

## The Literal Translation of Sclerometer User Manual from Chinese to Indonesia

| Stephanie Phanata<sup>1,\*</sup> | Juairiah Nastiti Sandyaningrum<sup>2</sup> | Maela Vitalia<sup>3</sup> |

<sup>1,2,3</sup> *Diploma of Mandarin Language, Vocational School, Universitas Sebelas Maret*

\**sphanata@staff.uns.ac.id*  
*jnsnastiti@staff.uns.ac.id*  
*maelavitalia29@student.uns.ac.id*

### ABSTRACT

The linguistic style and the readers are two vital aspects to consider in applying the literal translation on the 'Sclerometer User Manual'. These two aspects determine the word choices and their equivalents for the translation for the text to be well perceived by the readers. The descriptive qualitative method was employed for this study with two data sources, the primary data source which was the machine manuals in Chinese and the secondary data source from the documentation. In the process of language transfer, knowledge about Sclerometer, industrial and engineering vocabularies, and understanding of the text to be translated were proved to be highly required.

### KEYWORDS

Translations Method; Literal Translation; Sclerometer; Chinese Language.

### INTRODUCTION

Corrugated Carton Box and Paper Mills company is an industrial company that produces products such as cardboard boxes, paper tubes, and paper cones. The company itself imports a lot of machinery and production equipment from China. Most of the imported machines and tools including User Manuals are usually written in English or Chinese. However, not many User Manuals are presented in English. The Sclerometer is one of the tools imported from China, it is a tool to measure the hardness of the rubber on the roll contained in the flexo machine. This tool is equipped with a User Manual in Chinese. Thus, a translator is needed to translate the manual for the user to know how to operate the tool to eliminate the possibility of errors in the production process with the machine. Accordingly, this study aims to provide information on how to operate the Sclerometer that later can be used as a translation reference, especially in the translation of manuals on how to use industrial machines or tools.

### RESEARCH METHODS

#### a) *Written Translation*

Written translation is an activity that involves a translator as the mediator between writers and readers. Various types of written translation can be seen in articles, books, novels, etc. The difference between written and spoken translations according to Weber (1981) is that the written translation is a process of transferring messages from the source language to the target language.

Unlike spoken translation, written translation has enough time limit in its process. The translator has more time to comprehend the text first, that enables him to select the most appropriate vocabularies, word compositions, or terms in the target language. A translator must really understand the text to translate it by considering the target readers as well. Therefore, for the readers to be able to read the translated text as if they are reading the original one, it takes a translator with very good reading and writing skills.

*b) Translation Method*

Method, in Indonesian Dictionary (KBBI), is defined as an orderly way to carry out a job to achieve a goal; a systematic way of working to facilitate an activity to achieve a particular goal. Molina & Albir (2002) propose that the translation method “refers to the way a particular translation process is carried out in terms of the translator’s objective, i.e., a global option that affects the whole text” page 498. It can be said that the translation method refers to the way the translation process is carried out related to its purpose which affects the overall content of the text.

The literal translation is one of the translation methods that is done based on the source language by constructing the structure and grammatical composition of the source language that is equivalent to the target language. At first, each word is directly transferred to the target language, next the translator arranges the words and sentences’ structure and composition. This method is commonly used to reveal the translation problems that need to be solved.

*c) Literal Translation*

According to Newmark (1998) in the book *Pengantar Ilmu Menerjemah* (2013), literal translation or linear translation means verbatim or free translation. On the other hand, Nababan in Istiqomah (2009) argues that literal translation in its process is initially done word by word, then changes in grammatical structures are made following the grammatical rules of the target language.

In a CNKI article entitled 《浅谈直译法与意译法在翻译工作中的应用\_高强; 李曹》 explained that “直译法是指原汁原味地翻译原文句子的本意, 保持原有的文体形式, 包括原文句子的原有结构, 句子的原有修辞等, 这样, 目标语读者能轻松愉快地理解原文的真正含义” which means that literal translation refers to the original meaning of the original sentence, it keeps the form of the original text including the original sentence, sentence structure, the rhetoric, etc., so that readers of the target language can easily and happily understand the true meaning of the text.

In a literal translation method, the translator adjusts the source text structure into the structure of the target language but keeps the original sentence and language style. The advantage of this method is that even though the translation result is adjusted to the target language, it tries to preserve the original meaning, form, and grammatical structure for the readers to be able to enjoy the translated text as if they are reading the original text. Moreover, this method can reduce the possible deviations from the translation from the original text. However, since it strives to keep the original sound of the text, sometimes the translation becomes a bit stiff, the translated structure of the sentences seems to be coerced too much which results in an unfavorable level of acceptance on the readers’ side. Another disadvantage of the literal translation method is the lack of attention given to the context of the original text which can significantly affect the meaning of the original words.

