovery that led to their Nobel Prize.

(FRE=60.0, FKGL=11.3)

5-3. None of these books say that an event of lucky accident which included a chemist was a key to the discovery that led to their Nobel Prize.

(FRE=60.3, FKGL=11.5)

7-3. The atmosphere seems to be important in the coloring of our Sun and the sky.

(FRE=73.1, FKGL=6.7)

7-4. It seems that the atmosphere is important in the coloring of our Sun and the sky.

(FRE=65.1, FKGL=8.3)

8-3. These colors cannot be separated and recognized with the naked eyes, but they can be separated and recognized with a scientific tool called a spectroscope.

(FRE=39.3, FKGL=12.0)

8-4. These colors cannot be separated and recognized with the naked eyes, but they can be separated and recognized if we use a scientific tool called a spectroscope.

(FRE=41.5, FKGL=12.0)

8-4. These colors cannot be separated and recognized with the naked eyes, but they can be separated and recognized if we use a scientific tool called a spectroscope.

(FRE=41.5, FKGL=12.0)

8-5. We cannot separate and recognize these colors with the naked eyes, but we can separate and recognize them if we use a scientific tool called a spectroscope.

(FRE=47.8, FKGL=12.0)

11-2. Watson knew that a hydrogen atom in charge of making a bond can be in more than one place in the molecule of the base.

(FRE=73.1, FKGL=9.2)

11-3. Watson knew that hydrogen atom which is in charge of making a bond can be in more than one place in the molecule of the base.

(FRE=73.0, FKGL=9.5)

12-2. They planned to combine the pieces of the model in such a way as to match the sizes obtained from X-ray pictures of DNA crystals.

(FRE=76.5, FKGL=8.7)

12-3. They planned to combine the pieces of the model so that they would match the sizes which were obtained from X-ray pictures of DNA crystals.

(FRE=76.5, FKGL=8.7)

#### IV. Discussion

As for the word-level paraphrases, as has been revealed by the results, nine out of 10 sentences were made more comprehensible simply by replacing difficult words with easier ones. Vocabulary does make a difference in terms of making English sentences more comprehensible to readers.

As for the syntax/sentence-level paraphrases, we have found out that some ways of paraphrasing are more effective than others in making English sentences more comprehensible to readers. Naturally, using simpler sentence structures helps as is shown by the examples of 4-3, 7-6, and 9-3. In 4-3, a prepositional phrase 'of interest' is replaced by a single adjective 'interesting,' for example. Replacing omitted words can also make sentences easier to understand although this process typically makes sentences longer. The example of this is 8-3, in which the omitted subject and the two verbs are replaced. Changing word order in order to make main elements of a sentence stand out also seems to help readers comprehend sentences with ease. An example of this is 10-3. In this sentence, 'as their guide' is placed at the beginning of the sentence instead of in the middle of it, enabling readers to identify the object of the verb 'took' more easily. Creating a relative clause also promotes readers' comprehension. In the example 5-3, a prepositional phrase 'including a chemist' is replaced by a relative clause 'which included a chemist.' Sentence 11-3 is another example in which a relative clause is created. Rewriting sentences to make them complex ones also sometimes seems to help readers. Sentence 7-4, while it is a complex sentence, has proven easier for the participants, probably because it is easier to identify the subject of the adjective 'important.' Sentence 8-4 is another example which shows that a complex sentence does not seem to hinder readers' comprehension. In sentence 8-3, the prepositional phrase 'with a scientific tool' is used. The meaning of a prepositional phrase or how it semantically modifies the main sentence may sometimes be difficult. On the other hand, in sentence 8-4, the meaning of if-clause is clear. Sentence 12-3 is another example to show that complexity does not always lead to difficulty. Active voice appears easier than passive voice as exemplified by sentence 8-5.

Another thing that deserves our attention is the fact that readability formula scores do not always represent the difficulty that Japanese EFL readers experience in reading English. The readability scores for each sentence calculated with two formulas, Flesch Reading Ease and Flesch-Kincaid Grade Level, are provided in the parentheses. The italicized scores indicate that the second sentence in each pair was either as difficult as or more difficult than the first sentence in spite of the fact that the participants actually felt the second sentences were easier. It has been revealed that 11 paraphrased sentences have proven more comprehensible to the participating readers despite the fact that their readability formula scores indicate the opposite. As is known, the readability formulas measure the readability level of sentences based on the number of syllables, that is, the length of words

and the number of words in a sentence, that is, the length of sentences. It does not take into consideration the complexity of grammar items used or sentence structures, both of which can pose great difficulty to Japanese EFL readers.

