

THE QUALITY OF ENGLISH TRANSLATION VERSION OF BILINGUAL BOOKS FOR PHYSICS AND SOCIAL SCIENCE

Djarmika*

Agus Hari Wibowo*

Ida Kusuma Dewi*

ABSTRAK

Artikel ini membahas kualitas olah bahasa dari teks versi bahasa Inggris buku pelajaran bilingual Fisika, buku pelajaran bilingual Ekonomi, dan buku pelajaran bilingual Sejarah untuk siswa SMP di Indonesia. Penelitian yang digunakan sebagai dasar artikel ini bersifat deskriptif kualitatif yang dilakukan pada lima teks versi bahasa Inggris dari materi buku pelajaran bilingual yang digunakan di jenjang SMP di Indonesia. Setiap bab dari masing-masing buku tersebut dipilih untuk dianalisis. Data yang dikumpulkan adalah berbagai jenis unit wacana yang digunakan membangun sebuah teks dan aspek-aspek olah leksikogramatika dari teks tersebut, sedangkan data yang berkaitan dengan penilaian keterbacaan dikumpulkan dari dua puluh siswa SMP yang dipilih secara acak. Hasil analisis menunjukkan bahwa semua teks versi bahasa Inggris memiliki kualitas yang bagus berkenaan dengan olah struktur teks. Sebaliknya, olah tekstur teks mengungkap kekurangan dalam hal tata gramatika dan olah pemilihan leksikon. Strategi sistemik yang disarankan untuk perbaikan adalah mempertimbangkan kaidah gramatika bahasa Inggris dan pengaruh bahasa Indonesia dalam tata gramatika, pemilihan kosa kata dan istilah teknis.

Kata Kunci: *bilingual, kualitas terjemahan, olah bahasa, struktur teks, tekstur teks*

ABSTRACT

This article discusses the quality of English translation of the course books of Physics, Economics, and History for Junior High School students in Indonesia. The research which becomes the base for the article is qualitative, conducted on five English version texts of bilingual books for Junior High School students in Indonesia. It selected one chapter of each book and analyzed the quality of its text structure as well as its text texture. The data were in the forms of discourse units and analyzed on the quality of the text structure and aspects of grammar quality such as the grammatical construction of the clauses and the lexical choices of the texts. In addition, it obtained data related to the readability of the texts from twenty students who were selected randomly. The results show that all of the English texts have good quality in their text structure. However, the grammar and choice of words show a number of weaknesses in each text. Text improvement should consider English grammatical rules and systems and Indonesian language interference for English

* English Department, Universitas Sebelas Maret, Surakarta

grammatical constructions, word choice and technical terms.

Keywords: bilingual, language exploitation, translation quality, text structure, text texture

INTRODUCTION

Bilingual books become one of the requirements for an international standard junior high school in Indonesia to operate. The international standard junior high school existed in big cities in Indonesia several years before the Indonesian Constitution Assembly decided to stop such a program. Despite the termination of the school internationalization program since 8th January 2013, bilingual books are still exploited by the schools for their students. The school management considers that books written in two languages-Indonesian and English-give academic benefits for improving knowledge as well as language skills. This consideration is related to the fact that bilingual books become parts of the written curriculum for this level of education in Indonesia. The teaching process of certain subjects taking place either in classroom or outside classroom is often conducted based on the bilingual books. Subjects which are widely taught bilingually at International Standard Junior High Schools in Indonesia among others are Physics, Economics, and History.

Problems related to the bilingual books exploited for junior high schools come up due to the quality of text structure and text texture, especially for the English version. A text whose social function is appropriately accommodated by the types and the arrangement of discourse units as well as supported by the grammatical structure and good choice of words will be very effective in helping students to improve both their knowledge on certain subjects and skills on the foreign language they are learning. On the other hand, ineffectiveness in one of those aspects of good language exploitation will influence the quality of a text. For example, even though a text is structured in good discourse unit arrangement and good grammatical construction, the low readability due to too many technical terms as well as abstraction for it will ruin its quality for

an effective media for students in improving their knowledge and language skills. This is in line with what Sand-Jensen (2007:723) has suggested that in general due to language exploitation a scientific text appears to be boring and hard to understand.

