

A Comparative Study of the Readability of English Textbooks of Translation and Their Persian Translations

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Abstract

The main concern of the present study was to compare the readability level of English textbooks of translation and their Persian translations using the Gunning Fog Index. To this end the corpus of the study comprised five translation textbooks written in English and their Persian translations. The reason behind choosing these textbooks is that they are the only translation textbooks translated into Persian. Two hundred and eighty four sample texts were chosen randomly and examined in terms of readability levels; 142 sample texts from English textbooks of translation and 142 sample texts which were the translations of the respective English sample texts. Based on the outcomes of the research the average Fog Index of English textbooks of translation was 16.4 while the average Fog Index of their Persian translations was 20.1. This means that Persian textbooks of translation are 3.7 grade levels above their English originals in terms of readability level. The higher the Fog Index, the less readable the text is. The findings of the study showed that translation textbooks which have been translated into Persian are less readable than their English originals.

Keywords: Readability, Readability formulas, Translation textbooks, Gunning Fog Index

1. Introduction

In the present fast developing world, transmitting scientific knowledge is of prime importance. Scientific textbooks are considered as one of the important sources of knowledge (Vinkler, 2002). Bell (1991) considers textbooks as informative texts with the aim of transferring the information contained in the source text to the target readers. Among these scientific textbooks are textbooks which are written on the theories of translation. In the past decades there has been a proliferation of translation textbooks (Munday, 2008). Universities around the world have set up departments for translation studies with the aim of training professional translators and interpreters. These departments offer various courses on translation (Munday, 2008). The main aim of these departments is training high quality translators and interpreters. The most challenging issue for the translators and translator trainers is the choice of appropriate textbooks since they serve as the basis of translator training programs (Youlan, 2005).

Training high quality translators and interpreters demands high quality textbooks which can affect the entire system of education and curriculum design (Youlan, 2005). Translation textbooks are mostly written in English and European languages. In order to be widely used by scholars and students whose native languages are not European languages, textbooks need to be translated into different languages. As Levy (1967) holds “translation is a process of communication: the objective of translating is to impart the knowledge of the original to the foreign reader” (p.145). Due to the technological change and globalization, translation became a prevalent and necessary activity in the current century.

Translation is a young and growing discipline. Its study as an academic field of study has only begun in the second half of the twentieth century (Munday, 2008). There have been several attempts to examine translation from different angles to consider the effects of different factors on the process, product, and function of translation. The result of such studies are not used to prescribe anything but used to predict what is likely to happen under various sets of circumstances (Toury, 1989). In product-oriented approaches, the focus of attention is on the characteristics of the translated text. Translation process may cause the translated text to undergo many changes. One of these changes is hypothesized to be the readability level. Translation process may affect the readability level of the translated texts to some extent (Toury, 1989). Due to the fact that learners can only benefit from textbooks that they can read easily, readability is considered as an important characteristic of a high quality textbook (Allington, 2002).

Since readability is considered as an important issue in academic discourse, this paper aims to compare the readability of English textbooks of translation and their Persian translations. To this end in literature review section a brief literature on the issue of readability and textbooks will be presented. The methodology section is dedicated to the corpus of the study, instrumentation and procedures applied for gathering and analysis of the data. The findings of research are explained in results and discussion section and finally conclusion obtained from the results of the study and the pedagogical implications are presented.

2. Literature Review

2.1 Textbooks

Textbook has been defined differently by different scholars. These definitions are more or less the same. “ Textbook is the core learning composed of text and/or images designed to bring about a specific set of educational outcome; traditionally a printed and bound book including illustrations and instructions for facilitating sequences of learning activities ” (UNESCO 2005, p.1).

“Textbooks and handbooks are classified as scientific if in general they dealt with general laws and basic properties of fundamental phenomena or natural materials”(Gibbons & Johnston,1974, p. 230). As Biber (2006) believes, scientific textbooks are considered as an important element in educational settings and are widely used in higher education without which no progression can occur in students’ knowledge. Scientific textbooks can be categorized into different subject matters. One of these subject matters is translation field.

Translation textbooks are used for Training translators and interpreters. Training high quality translators demands high quality textbooks. Stewart (2011) narrows down the definition of translation textbooks and defines translation textbooks as practical work on translation offering texts for practice, with commentaries and/or suggested translation. Stewart’s (2011) definition of translation textbook is different from Youlan’s (2005) definition. Youlan (2005, p.193) believes that:

A translation textbook, then, often focuses on providing students with general knowledge. It fulfills the following functions: 1) it is a teaching tool for pedagogical purposes, 2) it is systematically organized to reflect the main points in translation studies, 3) it tends to be comprehensive, extending from general principles to guidelines, suggestions and hints, including translation strategies, similarities and differences between two or more languages, and possibly a number of translation exercises covering various features, and 4) it must be informative, operative, and enlightening, and leave enough space for the users’ personal development.