The translation process is commonly begun by reviewing the entire original text. Then after getting an overview of the text, the translator starts with the translation process by translating the entire text to the target language and revising the translated text if there are any inequivalent word compositions, terms, or phrases. In the last step, the translator refines

the final text to be more natural without ignoring the original contents, meanings, and messages.

Based on the definitions of literal translation from various sources, it can be concluded that in a literal translation process, the translator must modify the grammatical structure of the original text to be as close to the structure of the target language for it to be easily comprehended by the readers. The literal translation processes are summarized in the following diagram.

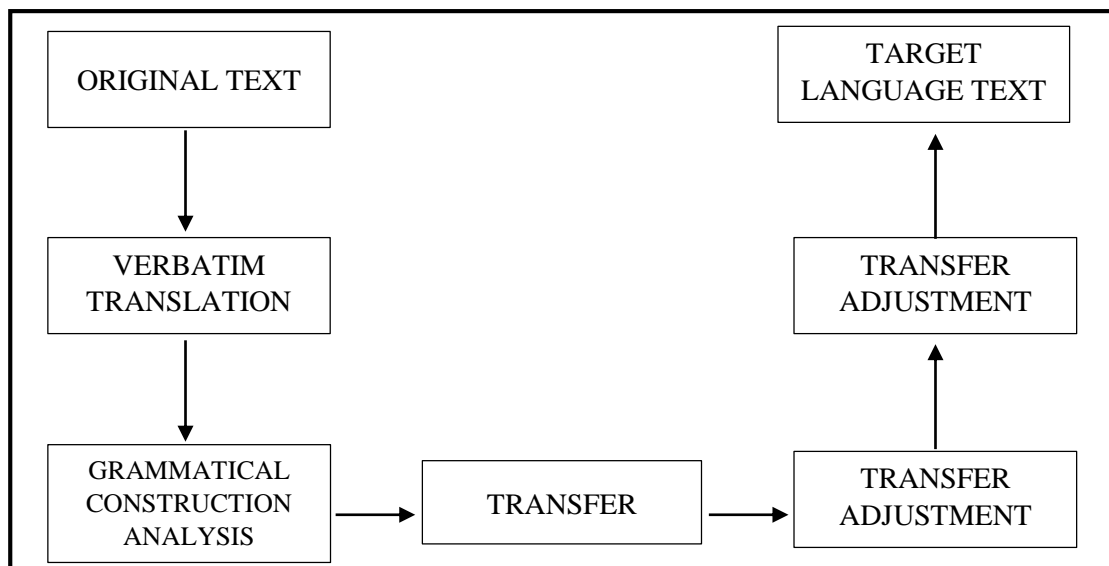


Figure 1. Literal Translation Process

d) *Sclerometer*

In the CNKI journal entitled 《《A 型邵氏硬度计示值误差检定结果的不确定度分析\_李侠》 explains that “邵氏硬度计又名橡胶硬度计，其特点是，结构相对简单，操作便捷，体积较小，便于携带，适合进入现场对硬度进行测定，现广泛用于机械制造、化工、冶金、铸造等行业，主要用其测定橡胶制品及塑料制品的硬度，以确保其指标在合格范围内，因此确保邵氏硬度计示值检定结果的准确可靠对于保证产品的质量至关重要” which in English means “Shore Hardness Tester also known as Rubber Hardness Tester with a relatively simple structure characteristic, convenient operation, small size, easy to carry and suitable for on-site hardness measurement. This instrument is widely used in machinery manufacturing, chemical industry, metallurgy, foundry, and other industries, it is mainly used to measure the hardness of rubber and plastics to ensure that the indicator is within the qualified range. Therefore, to ensure product quality, it is very important to determine the accuracy of the Shore Hardness Tester test value.”

Sclerometers or hardness testers are used widely in industrial activities, such as in paper packaging. It is used to measure the level of hardness of the components or material in the production process, in the paper industry it is used to measure the hardness of rubber roll in the flexo machine. The hardness value is one of the parameters determining the quality of the material. The scale or unit for rubber hardness is ‘shore’. Type A is used for material like rubber, while for material harder than rubber-like paper should use Type D.

**RESULTS AND DISCUSSION**

**Translation Technique on Sclerometer Users’ Manual**

1. *Manual Content*

Sclerometer User Manual 《硬度计使用说明书》 consists of two pages containing the device’s identity, the classification of structural forms, instruction for use and the specification table.