Based on the phenomenon above a project was conducted to analyze the quality of language exploitation of the English version of bilingual books of Physics, History, and Economy for students of Junior High School in Indonesia. The research was expectedly conducted to reveal problems on language exploitation which are considered to have influence on the effectiveness of the English texts in supporting the transfer of knowledge and language skills for the students who use the text books for their classes. Systemic strategies which hopefully can increase the quality of the language exploitation of the text are designed based on the results of the analysis.

TEXT STRUCTURE AND TEXTURE

A text structure accommodates the social function of such a text and also represents its type-this is technically termed as a genre. Martin (1992) suggested that in general genre is described as a social process which is oriented towards a social purpose or function, and a text which accommodates the process has steps to reach such a social goal. This concept emphasizes that genre is interactive and has certain steps to reach its certain social functions, and that language is exploited systemically in relation to contexts. As a social process, genre represents the interaction among members of a culture to reach a certain social target based on meanings and steps which are constructed through language. Related to this phenomenon, genre is then basically represents a text type. Therefore, it can be suggested that if several texts have similar social functions, they will have similar types of discourse units and text structure, or genre.

Identifying the characteristics of a text to identify its genre needs understanding on its text structure and texture. It is very important for someone who wants to compose a text in a certain genre to have skills in selecting types of discourse units and how to arrange them appropriately for a certain genre supported with good skills in exploiting grammatical constructions and vocabularies.

Text in English in bilingual books for Physics and Social Science designed for International Standard Junior High School in Indonesia are constructed as academic texts. In other words, the texts belong to factual genre. It suggests that texts in factual genre with correct grammatical constructions and good word choice will give positive contribution for effective learning materials.

The genre of a text represents the structure of a text. It is constructed of obligatory and optional discourse units. The obligatory units must be present in a text to determine its genre, while the optional ones may or may not be present. If one of the obligatory discourse units is absent, the text will lose the genre construction, while the absence of the optional one does not affect the text structure. Two texts possessing similar obligatory discourse units will fall into the same genre regardless of the difference in their optional discourse units.

Based on some general characteristics, there are six kinds of factual genre, namely description, report, procedure, explanation, exposition, discussion, and two story genre, i.e. recount and narrative. In fact, many other types of text are found and exploited in daily interaction, but these eight factual genres dominate the interaction in academic atmosphere.

TRANSLATION QUALITY

The English version of the books is not an original composition, but a translation from the original Indonesian version. The writers produced the texts in Indonesian first, and then the texts were translated into English not by the original

authors, but by a translator appointed by the publisher. The evidences for this claim are shown in the quality of language exploitation, which are discussed as in the following.

The aspects of language exploitation which represent the translation quality of the English version of the bilingual books are related to the structure as well as the texture of the version. There are three indicators that are demonstrated by the language exploitation for the translation version, namely accuracy, acceptability, and readability. This paper elaborated the last indicator in more detail than the other two as they are already represented by the text structure and texture, whereas the readability must be measured from the judgement by the readers. Therefore, the accuracy and acceptability of the translation version are explained through the selection and arrangement of discourse units representing the text structure. They are also demonstrated by the quality of grammatical construction of the clauses as well as the word selection of the text.

Meanwhile, the readability of the text is determined from interview with and questionnaire by the readers. Readability itself is commonly related to the level of difficulty in getting through a text. Baker (1998) proposes several factors influencing the readability of a text such as the numbers of uncommon words and technical terms as well as the complexity of the grammatical construction. Zakaluk (1988) classifies problems affecting the readability of a text into 4, i.e. type, style, organization, and the way the text is presented. In other words, if the presentation is made easy and simple, the text will be easily understood. On the contrary, if it is complicated, then it is potentially difficult to read.

The style of a text is designed by exploiting the grammar and the lexicon. A text which contain many technical terms, abstractions, and nominalization tends to be more difficult to read than one which is composed by exploiting frequently used and familiar words for the target readers. The quality of clause grammatical constructions also matters. The more complicated

grammatical construction of the clauses, the more difficult the text to read (Puurtilinen, 1989:201). The other factors which also affect the readability include the text structure and information presentation.