As translation studies become internationalized the field expands and the need for translation textbooks arises (Stewart, 2011). To be unambiguous and informing, textbooks need to provide their readers with the ease of reading. Finding the right fit between students’ reading ability and textbooks seems to be very important. Readability studies aim to analyze texts to find the right fit between students reading ability and textbooks (Feathers, 2004).

2.2 Readability

Defining “readability” is not an easy task because various definitions of readability have been proposed by different scholars. As cited in Najafi (2010), Klare (1963) defines readability as: “ease of understanding or comprehension due to the style of writing” (p.1). Klare’s (1963) definition of readability is more related to the issue of comprehensibility rather than readability itself.

McLaughlin (1969), the creator of the SMOG readability formula, believes that: “readability

is the extent to which a class of people finds certain texts understandable and comprehensible” (p.640). This definition of readability focuses on the interaction between the readers and the printed material and deals with the issue of readers’ comprehension of the printed material. According to Dubay (2004, p.7), “readability is what makes some texts easier to read than others”. This definition of readability is in line with the purpose of the current study because it considers solely the readers’ reading ability and excludes comprehension from the definition of readability.

Considering different definitions of readability it can be concluded that many scholars consider readability and comprehensibility as the same phenomenon but in practice there is a difference between readability and comprehensibility. Most of the drawbacks of readability formulas are because of considering readability and comprehensibility as the same phenomenon.

2.3 Readability V.S. Comprehensibility

There exists a great difference between readability and comprehensibility. Readability is an attribute of text while comprehensibility is an attribute of reader (Harrison, 1980; Jones, 1997). Readability focuses on textual difficulty whereas comprehensibility is concerned about the interaction among text, task, reader, and strategy variables. Readability may result in comprehensibility but not necessarily (Mayer, 2003). This means that readability is a prerequisite for comprehension.

Carrell, (1987) believes that “Comprehension is a complex concept which covers multiple behavioral and cognitive factors” (p. 27). It seems obvious that besides sentence length and vocabulary complexity there are also other factors which influence the degree of comprehension. Bachman (1991) believes that factors such as: vocabulary load, syntactic complexity, syntactic density, level of information, and topic progression can affect comprehension.

Due to the fact that texts which are not readable cannot be comprehensible, measuring readability level of texts is of prime importance if comprehension is intended. Considering readability is particularly important in textbook selection, because the final goal of reading textbooks is comprehension (Guzzetti, 2002). Readability of a text is measured by some procedures which are called readability formulas.

2.4 Readability Formulas

Authorities (e.g., Klare, 1984 & Dubay, 2006) trace the initiation of readability formulas to the publication of Thorndike’s *The Teacher’s Word Book* in 1921. From that time many scholars proposed different readability formulas. There are over 50 classic procedures for predicting text difficulty, usually referred to as readability formulas (Chall, 1996). But only some of these classic formulas have been widely used. The vast majority of these formulas are no longer in use. Klare (1984) defines readability formula as “a predictive device intended to provide quantitative objective estimates of reading difficulty” (p.684). Klare (1984) declares that these readability formulas use accounts of language variables in writings in order to predict difficulty for the readers. These formulas are predictive devices which do

not need the readers' actual participation. The variables in these formulas need to have a relationship to different aspects of readable writing.

Due to the rising need for scientific communication there was a growing endowment of practical readability measurement (Dale & Chall, 1948). Many scholars and researchers were concerned about the measurement of readability of different types of texts and textbooks (e.g. Jabbari & Saghari, 2011; Maftoon & Daghigh, 2001; Bargate, 2012; Kithinji & Kass, 2010; Plucinski et al, 2009; Heilke et al, 2003; Brabston et al, 1998, etc). Since readability is considered as an important quality of textbooks, this research aims to measure and compare the readability levels of English translation textbooks and their Persian translations by the use of the Gunning Fog Index.

3. Methodology

3.1 Corpus

In order to collect samples suitable for the current research, the researchers chose five English translation textbooks and their Persian translations which were rendered by different translators. The reason behind choosing these five textbooks is that they are the only translation textbooks which have been translated into Persian. The corpus of the study is introduced in Table 1 & 2 below.

