

**TRANSLATION STRATEGIES OF ECOLOGICAL WORDS IN THE BILINGUAL BIOLOGY TEXT  
BOOK FOR SENIOR HIGH SCHOOL GRADE X BY NUNUNG NURHAYATI**

***Nawang Sukma Ayunanda, Raden Arief Nugroho***  
*Dian Nuswantoro University*

**ABSTRACT**

*This thesis is entitled Translation Strategies of Ecological Word in the Bilingual Biology Text Book for Senior High School Grade X by Nunung Nurhayati. This study is directed to describe translation strategies in Bilingual Biology Text Book for Senior High School Grade X by Nunung Nurhayati.*

*The researcher used a descriptive qualitative method during the research since the data engaged are displayed in the form of string of words. Based on the data, the researcher found 100 words which were identified into seven translation strategies. They can be stated as: The highest number is translation using a loan word or loan word plus explanation with 40 words or 40%. It happened because the data is Biology book and mostly the translator uses the specific terms which are in latin word. In addition, she also uses the other language such as the SL and Javanese to explain the ecological word. The second domination is translation with illustration with 22 words or 22%. Moreover, the third domination is translation by cultural substitution with 18 words or 18%. The fourth domination is using more general word with 9 words or 9%. The fifth domination is translation by paraphrase using related words with 8 words or 8%. The sixth domination is translation by omission with 2 words or 2%. The seventh domination is translation by omission. The last is translation by paraphrase using unrelated words with 1 word or 1%. It is done because the translator wants to give clear referent. Even, it is not related; but, the readers are more understand. However, translation by using less expressive or neutral word is not found in the data. It happened because the translator does not want to make the meaning of the SL has positive meaning or neutral meaning.*

**Keywords:** *biology, ecology, handbook, translation strategies.*

**INTRODUCTION**

In the era of the information and globalization, English has become an international or global language. Crystal (1997:2) obviously agrees that "English is a global language because it is spoken as a first language, a second language or foreign language by people around the world." For the second or foreign language learners, there are some difficulties in learning English. To help them, some of the books are translated into their first language. It can be concluded that translators play an important role to transfer the idea from a source language into target language. Because of that, the value of knowledge of the translator must be enough to produce a comprehensible translation.

In Indonesia, there are so many English books translated into Indonesian. Moreover, there are some bilingual books. One of the books is student's handbook. It is made bilingual because in the previous year, there were some schools which became RSBI. RSBI stands for Rintisan Sekolah Berstandar International. It means that the school

followed trial programme to become school which had the international standard. This school used bilingual in the teaching activity. Moreover, the handbook was also bilingual. So, the handbook which used English Language was directly translated in Indonesia Language. According to Walker et al. in Whiteside (2007:8), there are three categories of bilingual book. The first category is typography or the balancing of the two scripts. The size, weight, space, and color of the scripts should be applied consistently across both languages. The second category is production or the quality of the two scripts. Both texts should be of the same quality to reinforce that the texts are of equal importance. The last is language. The translation of the non-English text should be appropriate and accessible. The original and the translated text should share both reading level and formality. Those are usually used in non-fiction text.

For non-fiction text, scientific translation must be accurate and clear. The translators of the written language have the translation ability to solve the translation problem by choosing the right strategies to achieve high readability level based on the readers. Readability is about how easily written materials can be read and understood. We can find many translators have different styles in translating some text. They also use different strategies to solve problems when they do the job. Before the translators choose one of the strategies to be use in the translation process, they might have faced translation problem, such as when translating handbooks in educational world especially biology major.

The researcher had a big question about how the quality of biology handbook used in RSBI senior high schools, because, commonly it is written in Indonesian language. However, there are some biology handbooks written in bilingual format. The translator does not only need linguistic knowledge but also the knowledge of biology. The translator has to be able to translate ecological word which is commonly found in biology. The process of translating ecological word is important and is related to the process of transforming the message in the Source Language (SL) into Target Language (TL). The researcher chooses bilingual book entitled *Bilingual Biology Text Book For Senior High School Grade X* written by Nunung Nurhayati. The bilingual version was published by CV. Yrama Widya. This book is written and translated into Indonesian Language by Nunung Nurhayati. The researcher chooses *Bilingual Biology 1 Student Text Book Year X* because in there are many ecological words in this book.