Several strategies are available to assess the readability level of a text. Readability assessment can be performed by enlisting word selection of a text, by seeing subjectively some factors influencing the readability of a text, or by applying a close procedure to check the readers' understanding on a text under question. In addition, verifying the readability of a translated text can be executed by inviting raters. They should be the target readers of such a text. Thus, raters for the translated texts in this study were students of Junior High School which was formerly prepared to have an international standard.

METHODOLOGY

Data for the study are discourse units and their arrangement in building the structure of the translation version. In addition, grammatical construction as well as word choice are used as data to show the texture of the texts. Information for the texts' readability was collected from twenty students of Junior High School formerly prepared to have an international standard. It is to support the analysis of text structure and texture.

RESULTS

Five texts demonstrate good selection and arrangement of discourse units. Each text shows its social function, and the objectives of each text are explicitly presented in the first page of the unit becoming the object of the study. The academic objectives are accordingly supported by the types and the arrangement of the discourse units for the text. For instance, three English versions of Physics handbook demonstrate effective text structure. These sample units of Physics handbook present the objectives which become the academic target of the unit in the beginning part and then support them with obligatory discourse units

which should be present for the text arrangement of a unit of a handbook. The difference lies in the optional discourse units in each of the three texts. Likewise, the book for History and Economics also show similar selection and patterns of discourse unit arrangement.

Basically, the five texts under the study have the characteristics of one unit of a handbook. However, each text has specific features as a micro genre. The texts for Physics and Economics tend to be a report. All texts for Physics talk about *force* and everything related to it. In addition to the similar type of macro genre, one of the texts includes one part telling about Sir Isaac Newton-the part which is arranged in a biography. Meanwhile, the text for History shows different characteristics. This text is a report as it talks about types of people's struggles happening around Indonesia against the colonial government. It belongs to a recount for a history as the grammar shows chronological sequence of events and exploits past tense.

From the quality of text structure, it can be suggested that the writers are good enough in building up texts appropriately for certain social functions. It is in line with Djatmika, et.al (2012:46) who suggests that in exploiting discourse units in term of selecting and arranging them for certain genre, the writers of stories for children show good quality of language skill. Even children writers also demonstrate the same capability for this kind of performance as what has been stated by Djatmika, et.al. (2011:120) and Djatmika (2012:143). The results of the studies support that the translators of the English version of the handbooks did not get any problem; in other words, they demonstrate good skill in constructing text for a certain social function with selected obligatory as well as optional discourse units.

However, the texture of the texts shows several drawbacks related to the quality of grammatical construction as well as word choice performed by the translators. Various grammatical mistakes spread to all texts which become the objects of this study in almost similar case and

number. Only one text-Physics published by Yudhistira-demonstrates fewer mistakes, meaning that the translator performs better grammatical exploitation than the translators of the other books.

Fourteen types of grammatical mistakes were made by the translators in the books as shown by the following table.

Table 1
Types of Grammatical Mistakes in English Version Texts

No	Types of Mistakes	Book Title				
		Physics Bilingual	Physics Yudhistira	Physics Ymra Widya	Economics TS	History TS
1	Preposition	V		V	V	V
2	Paralel Construction	V			V	
3	Tenses	V		V		V
4	Articles	V		V	V	V
5	Double Verbs	V	V	V	V	V
6	Word Order	V		V	V	V
7	Verb Form	V		V		V
8	Conjunction	V	V	V	V	V
9	Subject + Verb Agreement	V			V	V
10	Passive Voice	V	V		V	V
11	Incomplete Elements		V	V	V	V
12	Plurality	V		V	V	V
13	Adverb					V
14	The usage of other				V	V

The table above shows that several types of grammatical mistake of the total number do not exist in Indonesian grammatical system, such as tenses, subject + verb agreement, articles, plural forms, and so on. The absence of these systems in Indonesian grammar is believed to influence the translators when they transferred the message from the Indonesian texts into the English ones. Thing following sentences exemplify several types of the mistakes.