Table 1. Description of the English corpus

Name of the book	Author	year
1. Introducing Translation Studies: Theories and Applications	Jeremy Munday	2001
2. Translation	Julian House	2009
3. A Textbook of Translation	Newmark	1988
4. Translation: An Advanced Resource Book	Basil Hatim	2004
5. Meaning-Based Translation: A Guide to Cross-Language Equivalence	Mildred Larson	1988

Table 2. Description of the Persian corpus

عنوان کتاب	مترجم	سال چاپ
آشنایی با مطالعات ترجمه : نظریه ها و کاربردها 1.	حمید کاشانیان	1384
مقدمه ای بر مطالعات زبان و ترجمه 2.	علی بهرامی	1390
دوره آموزش فنون ترجمه 3.	منصور فهیم وسعید سبزیان	1388
مرجعی پیشرفته برای ترجمه 4.	مریم جابر و فریبرز مجیدی	1388
اصول و مبانی نظری ترجمه 5.	حدیث کرد سیچانی	1388

3.2 Theoretical Framework

In order to conduct this research the researcher measured the level of readability of both source text and the target text by the use of a mathematical readability formula called the Gunning Fog Index. There are a variety of readability formulas for measuring the readability level of the texts but the researchers chose Gunning Fog Index among all other readability formulas because of several reasons.

This formula works with materials written above college reading level such as magazines, newspapers, and textbooks (Gunning, 1968). The Gunning Fog Index is also suitable for measuring reading difficulty of materials which are full of jargons such as scientific textbooks (Gunning, 1968). Fog Index has also been validated for measuring the readability level of Persian texts. This formula can be applied to Persian texts without any modification (Maftoon & Daghigh, 2001). Other researchers have also applied the Gunning Fog Index for measuring the readability level of Persian texts. Jabbari and Saghari (2011) conducted a research on the readability of English medical texts and their Persian translations using Gunning Fog formula as their framework. Due to the mentioned reasons, the researchers chose the Gunning Fog Index as the yardstick of the current study.

3.3 Instrumentation

3.3.1 The Gunning Fog Index

Gunning (1952) proposed a readability formula which is known as “FOG Index”. This formula is:

$$\text{Fog Index/Grade Level} = 0.4 (\text{ASL} + \text{PHW})$$

Where,

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

PHW = Percentage of Hard Words

Scores obtained from Fog Index range from 6 to 17. The scores are presented in Table 3 below.

Table 3. The Fog Index with reading levels by grade

Fog Index		Reading Level By Grade	By magazine
Danger Line	17	College graduate	No popular magazine this difficult
	16	College senior	
	15	College junior	
	14	College sophomore	
	13	College freshman	
	12	High-school senior	Atlantic Monthly and Harper's Time and Newsweek
	11	High-school junior	
Easy-reading Range	10	High-school sophomore	Reader's Digest Saturday Evening post Ladies Home Journal True Confession and Modern Romances Comics
	9	High-school freshman	
	8	Eighth grade	
	7	Seventh grade	
	6	Sixth grade	

The Gunning Fog Index, Gunning (1968, p. 40)

Scores above 17 are called 17+ and are considered beyond the danger line (Gunning, 1968). The most appropriate levels of difficulty seem to be between 13 and 17 for textbooks of translation.

3.4 Procedure

In order to choose samples from each English textbook, the researchers chose systematic sampling and selected a sample from every other 10 pages. The corpus of the study contains 284 sample texts; 142 English sample texts and 142 Persian translations of the English sample texts. The reason behind this kind of randomization is that Gunning (1968) believes that the samples should be spaced evenly through the whole text. Choosing samples from every other 10 pages makes it possible to have samples from the beginning, middle, and end of the books. Samples were chosen randomly from the respective pages. English samples contain almost 100 words and the sentence count was stopped with the sentence which ends nearest 100 words total. From the examples presented in Gunning (1968, p.p. 207-240) it can be seen that the words occurring in samples can range from 86 to 137 depending on the spot where sentences end. In Persian samples, the sentence count was stopped where the translation of the English sample was finished.

For choosing samples from translated textbooks the researchers had to find the translation of each sample chosen from English textbooks. In some instances the translator(s) did not translate some lines or even whole paragraph(s) so the researchers had to read all the samples thoroughly and compare them with their translations. This was done to make sure that Persian translations are the exact translations of the English sample texts. In cases where the English

sample was not translated, the researchers had to choose another sample text from the same page which was translated. For choosing the samples the researchers skipped the first pages of all the textbooks which contained author's preface, translator's preface, table of contents, and introduction. References and the activities at the end of the books which were not translated were also excluded from the study. When the whole page contained tables or examples the researchers chose the sample from the previous or next page.