## V. Concluding remarks

Although paraphrasing is a method of reading instruction originally devised by the author as a countermeasure against the Grammar Translation Method, it is well expected to go far beyond that. It not only allows readers to comprehend English without depending on their L1 but it is expected to greatly help automatize the lower-level language processing as well, which is the skill of critical importance to EFL readers including Japanese students.

In this paper, several different ways to paraphrase English text have been discussed along with some empirical evidence to support the argument. It has been found that both word-level and syntax/sentence-level paraphrases can be effective in terms of lowering the language difficulty for the readers. It has also been found that the popular readability formulas do not always represent the difficulty that Japanese EFL readers experience when reading English.

This paper is based on the presentation given at AILA 2008—the 15th World Congress on Applied Linguistics held in Essen, Germany in the summer of 2008.

## VI. References

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## Appendix

\*Sentences written in bold letters are the sample sentences. And the second sentence in each group is the word-level paraphrases. All the others are syntax/sentence-level paraphrases.

**1-1. Few nonscientists know the significance of the substance bearing this difficult name.**

**1 - 2 - 3 - 4 - 5**

わかりにくい          わかりやすい

1-2. Few nonscientists know the importance of the material carrying this difficult name.

1 - 2 - 3 - 4 - 5

わかりにくい          わかりやすい

1-3. There are few nonscientists who know the importance of the material which carries this difficult name.

1 - 2 - 3 - 4 - 5

わかりにくい          わかりやすい

**2-1. Her life seems to be filled with interesting events.**

**1 - 2 - 3 - 4 - 5**

わかりにくい          わかりやすい

2-2. Her life seems to be full of interesting events.

1 - 2 - 3 - 4 - 5

わかりにくい          わかりやすい

2-3. It seems that her life is full of interesting events.

1 - 2 - 3 - 4 - 5

わかりにくい          わかりやすい

**3-1. There is a strong connection between rainforests and medicine.**

**1 - 2 - 3 - 4 - 5**

わかりにくい          わかりやすい

3-2. There is a strong relationship between rainforests and medicine.

1 - 2 - 3 - 4 - 5

わかりにくい          わかりやすい

3-3. Rainforests are strongly connected with medicine.

1 - 2 - 3 - 4 - 5

わかりにくい          わかりやすい

3-4. Rainforests are strongly related to medicine.

1 - 2 - 3 - 4 - 5

わかりにくい          わかりやすい

**4-1. This structure has novel features which are of considerable biological interest.**

**1 - 2 - 3 - 4 - 5**

わかりにくい          わかりやすい



4-2. This structure has unusual characteristics which are of great biological interest.

1 - 2 - 3 - 4 - 5

わかりにくい          わかりやすい

4-3. This structure has unusual characteristics which are biologically very interesting.

1 - 2 - 3 - 4 - 5

わかりにくい          わかりやすい

4-4. This structure has unusual and biologically very interesting characteristics.

1 - 2 - 3 - 4 - 5

わかりにくい          わかりやすい

**5-1. None of these books mention that an event of serendipity involving a chemist was a key to the breakthrough that led to their Nobel Prize.**

1 - 2 - 3 - 4 - 5

わかりにくい          わかりやすい

5-2. None of these books say that an event of lucky accident including a chemist was a key to the discovery that led to their Nobel Prize.

1 - 2 - 3 - 4 - 5

わかりにくい          わかりやすい

5-3. None of these books say that an event of lucky accident which included a chemist was a key to the discovery that led to their Nobel Prize.

1 - 2 - 3 - 4 - 5

わかりにくい          わかりやすい

5-4. It is not written in any of these books that an event of lucky accident which included a chemist was a key to the discovery that led to their Nobel Prize.

1 - 2 - 3 - 4 - 5

わかりにくい          わかりやすい

**6-1. Pauling received the Nobel Prize in 1954 for his work, and Watson and Crick could see this coming even in 1952.**

1 - 2 - 3 - 4 - 5

わかりにくい          わかりやすい

6-2. Pauling received the Nobel Prize in 1954 for his work, and Watson and Crick could predict this even in 1952.

1 - 2 - 3 - 4 - 5

わかりにくい          わかりやすい

6-3. Pauling received the Nobel Prize in 1954 for his work, and Watson and Crick could predict that Pauling would receive the Nobel Prize even in 1952.

1 - 2 - 3 - 4 - 5

わかりにくい          わかりやすい

**7-1. The atmosphere seems to plays a major role in the coloring of our Sun and the sky.**

1 - 2 - 3 - 4 - 5

わかりにくい          わかりやすい

7-2. The atmosphere seems to play an important role in the coloring of our Sun and the sky.

1 - 2 - 3 - 4 - 5  
 わかりにくい      わかりやすい

7-3. The atmosphere seems to be important in the coloring of our Sun and the sky.