1. *On June, 1629, Sultan Agung sent a great army to Batavia.**
2. *The Dutch continuously **strengthen** their position in Molluccas.**
3. *To move **cupboard**, you have to push or pull it.**
4. *The activity of pulling **is exert** a force.**
5. *Your **classmates turns** on the lamp**
6. *So the value of the force resultant is larger than **each forces**.**

The previous sentences contain violation of the English grammatical rules and each represents several types of grammatical mistake presented in Table 1. Systemic modification for the bold parts of the sentences above is suggested to make them grammatical such as changing the preposition *on* for *in*, changing the word *strengthen* for its past

form *strengthened*, positioning an article *a* before the word *cupboard*, changing the verb *is exert* to be in accordance with a third person singular subject, i.e. *exerts*, changing the verb *turns* to be in accordance with plural subject, i.e. *turn*, and making the noun *forces* to be in agreement with the modifier *each*, i.e. *force*.

In addition to the grammatical mistakes, the findings of the study also show weaknesses of the translators in selecting words for their texts. There are three types of ineffectiveness for the word choices such as those related to diction, those related to expressions, and those related to technical terms. However, these types do not exist in all texts. One text may have all these types of ineffectiveness, while the other may only have one or two types. The following table (Table 2) displays the distribution of the ineffectiveness of word choice.

Table 2
Ineffectiveness in Word Selection for the English Version Texts

No	Types of Ineffectiveness in Word Selection	Physics Bilingual	Physics Yudhistira	Book Title Physics Ymra Widya	Economics TS	History TS
1	Word Choices	V		V	V	V
2	Expressions	V			V	
3	Technical Terms	V		V		V

Problems on Word Choice

In certain parts of the texts, wrong choices of word are performed by the translators-and they are not really due to the grammatical construction of language unit which accommodates the word such as phrases or sentences. On that account, the wrong choices of the words influence the quality of the translation version of language units related to its accuracy, acceptability, and readability. Seen from their class, the words can be grouped into three, such as wrong choice which is related to noun choice, to verb choice, and to adjective choice. Of these word classes, noun and verb dominate the number of wrong choices. Table 3 below presents several nouns wrongly chosen in the English version of the texts.

example, the word *materials* in sentence (a) is not appropriate with the context because semantically it has a broad sense so that the referent becomes unclear. Substituting it with the word *things* shows clearer referent for the readers. Similar modification can also be made for sentences (b), (c), (d), and (f). Meanwhile, sentence (e) shows a different case. The word *defends* is a verb instead of a noun. The use of the word *their* implies the form of a noun; substituting the word *defends* (verb) with the word *defence* (noun) can be a model for text improvement.

Mistakes in selecting English verbs also vary as displayed in the following table (Table 4).

Without seeing the conjugated forms, the sentences presented in Table 4 are constructed

Table 3
Noun Wrong Choice in English Version Texts

	Wrong Noun Choices	Model for Modification
a	To do that, you should move materials in your room	To do that, you should rearrange the <u>things</u> in your room.
b	Thus, summation of two linear forces is total of the two forces.	Thus, the <u>combination</u> of the two linear forces is the total of the two forces.
c	Finally, the enmity involved two white countries, Portuguese and Spanish	Finally, the <u>dispute</u> involved two European countries, Portuguese and Spanish
d	The earth was divided into two influences , Spanish influence and Portuguese influence.	The earth was divided into two <u>territories</u> , under Spanish and Portuguese control.
e	And their defends became weak	And their <u>defence</u> became weak.
f	Only Gowa Empire would confess the Dutch authority.	(Only Gowa <u>Sultanate</u> would recognize the Dutch authority.

Each sentence in the table above has a noun which is wrongly selected. One sentence (sentence a) even displays wrong word choices for a noun *materials* and also a verb *move*. Modification can be a model for making the sentences more effective in delivering the messages to the target reader-junior high school students. As an

with a wrong-chosen verb in each. Each verb in each sentence presented on the Table 4 is inappropriate for its context. The verb selection for those sentences is considered to be influenced by the peer words selected in the original text in Bahasa Indonesia. For an instance, the words *rests* (sentence a) and *looked at* (sentence (b)

demonstrate that the translators express the message of the words based on the peer words used in the Indonesian text-i.e. *sis*a and *melihat*.