After selecting the corpus of the current study, all the elements included in the Fog Index were examined separately. The elements in the Fog Index were the number of words, the number of words with 3 and more syllables (polysyllabic words), and the number of sentences. Each sample (English and Persian) was examined 3 times to count the above mentioned elements required for the Gunning Fog Index.

Counting the number of words in English was an easy task for the researchers because in English words are divided by the space between them and compound words are written together without any space between them, such as "bookkeeper" and also they are counted as one word. For counting the number of words in Persian, the researchers had to read some books on morphology and word formation to understand which compound words are counted as one word. Since this research is a comparative study and the rules illustrated in Gunning (1968) should be applied both in Persian and English, considering all Persian morphological rules could have changed the results of the formula. For this reason, in Persian like English, the space between the words was considered as the boundary for counting words.

In Persian words such as "مخلوط کن" (makhlut kon) 'mixer' and "رودخانه" (rud khane) 'river' were counted as one word (Kalbasi, 1387). Numbers were counted as one word too (Kalbasi, 1387, p.31). Words containing "آن" "ات" "ها" 'all three are plural markers' such as "دانشگاه ها" (daneshgah ha) 'universities', "کودکان" (kudakan) 'children' were counted as one word (Kalbasi, 1387). Although compound verbs such as "انجام شد" (anjam shod) 'was done' are considered as one word (Kalbasi, 1387), in this study they were counted as 2 words because in English Gunning (1968) counted compound verbs such as "look up" and "go down" as 2 words. According to Gunning (1968) words containing a hyphen in between such as "ice-cream", "context-sensitive" and "culture-bounded" are considered as one word. So in Persian words such as "اجتماعی-سیاسی" (ejtemaee-siasi) 'social-political' were counted exactly as they were counted in English. In English abbreviations such as "MT" (Machine Translation), "TL" (Target Language), and "e.g." (example) were counted as one word. In both English and Persian numbers and years were counted as one word and quotations which contained the year and page number were excluded from the word count.

When German and French words appeared in English and Persian samples, they were included in word count and for deciding whether they are polysyllabic words or not German language online dictionary (<http://dictionary.reverso.net/french-english>) was used. In Persian texts, English words are used either with their Persian equivalents or alone, in both cases the English words are included in word count and polysyllabic word count. For deciding on polysyllabic words three rules are introduced in Gunning (1968) which are as follows:

- 1) Don't count the words which are combination of easy words such as "manpower" and

“bookkeeper”

- 2) Don't count the words which are made three syllables by adding “ed” and “es”
- 3) Don't count the words which are proper names

To apply rule number 1 in Persian, words such as "وفاداری" (vafadari) ‘loyalty’, "دانش آموز" (danesh amooz) ‘student’, "جانبداری" (janeb dari) ‘supporting’, and "زیرنویس" (zir nevis) ‘footnote’ were not counted as polysyllabic words since they are combination of two easy words. In this case each easy words contained less than three syllables otherwise they were counted as two separate words.

To apply rule number 2 in Persian, plural words which end with "ان" (an) (ha) and "ات" (at) ‘all three are plural markers’ such as "روش ها" (raves ha) ‘methods’, "کودکان" (koodakan) ‘children’, "توضیحات" (tozihat) ‘explanations’ were not counted as polysyllabic words but in cases where the word itself contained three syllables and by adding plural markers it became four or five syllables, the words were counted as polysyllabic words such as "ترجمه ها" (tarjome ha) ‘translations’, "مترجمان" (motarjeman) ‘translators’, and "اطلاعات" (etelaat) ‘information’.

Regarding rule number 3, “all the capitalized words, unless the reason for capitalization is that they begin a sentence”, are excluded from the polysyllabic words count (Gunning, 1968, p.281). For applying this rule in Persian, the Persian equivalents of all English capitalized words were found and excluded from polysyllabic words count. For counting the syllables in words the researchers looked up all the English words in online Merriam Webster Dictionary (www.merriam-webster.com/dictionary).