The researcher thinks that the translator of this book should know how to make the translation of ecological word can be transferred accurately. By that reason, the researcher argues that the translation strategies analysis will help the readers to understand the book better. As Tytler (1962:9) states that a good translation created by translator who gives a complete ideas of the original works, the style and manner of writing should be of the same character of the original, and translation should have all the ease of original composition. Translating ecological terms is not easy because it needs more effort and thinking in terms to avoid inappropriateness. The problem is whether the point of the information from English can be appropriately rendered into Indonesia or not. This research is important to decrease inappropriate translation or misinterpretation in translating ecological word. In transferring the message, the translator must know the meaning and classification of ecological word in biology book. The research will observe the translation strategies of ecological terms found on *Bilingual Biology 1 Student Text Book Year X*.

The other focus in this study is the translation strategies in *Bilingual Biology Text Book for Senior High School Grade X*. In this research, the researcher uses Newmark (1998:95-103) for ecology classification and Baker's theory (1992: 26-42) about translation strategies. The reason of choosing Baker's theory (1992: 26-42) about translation strategy is because it is used to analyze the translation strategy of ecological term in the data that is used by the translator. As the result, it will influence the comprehension of the students as the reader.

## **RESEARCH METHOD**

### **Data and Subject**

The data of this study where Bilingual Biology Text Book For Senior High School Grade X by Nunung Nurhayati and the Indonesian translation Biologi Bilingual Untuk SMA kelas X as the subject of the study.

### **Unit Analysis**

The unit of analysis in this study was all syntaxis level which contained any ecological terms in *Bilingual Biology 1 Student Text Book Year X*. The SL text is English and the TL text is Indonesian. It was analyzed by using Newmark (1998:95-103) for ecology classification and Baker's theory (1992: 26-42) about translation strategies. The researcher got 100 words from all chapters as the focus of the analysis.

### **Technique of Data Collection and Analysis**

The techniques of data collection that the researcher used in preparing the data related to the subject of this research was library study because the data were taken from *Bilingual Biology 1 Student Text Book Year X* by Nunung Nurhayati. The followings were three steps of the data collection techniques:

1. Choosing the book  
The researcher choose handbook because it contains a lot of information for the student. It should use many strategies to make the book understandable. So, the researcher takes bilingual biology handbook.
2. Reading the book  
The researcher read the book to understand the content.
3. Identifying  
In this step, the researcher identified the English and Indonesian. This comparison was made to know about the strategies of translation and ecological terms.

In case of analyzing the data, the researcher applied some steps. They can be seen below:

1. Reading the source and target text carefully, in order to get word or phrase to analysis.
2. Identifying the word or phrase found in the source text and classify. For example, the word *mollusk* showed that it was classified in ecological word.
3. Analyzing the translation strategy of ecology word found in the source text into the target text. For example, the word *avian* in the source text, and the target text had the meaning "*burung*".

4. Interpreting the data.
5. Drawing conclusion.

## FINDING AND DISCUSSION

### Finding

The data of research consist of the context, SL and TL. The translation strategies found in *Bilingual Biology 1 Student Text Book Year X* by Nunung Nurhayati can be seen in the following table:

**Table 4.1 The finding table of translation strategies found in *Bilingual Biology 1 Student Text Book Year X* by Nunung Nurhayati.**

No.	Translation Strategies	$\Sigma f$	$\Sigma f\%$
1.	Translation using a loan word or loan word plus explanation	40	40%
2.	Translation with illustration	22	22%
3.	Translation by cultural substitution	18	18%
4.	Translation by using more general word	9	9%
5.	Translation by paraphrase using related words	8	8%
6.	Translation by omission	2	2%
7.	Translation by paraphrase using unrelated words	1	1%
<b>Total</b>		<b>100</b>	<b>100%</b>