Table 4
Wrong Choice of Verb in English Version Texts

	Mistakes	Models for Improvement
a	If the money rests ,	If the money <u>remains</u> ,
b	Have you ever looked at a forest?	Have you ever <u>seen</u> forest?
c	To do that, you should move materials in your room	To do that, you should <u>rearrange</u> the things in your room.
d	The instrument you can use to gauge force is spring balance.	The instrument you can use to <u>measure</u> force is spring balance.
e	Only Gowa Empire would confess the Dutch authority.	Only Gowa Sultanate would <u>recognize</u> the Dutch authority.
f	Then Tanette joined with Bone force	Then Ternate <u>joined</u> Bone force
g	At the age of eighteen years old he entered Cambridge University.	When he was eighteen years old, he <u>attended</u> Cambridge University.

These words do not transfer the original messages in Bahasa Indonesia. Using the words *remains* for *sis*a and *seen* for *melihat*, increases the effectiveness of both sentences in delivering the intended messages. The same case happens to the choice of the words *joined with* and *entered* for *bergabung* and *masuk universitas*, which are inappropriate. The translators seems to lack semantic sensitivity when choosing the word *move* (sentence c) instead of *arrange* to express the meaning of arranging room by moving the furnitures; preferring the word *to measure* than *to gauge* (sentence d) and the word *recognize* than the word *confess* (sentence e).

The number of wrongly-chosen adjective is smaller, having only two variants, e.g. the mistakes related to the form and the type of adjective. The following table (Table 5) displays the examples of adjective which were wrongly chosen by the translators.

Table 5
Adjective Wrong Choice in English Version

	Mistakes	Models for Improvement
a	Aceh situation was more depressed	Aceh situation was more <u>depressing</u> .
b	That economics sector was broken.	That <u>economic</u> sector was broken
c	Finally, the enmity involved two white countries, Portuguese and Spanish	Finally, the dispute involved two <u>European</u> countries, Portuguese and Spanish
d	Harmful Frictional Force	<u>Disadvantageous</u> Frictional Force
e	So that there was a venomous battle between the Dutch soldier and Banjar soldier	So that there was a <u>big</u> battle between the Dutch soldier and Banjar soldier.

The above examples, among others, represent sentences which have wrongly chosen adjectives. Sentence (a) and (b) have wrong English adjectives due to their forms. The context of sentence (a) requires the presence of active participle *depressing* to describe Aceh situation. Meanwhile, sentence (b) is ungrammatical because of the word *economics* to modify the noun *sector*. Placing it with adjective form will make the sentence grammatical as shown in the right column of the table. The rests, sentences (c), (d), and (e) exemplify the mistakes in selecting the types of adjective. The sentences are actually grammatical, but the adjective exploited do not carry the intended meaning. Substituting the adjectives *white*, *harmful*, and *venomous* with *European*, *disadvantageous*, and *big* make the sentences more effective.

Wrong Expressions

The ineffectiveness of language exploitation in the translation version is also influenced by the unclear meaning of certain language units. Failure in delivering the intended meaning in the translation version is due to factors such as wrong grammatical construction, wrongly chosen words, or wrong style. The first two cases are identical with the cases elaborated in the previous part-poor grammar and wrongly chosen words give impact

Table 6
Wrong-Chosen Expression

No	Problems in Expressions	Physics Bilingual	Physics Yudhistira	Book Title Physics Ymra Widya	Economics TS	History TS
1	Related to Grammatical Mistakes	V		V	V	V
2	Related to word selection	V			V	
3	Related to Indoneisan Style			V		V

to the meaning of the whole language units. The distribution of the wrong expressions is presented in the Table 6.

Poor grammatical construction of a language unit in a translation version is believed to influence the way a language unit transfer the meaning intended by the original writer. This paper focuses on the quality of construction-considering that a good construction of a sentence helps to make the message clear. Four sentences presented in the following table (Table 7) give examples how bad quality grammar influences the clarity of the message.

sentences because they are neither complete nor grammatical. The models for the improvement are presented in the right column of the table below (Table 7).

Meanwhile, the effectiveness of a sentence in transferring the intended message is also influenced by the chosen words-expressions created by the translators when they could not find the appropriate ones for certain expressions in the original texts. The following table (Table 8) presents two sentences containing two wrong expressions due to the limited English vocabulary resource of the translators.