For counting the number of sentences no specific rule was suggested by Gunning (1968) so the researchers had to read all the sample texts presented in Gunning (1968) and analyze them carefully. In most of the samples, such as samples presented on pages 54, 55, 61, 62, 233..., full stop indicates the end of sentence and the words between two full stops are considered as one sentence but there are exceptions to this rule as well. In two of the sample texts, such as those presented on pages 38 and 172, the words between two full stops are not necessarily counted as one sentence. This made it difficult for the researchers to decide on the number of sentences both in Persian and English. For solving this problem the researchers decided to consider “T-unit” as the basis for counting the number of sentences both in Persian and English sample texts.

As cited in Hirano (1989) The T-unit was first developed by Hunt (1965). Hunt (1970) has defined T-unit as “a main clause plus all subordinate clauses and non clausal structures attached to it or embedded in it” (cited in Hirano 1989, p.68). Hunt (1965) states that “each would be grammatically capable of being terminated with a capital letter (at one end) and a period (at the other)” (cited in Hirano, 1989, p.68).

To make clear how the data was collected two sample texts extracted from the corpus of the study are presented below. In these two samples, sentences (T-units) are divided by “/” and hard words (words of three syllables and more) are underlined and shown in bold face and

finally the Fog Index is applied on the sample texts.

The information which is essential to the development of the discourse is thematic. / The rest of the information, which may be removed or put at a different place in the discourse, is background and nonthematic. / Thematic prominence occurs at various levels./ A paragraph will have material which is thematic. / An episode will likewise have material which is foreground and that which is background. / How this information is marked as thematic is different for each language. / It is obviously important that the translator be aware of which material is thematic in the original in order to appropriately translate it as thematic material in the receptor language. /

This sample text consists of 106 words, 7 sentences, and 28 hard words. If the Gunning Fog Index is to be applied on this sample the result will be:

$$\text{Fog Index (Grade Level)} = 0.4 (\text{ASL} + \text{PHW})$$

Where,

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

PHW = Percentage of Hard Words (words of three or more syllables)

$$\text{PHW} = (28 / 106) \times 100 = 26.41 \quad \text{ASL} = 106 / 7 = 15.14$$

$$\text{ASL} + \text{PHW} = 26.41 + 15.14 = 41.55$$

$$0.4 \times (\text{ASL} + \text{PHW}) = (0.4) \times (41.55) = 16.62 \sim 16.6 \text{ Fog Index} = 16.6$$

The sample text below is Persian translation of the same text presented above.

اطلاعاتی که برای توسعه ی مبحث نیز ضروری است، ریشه ای می باشد. / بقیه ی اطلاعات نیز ممکن است که پاک یا در جای دیگری از مبحث قرار گرفته و مانند زمینیه بوده و غیر ریشه ای می باشند. / برتری ریشه ای در سطوح مختلفی اتفاق می افتد. / یک یاراگراف دارای ابزار ای است که ریشه ای می باشد. / یک حادثه ی ضمنی دارای ابزار ای است که هم در جلو (اول) متن آمده و هم زمینیه ی کار می باشد. / و اینکه چگونه این اطلاعات به عنوان ریشه در نظر گرفته شده اند در هر زبان متفاوت است. / بسیار مهم است که مترجم از ابزار ریشه ای و اصلی برای ترجمه ی مناسب کار در زبان مقصد استفاده نماید. /

This sample text contains 102 words, 40 hard word, and 7 sentences and the Fog Index is calculated as:

$$\text{PHW} = (40 / 102) \times 100 = 39.21 \quad \text{ASL} = 102 / 7 = 14.57$$

$$\text{ASL} + \text{PHW} = 39.21 + 14.57 = 53.78$$

$$0.4 \times (\text{ASL} + \text{PHW}) = (0.4) \times (53.78) = 21.51 \sim 21.5 \text{ Fog Index} = 21.5$$

4. Results and Discussion

After applying the Gunning Fog Index on the corpus of the study, the researchers found that the average Fog Indexes of English textbooks range from 13.2 to 17.5. According to the table presented by Gunning (1968, p.40) this means that these textbooks are readable for university students (see table 3). Regarding the Persian translations, average Fog Indexes of

translated textbooks range from 17.8 to 21.8. According to Gunning’s (1968), this means that these translated textbooks are beyond the danger line and above the level of university students. The differences between the average Fog Indexes of English textbooks and their Persian translations range from 2.9 to 4.6. This difference indicates that Persian translations are between 3 to 4.5 grade levels higher than their original English versions in terms of readability levels. The higher the Fog Index, the more difficult a text is. The results of this study show that Persian translations of English textbooks of translations are less readable than their originals. The results are shown in table 4.