From the table above, there are 100 sentences. It can be seen that the translation using a loan word or loan word plus explanation becomes the highest number in the data with 40 words or 40%. It happened because the data is Biology book and mostly the translator uses the specific terms which are in *latin* word. In addition, she also uses the other language such as the SL and Javanese to explain the ecological word. The second domination is translation with illustration with 22 words or 22%. Here, the translator uses the picture to help the readers are more understand about the referent. Moreover, the third domination is translation by cultural substitution with 18 words or 18%. It happened because the translator does adjustment with cultural of the TL. Beside that, the translator uses the traditional word of the TL. The fourth domination is using more general word with 9 words or 9%. It happened because the translator wants to make generalization to the word; so, the readers will be more understandable. The words are commonly used in the daily language or general English language. The fifth domination is translation by paraphrase using related words with 8 words or 8%. It happened because the translator explains with another words but it is still have correlation with the meaning. The sixth domination is translation by omission with 2 words or 2%. It happened because the translator uses the traditional word of the TL. So, the readers will be not feel bored in the reading the book. The seventh domination is translation by omission because the translator only uses it to make the word is as natural as the daily language. However, since this book is handout; so, the translator tends to avoid omission. The last is translation by paraphrase using unrelated words with 1 word or 1%. It is done because the translator wants to give clear referent. Even, it is not related; but, the readers are more understand. However, translation by using less expressive or neutral word is not found in the data. It happened because the translator does not want to make the meaning of the SL has positive meaning or neutral meaning.

## Discussion

### Translation by Using Loan Word

There are 40 ecological words found in the data. The translator mostly uses *latin* word, because the biological terms are also using *latin* word. It shows the class, the genus, the kingdom or even the familia of the organisms. Beside that, some of words keeps using the SL. The example of the analysis are below:

#### Excerpt 1:

SL	Page	TL	Page	Ecological Word Classification
Examples of prime varieties of animals are purebred chickens, <b>broilers</b> , milk cows, etc.	14	Contoh hewan jenis unggul adalah ayam ras, ayam <b>broiler</b> , sapi perah, dan sebagainya.	14	fauna (aves)


The example above shows that the ecological word in the SL is '*broilers*'. It is classified as aves. In the TL, it is not translated and it keeps as '*broiler*'. According to kamusbahasainggris.com, the word '*broiler*' means '*ayam pedaging*'. The translator uses the word '*broiler*' which loans from the SL or English Language. In Indonesia, this word is commonly used to call the type of the chicken.

Moreover, according to www.thefreedictionary.com, 'broiler' means a young chicken suitable for roasting. The researcher suggests that the translation should be, "Contoh hewan jenis unggul adalah ayam ras, ayam **pedaging**, sapi perah, dan sebagainya." Here, the translator keeps using the word '*broiler*' because even it does not change but the readers will more understand with this type of chicken. In addition, it is commonly used in Indonesia. So, it is still acceptable. By using this strategy the biology knowledge and the message will be transferred well. In addition, the students can learn English language at the same time.

### Translation with Illustration

The next strategy is translation with illustration. There are 11 ecological words found in the data. The examples of analysis can be seen as follows:

#### Excerpt 2:

SL	Page	TL	Page	Ecological Word Classification
Figure 1.8 <b>Anthrax</b> is an example of bacterium us as biological weapon.	16	Gambar 1.8 <b>Anthrax</b> merupakan contoh bakteri untuk senjata biologi. 	16	fauna (cnidarians)

The example above shows that the excerpt 14 explains about one type of bacteria name '*anthrax*'. Mostly, when people heard the word '*anthrax*'; they will assume that this is the name of sickness. To solve this problem, the translator adds illustration or picture to make the student clearly understand. It is also different with '*anthrax*' that is the name of sickness. Beside that, the picture also gives additional information about the shape of bacteria. As the result, it is categorized as translation with illustration. The translator also shows the referent to avoid different interpretation.