Table 7
Incorrect Grammar and Expressions

	Mistakes	Models for Improvement
a	Flooding in Jakarta as the result of the decrease of water absorption by settlement construction.	Flooding in Jakarta is the result of the decreased water absorption because of the establishment of the buildings.
b	The block is not moving yet due to there are frictional forces between block and table that oppose attractive force	The block does not move because there is frictional force existing between the block and the table that opposes the attractive force.
c	Is weight of any object same between in the earth and the <i>other</i> planets?	Does an object have similar weight on the earth and on the <i>other</i> planets.
d	What is the way should be taken to make someone who is walking in ice surface covering a lake can reach the edge?	How can someone who is walking on an iced lake reach the <i>other</i> edge?

Because of incorrect grammar, the above sentences do not have clear messages or even do not make sense at all. Modifying the grammatical construction of the sentences is the suggested strategy to maximize the presentation of the message. For example, completing sentence (a) with a verb, as the construction misses a verb, will make the non-sense sentence more effectively clear. A more complex modification is needed for improving the grammar of three other

The bold parts in the two sentences on the Table 8 are examples of inappropriate expressions to accommodate those in the original Indonesia texts. They have caused difficulty to the readers in understanding the message. Semantically the bold expressions in the left column are synonymous with the underlined forms in the right column, but the underlined ones will be more easily understood by students of junior high schools as they sound more English.

Table 8
Inappropriate Expressions

	Mistakes	Models for Improvement
a	In that attack, formerly VOC went to the wall	In that attack, formerly VOC <u>got oppressed</u>
b	and he always inimical with VOC	And he <u>was</u> always <u>opposed to</u> VOC

The sentences in Table 9 below offer more evidences that many sentences are translated literally from Indonesian into English, making them sound Indonesian even though presented in English. As the consequence, the message is not successfully conveyed to the readers.

Table 9
Problems with Literally translated Expressions

	Mistakes	Models for Improvement
a	It was because Sultan Mahmud Syah had heard the bad behaviour of Portuguese.	This happened as Sultan Mahmud Syah had heard the bad behaviour of Portuguese.
b	The lands were for example in Pemanukan, Ciasem, and Probolinggo	They sold lands for private persons such as in Pemanukan, Ciasem, and Probolinggo.
c	Frictional force between feet and the surface of floor/road cause we can walk.	The frictional force between our feet and the surface of the floor enables us walk.

The other problem related to the expression is less familiar technical terms used in the English texts. Many terms are exploited by the translators for the English texts despite the fact that they are less commonly used in Physics, History and Economics. As the terms are not familiar for the target readers, the readers get difficulty in understanding them.

The sentences presented in Table 10 contain unfamiliar technical terms that negatively affect the readability level. It show low quality of translation in terms of the selected technical terms. The translators apply literal translation technique in transferring language units, including technical

terms for Physics, History and Economics, therefore, the sentences become difficult to understand. For example, Indonesian language has a homonymous case for the word *gaya* which can mean *style* if it is related to fashion or *force* if it is used in Physics. In the original Indonesian text, this phenomenon is exploited as an introduction to the concept of force. However, when this part is translated into English, the translator is unaware of the inexistence of such homonymous case in English. There is only one word *force* to represent the word *gaya*; the other meaning is related to fashion, i.e., *style*. Both sentences in the original texts do make sense, but the English version do not. Suggested improvement for these sentences is that the translators need to search the homonym for the word *force* in English, such as *energy* in Physics and *power* in the air force.

Table 10
Wrong Technical Terms in English Texts

	Mistakes	Models for Improvement
a	Dalam kehidupan sehari-hari, kita sering mendengar kata “gaya” yang diartikan sebagai <u>cara</u> , misalnya gaya berbicara, gaya berpakaian, gaya berenang, gaya hidup, dan lain-lain.	In everyday life, we often hear the word “force” which is meant as <u>style</u> , for example talking style, fashion style, swimming style, life style, and so on.
b	Apakah pengertian “gaya” dalam kehidupan sehari-hari sama dengan pengertian “gaya” dalam fisika?	Is the understanding of “ style ” in everyday same to the understanding of force in physics?