Table 4. Average Fog Index of English textbooks of translation and their Persian translations

Textbook Number	Average Fog Index of English Textbooks	Average Fog Index of Persian Translations	Difference Between the Fog Indexes
# 1	17.2	20.3	+3.1
# 2	17.3	20.7	+3.4
# 3	16.8	19.7	+2.9
# 4	17.5	21.8	+4.3
# 5	13.2	17.8	+4.6
<i>Average</i>	<i>16.4</i>	<i>20.1</i>	<i>+3.7</i>

Note. Textbook number 1 is “Introducing Translation Studies: Theories and Applications” and its Persian translation. Textbook number 2 is “Translation” and its Persian translation. Textbook number 3 is “A Textbook of Translation” and its Persian translation. Textbook number 4 is “Translation: An Advanced Resource Book” and its Persian translation. Textbook number 5 is “Meaning-Based Translation: A Guide to Cross-Language Equivalence” and its Persian translation. Complete description of the books is presented in corpus.

The above data is displayed in figures 1 to 6 below for easier reference.

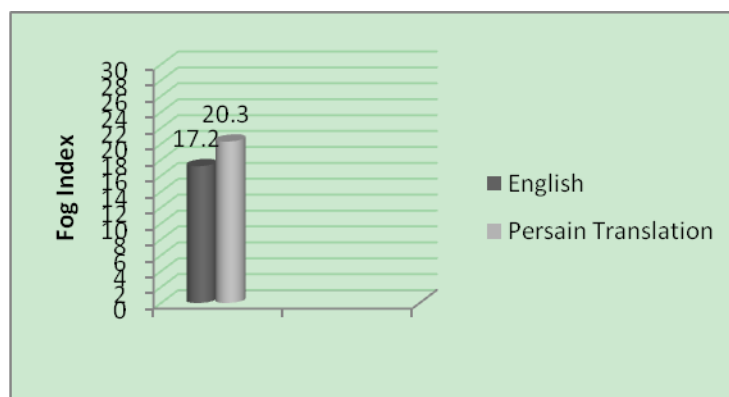


Figure 1. Average Fog Index of “Introducing Translation Studies: Theories and Applications” and its Persian translation

The average Fog Index of English textbook of translation called “Introducing Translation Studies: Theories and Applications” is 17.2 while the average Fog Index of its Persian translation is 20.3. The difference between these two Fog Indexes is +3.1 which means that the Persian translation of this textbook is beyond the danger line and almost three grade

levels above its English original regarding the readability level.

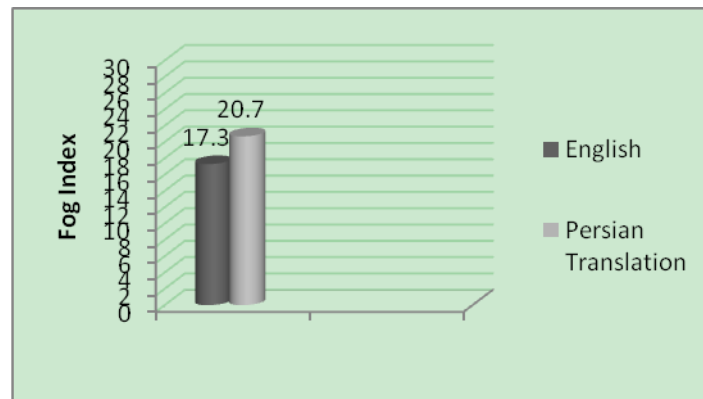


Figure 2. Average Fog Index of “Translation” and its Persian translation

The average Fog Index of English textbook of translation called “Translation” is 17.3 while the average Fog Index of its Persian translation is 20.7. The difference between these two Fog Indexes is +3.4 which mean that the Persian translation of this textbook is beyond the danger line and almost three grade levels above its English original regarding the readability level.

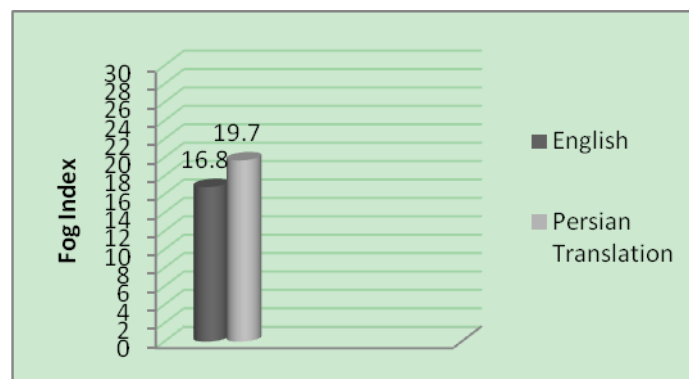


Figure 3. Average Fog Index of “A Textbook of Translation” and its Persian translation

The average Fog Index of English textbook of translation called “A Textbook of Translation” is 16.8 while the average Fog Index of its Persian translation is 19.7. The difference between these two Fog Indexes is +2.9 which mean that the Persian translation of this textbook is beyond the danger line and almost three grade levels above its English original regarding the readability level.