### Translation by Cultural Substitution

The third category is translation by cultural substitution. There are 18 ecological words translated using this strategy. An explanation can be seen as follows:

#### Excerpt 3:

SL	Page	TL	Page	Ecological Word Classification
Dwarf disease on the <i>rice plant</i> can be prevented by doing the following step.	73	Penyakit kerdil pada <i>padi</i> bisa dicegah dengan melakukan langkah-langkah sebagai berikut.	73	flora (agricultural plant)

The first example can be seen in the excerpt 14. There is an ecological word found. It is '*rice plant*'. It is categorized as agricultural plant. In the TL rice can be translated into '*beras, nasi, padi*' depends on the context. Here, the word '*rice plant*' is translated into '*padi*'. The translator uses translation by cultural substitution. It happened because the translator gets influenced from the TL culture. As the result, the word '*rice*' is translated into '*padi*'. Because of that reason, to make the readers more understand, the translator adjusts with the TL culture. So, the translation can be more acceptable.

### Translation by Using More General Word

The next strategy is translation by using more general word. There are 9 ecological words translated using this strategy. The explanation can be seen as follows:

#### Excerpt 4:

SL	Page	TL	Page	Ecological Word Classification
<i>Fasciola hepatica</i> (liver <i>fluke</i> ) lives in gall duct in cattle's liver such as goat, buffalo and sheep.	339	<i>Faasciola hepatica</i> ( <i>cacing</i> hati) hidup pada saluran empedu pada hati ternak seperti kambing, kerbau, dan	339	fauna (cnidaria)

		biri-biri.		
--	--	------------	--	--

The first example is seen in the excerpt 18. There is a word 'fluke' in the SL. According to www.thefreedictionary.com, 'fluke' is any parasitic flatworm, such as the blood fluke and liver fluke, of the classes *Monogeria* and *Digenea* (formerly united in a single class *Trematoda*). It means that 'fluke' specify refers to the parasitic flatworm. However, it is translated into 'cacing'. In Kamus Besar Bahasa Indonesia (2008:266), 'cacing' is binatang kecil, meata, tubuhnya bulat atau pipih panjang, tidak berkaki atau beranggota badam, hidup di tanah, air, atau perut manusia, dan perut binatang. In fact, the word 'fluke' should be translated into 'cacing pipih'. In contrast, the translator uses the more general word 'cacing' rather than the spesific one 'cacing pipih'. As the result, it is categorized as translation by using more general word.

### Translation by Paraphrase Using Related Words

The fifth category is translation by cultural substitution. There are 8 ecological words translated using this strategy. An explanation can be seen as follows:

#### Excerpt 5:

SL	Page	TL	Page	Ecological Word Classification
By combining various genes, a prime variety of crop such as <i>rice</i> variety which is immune to 'wereng' pest and has high productivity can be obtained.	13	Dengan merangkai beraneka ragam gen, dapat ditemukan bibit unggul seperti jenis <i>padi VUTW (Varietas Unggul Tahan Wereng)</i> yang berproduksi tinggi, tahan hama, berbuah besar, dan banyak.	14	flora (agricultural plant)

From the example above, there is an ecological word 'rice'. It is categorized as agricultural plant. Here, the word 'rice' is translated into 'padi VUTW (Varietas Unggul Tahan Wereng)'. It can be said that the translator uses paraphrase by using related word as the strategy. It happened because the translator changes the TL by adding additional information *VUTW (Varietas Unggul Tahan Wereng)*. According to www.thefreedictionary.com, 'rice' means grain used as food either unpolished or more often polished. On the other hand, the word 'rice' equivalences to word 'nasi, beras or padi' in Bahasa Indonesia or in the TL. To make the context clear, the translator paraphrase the word 'rice' with 'padi VUTW (Varietas Unggul Tahan Wereng)'. It is one of rice plants variety. So, the readers will know that the word 'rice' in the SL refers to 'paddy or rice plants' not refers to 'rice which have already cooked' or 'rice grain'.