The weakness of grammar quality as well as the word selection in the bilingual books influences the level readability. The translators demonstrate not only their imperfect capability in exploiting grammatical construction but also their limited English vocabulary for academic matters, especially for Physics, Economics, and History. The interview with several junior high school students who were randomly selected shows that the five English versions in this study have different levels of readability. Language

exploitation for the translation version-in relation to the readability-reveals that two texts have low level, two other have medium level, and one text has high level of readability. The result verifies the analysis on grammar quality and word selection presented in the previous part of this article. It means that a text which is composed in poor grammar quality and word selection tends to have low level readability, whereas the one which has good grammar quality and word selection will be easy for the target readers to get through. One kind of lexical choices which makes the texts difficult to understand is technical terms. Technical terms which were wrongly selected are believed to influence the level of readability. This is slightly in line with Astuti's (2007:67) suggestion that university students tend to be more familiar with the genuine technical terms used by their teacher than those in the translation version. The following table presents the English version texts and their readability level.

by a certain subject-in addition to good grammar exploitation-a translator can perhaps consult with an expert in the subject. Verifying the expressions and technical terms for one translation version of a text is one of good strategies to achieve high level readability.

CONCLUSION

All English version texts in this study have good quality for their text structure. The types of discourse units, both the obligatory and the optional, and their arrangement are supportive to the genre of the texts. Meanwhile, the texts show various qualities for their texture, i.e. the characteristics of the language exploitation for grammatical construction and word selection. On that account, in general the suggested systemic strategies are related to referring English grammatical rules by the translators in transferring the original text into the English version. The interference of Indonesian rules to the English

Table 11
Readability Level

No	Readability Level	Book				
		Physics Bilingual	Physics Yudhistira	Physics Ymra Widya	Economics TS	History TS
1	high/easy to understand		V			
2	medium/rather easy to understand	V		V		
3	low/difficult to understand				V	V

It is clear that the strategies for improvement on the grammar and word selection weakness include modifying grammatical mistakes for the better ones, and replacing inappropriate words, expressions as well as technical terms with those which are natural in English. Of course, obtaining the skills for exploiting grammar and lexicon for translating various texts demands the translators to upgrade their knowledge and also their skills both in language exploitation and in the subject matter being translated. For example, to find a certain word or technical term which is needed

translation version should be avoided; otherwise the sentences will still sound Indonesian even though they are expressed in good English grammatical constructions. Such a condition influences the optimality in redelivering the messages intended by the original writers. This also happens with the English word selection such as the selection for common words, expressions, and also technical terms which should be acceptable for English texts so that the messages intended by the original writers can be encoded to the target readers of the English version texts.

REFERENCES

- Astuti, Wiwiek Dwi. (2007). "Sikap Bahasa Mahasiswa dan Dosen terhadap Istilah Terjemahan dan Istilah Serapan Bidang Ekonomi Hasil Mabbim." *Jurnal Humaniora*, 19, 62-72.
- Baker, Mona. (1998). *Routledge Encyclopedia of Translation Studies*. London: Routledge.
- Djarmika, Diah Ayu Nila Khrisna, & Nuraeni, Ana. (2012). "Systemic Strategies to Improve the Readability of the English Version of Indonesian Children Stories." *Kata*. Vol. 14, No. 2, December 2012.
- Djarmika, Fitri Akhmerti Primasita, & Agus Dwi Priyanto. (2011). "Strategi Meningkatkan Kualitas Olah Bahasa untuk Cerita Pendek Siswa Sekolah Dasar dengan Pendekatan Genre-Based." *Lingua: Jurnal Ilmu Bahasa dan Sastra*. Vol. 6, No. 2, Agustus 2011
- Djarmika. (2012). "Kualitas Olah Bahasa Anak Usia Sekolah Dasar dalam Kegiatan Bercerita: Sebuah Proses Pemerolehan Bahasa Anak." *Metalingua: Jurnal Penelitian Bahasa*. Vol. 10, No. 2, Desember 2012.
- Martin, J.R. (1992). *English Text: System and Structure*. Philadelphia: John Benjamins Publishing Company.
- Puurtinen, Tine. (1989). Assessing Acceptability in Translated Children's Book. In Toury, Gideon & Lambert, Jose (eds). *Target*. 1. p. 201-213.
- Sad-Jensen, Kaj. (2007). "How to Write Consistently Boring Scientific Literature." *Oikos* 116: pp. 723-727.
- Zakaluk, Beverley. (1988). *Readability; Its Past, Present, and Future*. Delaware: International Reading Association.