2. *Considerations in the Translation Process*

There were two considerations in the process of translating the Sclerometer Users’ Manual, which are:

a. *Linguistic Style*

The process of translating the Sclerometer User Manual is by paying attention to the linguistic style. In dealing with text with technical terms, the translators are expected to be able to use the most practical and precise choices of words of the target language that are compatible with the source language. Technical texts are generally written in the standard and precise language, the standard means using the formal language, and precise means that the words do not imply double meanings that can cause confusion to the readers. Careful attention must as well be paid to translating the technical terms in order to minimize errors in translation.

b. *The Target Readers*

Before proceeding to the translating process, it is important to find some information regarding who the target readers are. Knowing who is going to read the text can give a hint if the readers are not familiar with the field and whether the linguistic style needs to be made more simple and to find the target words that are equivalent to the source words to enable the readers in comprehending the meaning and messages of the text. The results of this study are intended to provide companies with a general overview, structural form classification, instructions, and Sclerometer model specification table.

**The Translation Results using the Literal Translation Method**

The literal translation method is the closest method to the verbatim translation, only it pays more attention to the grammatical construction of the target language, even though it is a source language-oriented method.

The following is the application of literal translation on the Sclerometer User Manual.

**Table 1.** Literal Translation of Source Language 1

Hanzi	Pinyin
<p>一，概述                      橡胶。塑料硬度是橡胶。塑料综合性能的反映，而邵氏硬度计是测量橡胶，塑料硬度的一种比较精密的测量工具。本产品采用《ISO 868-1986 塑料与硬质橡胶一用邵氏硬度计测定压硬度》。《ISO 7619 橡胶一用邵氏硬度计测定压痕硬度》国际标准组织</p>	<p>Yī, Gàishù                      Xiàngjiāo. sùliào yìngdù shì xiàngjiāo. Sùliào zōnghé xìngnéng de fǎnyìng, ér shào shì yìngdù jì shì cèliáng xiàngjiāo, sùliào yìngdù de yī zhǒng bǐjiào jīngmì de cèliáng gōngjù. Běn chǎnpǐn cǎiyòng “ISO 868-1986 sùliào yǔ yìng zhì xiàngjiāo-yòng shào shì yìngdù jì cèdìng yā yìngdù”. “ISO 7619 xiàngjiāo-yòng shào shì yìngdù jì cèdìng yā hén yìngdù” guójì biāozhǔn zǔzhī shēngchǎn hé jiǎnyàn. Chǎnpǐn</p>

生产和检验。产品按使用要求分为台式硬度计和携带式硬度计二种类型。	àn shǐyòng yāoqiú fēn wéi táishì yìngdù jì hé xiédài shì yìngdù jì èr zhǒng lèixíng.
<p><i>1. Summary</i></p> <p>The plastic hardness reflects the comprehensive function of rubber and plastic. The shore hardness tester is a relatively accurate tool for measuring rubber and plastic's hardness. This product was adopted (ISO 868-1986 plastic and hard rubber-the indentation hardness specification by using a shore hardness tester). (ISO 7619 rubber-the indentation hardness specification by shore hardness tester) produced and tested by international organizations for standardization. This product has two types, desktop hardness tester and portable hardness tester.</p>	
<p>The literal translation process for the sentence "橡胶。塑料硬度是橡胶" was done verbatim by paying attention to the grammatical construction of the target language. The translation results into "Rubber. Plastic hardness is a rubber", because the word "橡胶" is repeated, it is necessary to simplify it so that the sentence becomes more effective and easier to understand. Equally, the word "测量" is defined as "measure", but can also be interpreted as "survey" when related to the context of the sentence. And the word "压痕" when translated verbatim means "pressure mark" but this word in the use of Sclerometer is defined as "indentation".</p>	

Table 2. Literal Translation of Source Language 2

Hanzi	Pinyin
二，结构形式。分类 按硬度计压针形状主要分为A型，D型和O型三种。	Èr, Jiégòu xíngshì. Fēnlèi Àn yìngdù jì yā zhēn xíngzhuàng zhǔyào fēn wéi A xíng, D xíng hé O xíng sān zhǒng.
<p><i>2. Classification of Structural Form</i></p> <p>According to indenter shapes, the Sclerometer hardness tester is classified into three types: type A, Type D, and Type O.</p>	
<p>The literal translation process of the sentence "结构形式。分类" when translated according to the punctuation mark ". " will result in a slightly stiff translation, such as "Structural form. Classification". Hence, the punctuation marks in the sentence were omitted so that the result of the translation became more acceptable "Classification of structural forms". Likewise, the word "压针" if it is translated verbatim it will become "pressure needle" but the word "压针" in the industrial field is commonly called "indenter".</p>	

Table 3. Literal Translation of Source Language 3

Hanzi	Pinyin
三，使用说明 测试试样厚度要大于6mm， 不够厚度时，以同样材料垒置，但 不得多3层。测试面积不能小于压 足（中18mm）边缘。	Sān, Shǐyòng shuōmíng Cèshì shì yàng hòudù yào dàiyú 6mm, bùgòu hòudù shí, yǐ tóngyàng cáiliào lěi zhì, dàn bù de duō 3 céng. Cèshì miànjī bùnéng xiǎoyú yā zú (zhōng 18mm) biānyuán.