### Translation by Omission

The sixth category is Translation by omission. There are 2 ecological words translated using this strategy. The explanations can be seen as follows:

#### Excerpt 6:

SL	Page	TL	Page	Ecological
----	------	----	------	------------

				<b>Word Classification</b>
There are many kinds of trees in seasonal forests in Indonesia which produce wood, oil, and food such as teak tree, yellow, sandalwood, eucalyptus, walnut, and <u>tamarind tree</u> .	232	Banyak jenis hutan musim Indonesia menghasilkan kayu, minyak dan makanan seperti pohon jati, cendana, kayu putih, kemiri, dan <u>asam</u> .	232	weed flora

The first example is in the excerpt 22. Here, there is an ecological word 'tamarind tree'. It is included flora which is categorized as weed plant. Moreover, it is translated into 'asam' in the TL. It can be seen that the translator uses omission as the strategy in translating. It is clearly seen that the word 'tree' is not translated. Furthermore, it can create ambiguity in the sentence. According to Kamus Besar Bahasa Indonesia (2008:92-93), 'asam' means masam seperti rasa cuka; nama pohon yg besar pokoknya, kecil daun-daunnya, dan masam buahnya, *Tamarindus indica*. The researcher suggests that the translation should be 'pohon asam'. Here, the context and the referent will be clearer. So, the reader will refer to the tamarind tree rather than to the tamarind fruit.

#### **Translation by Paraphrase Using Unrelated Words**

The next strategy is translation by paraphrase using unrelated word. There is an ecological words translated using this strategy. The example can be seen as follows:

##### **Excerpt 7:**

<b>SL</b>	<b>Page</b>	<b>TL</b>	<b>Page</b>	<b>Ecological Word Classification</b>
<u>Bush</u>	440	<u>Padang belukar</u>	440	plains

From the example above, it is clearly seen that there is an ecological word 'bush' in the SL. It is translated into 'padang belukar' in the TL. According to www.thefreedictionary.com, 'bush' means a low shrub with many branches. It can be concluded that the translator uses paraphrase using unrelated word as the strategy. The word 'bush' can be translated as 'semak belukar'. On the other hand, the translator wants to translate the land which is covered by bush. It should be translated into 'desert shrub'. So, it can be concluded that the translator paraphrase the word 'bush', but she uses unrelated word. However, it is succeed to explain the meaning and it is still understandable.

#### **CONCLUSION**

The conclusion is made based on the data analysis in chapter IV. From the data, the researcher found 100 words from 465 pages. Those are represented every chapters in the book. There are only seven strategies applied in the data. Furthermore, the researcher used Newmark (1998:95-103) for ecology classification and Baker's theory



(1992: 26-42) about translation strategies as the frame works. They can be stated as follows:

The highest number is translation using a loan word or loan word plus explanation with 40 words or 40%. It happened because the data is Biology book and mostly the translator uses the specific terms which are in *latin* word. In addition, she also uses the other language such as the SL and Javanese to explain the ecological word. The second domination is translation with illustration with 22 words or 22%. Here, the translator uses the picture to help the readers are more understand about the referent. Moreover, the third domination is translation by cultural substitution with 18 words or 18%. It happened because the translator does adjustment with cultural of the TL. Beside that, the translator uses the traditional word of the TL. The fourth domination is using more general word with 9 words or 9%. It happened because the translator wants to make generalization to the word; so, the readers will be more understandable. The words are commonly used in the daily language or general English language. The fifth domination is translation by paraphrase using related words with 8 words or 8%. It happened because the translator explains with another words but it is still have correlation with the meaning. The sixth domination is translation by omission with 2 words or 2%. It happened because the translator uses the traditional word of the TL. So, the readers will be not feel bored in the reading the book. The seventh domination is translation by omission because the translator only uses it to make the word is as natural as the daily language. However, since this book is handout; so, the translator tends to avoid omission. The last is translation by paraphrase using unrelated words with 1 word or 1%. It is done because the translator wants to give clear referent. Even, it is not related; but, the readers are more understand. However, translation by using less expressive or neutral word is not found in the data. It happened because the translator does not want to make the meaning of the SL has positive meaning or neutral meaning.