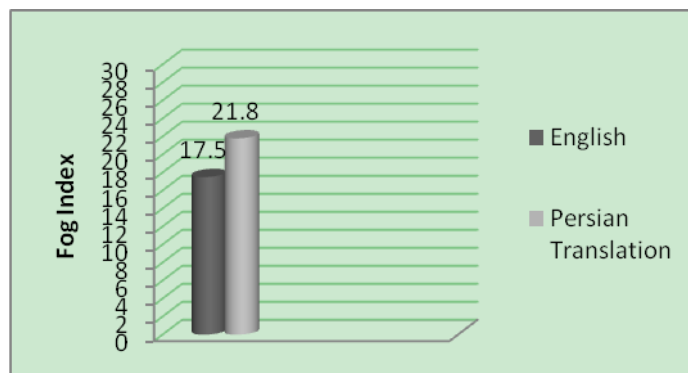


Figure 4. Average Fog Index of “Translation: An Advanced Resource Book” and its Persian translation

The average Fog Index of English textbook of translation called “Translation: An Advanced Resource Book” is 17.5 while the average Fog Index of its Persian translation is 21.8. The difference between these two Fog Indexes is +4.3 which mean that the Persian translation of this textbook is beyond the danger line and almost four grade levels above its English original regarding the readability level.

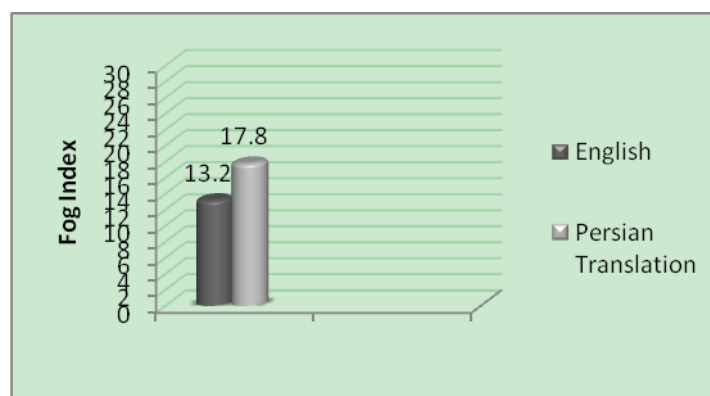


Figure 5. Average Fog Index of “Meaning-Based Translation: A Guide to Cross-Language Equivalence” and its Persian translation

The average Fog Index of English textbook of translation called “Meaning-Based Translation: A Guide to Cross-Language Equivalence” is 13.2 while the average Fog Index of its Persian translation is 17.8. The difference between these two Fog Indexes is +4.6 which mean that the Persian translation of this textbook is beyond the danger line and almost four and a half grade levels above its English original regarding the readability level.

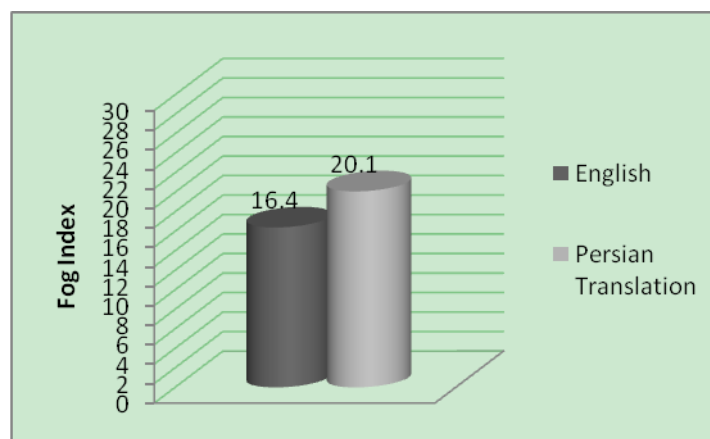


Figure 6. Average Fog Index of five English textbooks of translation and their Persian translations

Figure 6 shows the total average Fog Index of all five English textbooks of translation compared to the total average Fog Index of all five Persian translations. The results show that the total average Fog Index of English textbooks is 16.4 and this number for the Persian translations is 20.1. The difference between the average Fog Indexes is +3.7. This difference indicates that Persian translations are almost three and a half grade levels above English textbooks regarding the readability level.