1 - 2 - 3 - 4 - 5  
 わかりにくい      わかりやすい

7-4. It seems that the atmosphere is important in the coloring of our Sun and the sky.

1 - 2 - 3 - 4 - 5  
 わかりにくい      わかりやすい

7-5. It seems that the atmosphere is important in deciding the color of our Sun and the sky.

1 - 2 - 3 - 4 - 5  
 わかりにくい      わかりやすい

7-6. It seems that the atmosphere decides the color of our Sun and the sky.

1 - 2 - 3 - 4 - 5  
 わかりにくい      わかりやすい

**8-1. These colors cannot be separated and identified with the unaided eyes but can be with a scientific instrument known as a spectroscope.**

**1 - 2 - 3 - 4 - 5**  
 わかりにくい      わかりやすい

8-2. These colors cannot be separated and recognized with the naked eyes but can be with a scientific tool called a spectroscope.

1 - 2 - 3 - 4 - 5  
 わかりにくい      わかりやすい

8-3. These colors cannot be separated and recognized with the naked eyes, but they can be separated and recognized with a scientific tool called a spectroscope.

1 - 2 - 3 - 4 - 5  
 わかりにくい      わかりやすい

8-4. These colors cannot be separated and recognized with the naked eyes, but they can be separated and recognized if we use a scientific tool called a spectroscope.

1 - 2 - 3 - 4 - 5  
 わかりにくい      わかりやすい

8-5. We cannot separate and recognize these colors with the naked eyes, but we can separate and recognize them if we use a scientific tool called a spectroscope.

1 - 2 - 3 - 4 - 5  
 わかりにくい      わかりやすい

**9-1. The composition of the atmosphere determines the nature of the scattering of sunlight.**

**1 - 2 - 3 - 4 - 5**  
 わかりにくい      わかりやすい

9-2. The makeup of the atmosphere decides the character of the scattering of sunlight.

1 - 2 - 3 - 4 - 5  
 わかりにくい      わかりやすい

9-3. The makeup of the atmosphere decides how the sunlight is scattered.

1 - 2 - 3 - 4 - 5

わかりにくい                      わかりやすい

**10-1. They took as their guide the approach of Linus Pauling to discovering the  $\alpha$ -helix structure of proteins.**

1 - 2 - 3 - 4 - 5

わかりにくい                      わかりやすい

10-2. They took as their guide the method of Linus Pauling for discovering the  $\alpha$ -helix structure of proteins.

1 - 2 - 3 - 4 - 5

わかりにくい                      わかりやすい

10-3. As their guide, they took the method of Linus Pauling for discovering the  $\alpha$ -helix structure of proteins.

1 - 2 - 3 - 4 - 5

わかりにくい                      わかりやすい

10-4. As their guide, they took the method that Linus Pauling took when he discovered the  $\alpha$ -helix structure of proteins.

1 - 2 - 3 - 4 - 5

わかりにくい                      わかりやすい

**11-1. Watson knew that a hydrogen atom responsible for making a bond can be in more than one position in the molecule of the base.**

1 - 2 - 3 - 4 - 5

わかりにくい                      わかりやすい

11-2. Watson knew that a hydrogen atom in charge of making a bond can be in more than one place in the molecule of the base.

1 - 2 - 3 - 4 - 5

わかりにくい                      わかりやすい

11-3. Watson knew that hydrogen atom which is in charge of making a bond can be in more than one place in the molecule of the base.

1 - 2 - 3 - 4 - 5

わかりにくい                      わかりやすい

**12-1. They planned to put the pieces of the model together in such a way as to satisfy the measurements obtained from X-ray pictures of DNA crystals.**

1 - 2 - 3 - 4 - 5

わかりにくい                      わかりやすい

12-2. They planned to combine the pieces of the model in such a way as to match the sizes obtained from X-ray pictures of DNA crystals.

1 - 2 - 3 - 4 - 5

わかりにくい                      わかりやすい

12-3. They planned to combine the pieces of the model so that they would match the sizes which were obtained from X-ray pictures of DNA crystals.

1 - 2 - 3 - 4 - 5

わかりにくい                      わかりやすい

# How to Paraphrase Reading Materials for Successful EFL Reading Comprehension

Naoya HASE

Automatized lower-level processing is the key to successful reading comprehension in an EFL context and one way to accomplish this is to help readers become able to comprehend reading materials without the help of L1 and to provide them with sufficient comprehensible input. Paraphrasing or rephrasing reading materials in plain English can do this. Through paraphrasing, reading materials can be made more comprehensible, making it possible for readers to comprehend them without depending on L1 translation. In this paper, some effective ways to paraphrase reading materials are discussed.