## REFERENCES

- Baker, Mona. (1992). *In other words a course book on translation*. London:Routledge.
- Barghout, Abdel-Maguid Mohamed. (1990). *Translation Quality Assessment an Application of a Rhetorical Model*. Lanchashire: University of Salford.
- Bassnet, Susan. (1998). *Translation Application and Research*. England: Routledge and Co. Ltd.
- Begon, M., Townsend R.C., and Harper L.J. (2006). *Ecology from Individual to Ecosystem*. Oxford: Blackwell Publishing.
- Cardford, J. C. (1965). *A Linguistic Theory of Translation*. London: Oxford University press.
- Echols, John M and Hassan Shadily. (1992). *Kamus Inggris – Indonesia (3rd ed.)*. Jakarta: Gramedia.

- Hornby, A. S. (2000). *Oxford Advanced Learner's Dictionary*. London: Oxford University Press.
- Hyland, K. (2001). *Humble servants of the discipline? Self mention in research articles. English for Specific Purposes*, 20(3), 207–226.
- Keindeigh, S. Charles. (1961). *Animal Ecology*. Hamillton: Prentice Hall.
- Larson, Mildred L. (1984). *Meaning-Based Translation: A Guide to Cross-Language Equivalence*. London: University Press of America.
- Machali, Rohayah. (2000). *Pedoman Bagi Penerjemah*. Jakarta : PT. Gramedia.
- Muchtar, Muhizar. (2007). *Translation*. Medan: Universitas Sumatera Utara.
- Nababan, M. Rudolf. (2008). *Teori Menerjemah Bahasa Inggris*. Yogyakarta: Pustaka belajar.
- Neubert, A. (1968). *Pragmatische Aspekte der Übersetzung in Grundfragen der Übersetzungswissenschaft*. Leipzig:VEB Verlag Enzyklopadie.
- Newmark, Peter. (1988). *Approaches to Translation*. UK: Prentice Hall.
- Nida, E. A. and Charles. R. Taber. (1974). *The Theory and Practice of Translation*. Leiden: J. E. Brili.
- Nurhayati, Nunung. (2007). *Biologi Bilingual Untuk SMA/MA Kelas IX Semester 1 dan 2*. Bandung: CV. Yrama Widya.
- Robinson, Douglas. (2003). *Becoming a Translator: An Introduction to the Theory and Practice of Translation*. London: Routledge.
- Savory, Theodore. (1969). *The Art of Translation*. Londres: Jonatha Cape.
- Simatupang, Maurits D.S. (2000). *Pengantar Teori Terjemahan*. Jakarta: Universitas Indonesia.
- Tim Redaksi. (2008). *Kamus Besar Bahasa Indonesia*. Jakarta: Departemen Pendidikan Nasional
- Vermes, A. (2010). "Translation in Foreign Language Teaching: A Brief Overview of Pros and Cons", *Eger Journal of English Studies*, 10, 83-93.
- Widyamartaya, A. (1989). *Seni Menerjemahkan*. Yogyakarta: Kanisius
- Translation Directory <http://www.translationdirectory.com/article14.htm>. (Accessed on 20 April 2014 )

Journal Culture <http://www.bokorlang.com/journal/41culture.htm>. (Accessed on 20 April 2014)

Journal Theory <http://www.bokorlang.com/journal/63theory.htm>. (Accessed on 20 April 2014)

[http://www.bukobatanzania.com/documents/AGlobalLanguage\\_1.pdf](http://www.bukobatanzania.com/documents/AGlobalLanguage_1.pdf). (Accessed on 20 April 2014)

www.thefreedictionary.com Accessed 3 March 2015

www.kamusbahasainggris.com Accessed 3 March 2015