According to the results obtained, it can be concluded that English textbooks of translations are more readable than their Persian translations. The results of the current study are in line with the results obtained by Jabbari and Saghari (2011) and Kithinji and Kass (2010) and contradictory with the results obtained by Maftoon and Daghigh (2001) and Dye (1971). Jabbari and Saghari (2011) and Kithinji and Kass (2010) found that translation process affects the readability level and the translated texts are less readable compared to their originals. Maftoon and Daghigh (2001) found that there exists no difference between the readability levels of English texts and their Persian translations. Dye (1971) also found that when translating from French into English, the translated texts are more readable than their originals.

Regarding the results of this study about the issue of change of readability in the translation process, the researchers came to the interpretation that the change in the readability level of English textbooks of translation and their Persian translations can be due to two factors; the nature of Persian language and the process of translation.

Different languages have different natures. The nature of Persian language is different from the nature of English Language. Since the variables in the Gunning Fog Index are language dependent, this nature may affect the results obtained by the readability formula.

The process of translation is another reason for the change in the readability level of English translation textbooks compared to their Persian translations. Translated texts contain more words than their originals. One reason for using more words may be explicitation procedure used in translation. Since the number of words in a text is a variable in the Gunning Fog

Index the change in the number of words can change the readability level. In translation, the translator is faced with the dilemma of choosing the right equivalent for the word used in the source text. Sometimes this choice is toward hard words or words of three syllables or more. The higher the number of hard words, the more difficult a text is. The unit of translation in nonliterary texts is sentence (T-unit). Sometimes two or more sentences of the source text are linked together and translated as one sentence. The lower the number of sentences, the more difficult a text is.

Translation is a kind of writing in which the translator has to keep in mind the ideas presented in the source text and present them in the target language which is regarded as his/her own writing. Writing cannot be governed by readability formulas (Gunning, 1968). Readability formulas are used to measure the readability level of texts already written. The variables in these formulas can help us to come up with some guideline for writing more readable texts. Some of the guidelines for readable writing which can be inferred from the Gunning Fog Index are:

1) Keep sentences short

Short sentences are easy to read. As Gunning (1968) believes sentences should be kept under 20 words. If long sentences are used too, there should be a balance between long and short sentences. The principle of short sentence is an important guide to clear writing but it must be considered along with other principles as well.

2) Prefer the simple to the complex

Long words are mostly abstract and short ones and they are usually concrete. In writing, if the right word is a big one use it but if a shorter one exists use that instead. This principle does not mean that complex words should be totally avoided but it means “you need both simple and complex forms for clear expression” (Gunning, 1968, p.65). A balance should be kept in long and short words to make the text interesting and at the same time readable.

3) Prefer the familiar words

Gunning (1968) defines word as “separate entry in the dictionary” (p.75). Familiar words are words which people are able to use correctly. Writers who have experience with people and words can judge about the familiarity of words to the readers.

4) Avoid unnecessary words

Unnecessary words tire the readers, violate the rule of economy, and make the sentences long and complex. Using more words brings redundancy to your text which needs to be avoided. In order to improve readability, writers need to be to the point and omit unnecessary words and sentences.

5. Conclusion

The present study attempted to investigate the difference between the readability levels of English textbooks of translation and their Persian translations. The results of the analysis of the data obtained from the corpus demonstrated that Persian translations of English textbooks

of translation are less readable than their English originals.

The present research endeavored to shed light on the issue of change in the readability level which may occur in translation process. The findings of this research can help the translation textbook translators particularly those involved in translating translation textbooks from English to Persian to have a background perception about the change of readability in translation and let them make up their minds whether to take steps for translating textbooks specially translation textbooks or not.

The present study might have educational implications for students of translation studies to decide whether to use Persian translations of translation textbooks as a help for understanding the scientific concepts presented in the original textbooks or try to improve their knowledge of English in order to be able to read English translation textbooks without any need to refer to their Persian translations.

By paying attention to the guidelines which the researchers inferred from the variable in the Gunning Fog Index, translation textbook translators can prepare more readable Persian translations which are at least as readable as their originals.

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