<p>1. 台式硬度计测量：先将硬度计向上拉，然后放入试样，再将硬度计慢慢放下，以测量三个试点的平均值为试样的硬度值。</p> <p>2. 便携式硬度计测量：以手抓紧硬度计，使压足与试样均衡紧压（使用压力见下表），1秒钟时表中指示的读数，以测三个点的平均值为该试样的硬度。</p>	<p>Yī. Táishì yìngdù jì cèliáng: xiān jiāng yìngdù jì xiàngshàng lā, ránhòu fàng rù shìyàng, zài jiāng yìngdù jì màn màn fàngxià, yǐ cèliáng sān ge shìdiǎn de píngjūn zhí wèi shìyàng de yìngdù zhí.</p> <p>Èr. Biànxíeshì yìngdù jì cèliáng: yǐ shǒu zhuājǐn yìngdù jì, shǐ yā zú yǔ shìyàng jūnhéng jīn yā (shǐyòng yālì jiàn xià biǎo), 1 miǎo zhōng shí biǎo zhōng zhǐshì de dúshù, yǐ cè sān ge diǎn de píngjūn zhí wèi gāi shìyàng de yìngdù.</p>
<p>3. <i>Instruction for Use</i></p> <p>The thickness of the test sample should be greater than 6mm. If the thickness is not enough, lay the same material as the base but not more than 3 layers. The test area must not be smaller than the foot pressure (18mm in the middle).</p> <p>1. Desktop hardness tester measurement: first pull out the hardness tester, then insert it into the sample, then slowly place the hardness tester, the average value of three experiments is taken as the sample hardness value.</p> <p>2. Portable hardness tester measurement: firmly hold the hardness tester by hand, then balance the foot pressure and the sample area (for the use of pressure see the table below), the reading shown in the table at 1 second is the average value of the three test points that is the hardness of the sample.</p>	
<p>The literal translation process for the sentence "1 秒钟时表中指示的读" the word "指示" was originally interpreted as "instructed", but it is not appropriate for the context of the sentence being translated, thus the word was translated into "shown".</p>	

**Source Language 4:**

硬度计的型号，参数见表（mm）

型号 Xínghào	总测力 Zǒngcèlì	外压力 Wàiyālì	测量头形状 Cèliángtóu xíngzhuàng	针长 Zhēncháng	表盘刻度 Biǎopán kèdù
A	8.1N	1Kg	压针锥项角度 35° Yā zhēn zhuī xiàng jiǎodù 35°	2.5	0-100
D	44.5N	5Kg	末端尖 30° Mòduān jiān 30°	2.5	0-100
O	8.1N	1Kg	球面半径 2.38 Qiúmiàn bànjìng 2.38	2.5	0-100

Yìngdù jì de xíng hào, cān shù jiàn biǎo (mm)

注意事项：常规使用选用 A 型或 D 型，当 A 型 硬度值大于 90°时建议使用 D 型或型选择其它型号。使用后须妥善保管。Zhùyì shìxiàng: chángguī shǐyòng xuǎnyòng A xíng huò D xíng, dāng A xíng yìngdù zhí dà yú 90°shí jiànyì shǐyòng D xíng huò xíng xuǎnzé qítā xíng hào. shǐyòng hòu xū tuǒshàn bǎogǎn.

**Translation results:**

Refer to the table (mm) to find out the model and parameters of the hardness tester.

Model	Total Strength	External Pressure	Head Shape Size	Needle Length	Mesurement Scale
A	8.1N	1Kg	Indentor cone angle 35 °	2.5	0-100
D	44.5N	5Kg	Sharp tip 30°	2.5	0-100
O	8.1N	1Kg	Ball radius 2.38	2.5	0-100

Note: For ordinary use can use Type A or Type D. If the hardness value of Type A is greater than 90° it is recommended to use Type D or other Types. Store properly after use.

**Obstacles and Solutions in Language Transfer from Chinese to Indonesian**

The following were some obstacles found in the process of translating the Sclerometer User Manual 《硬度计使用说明书》.

*1. The lack of knowledge on the Sclerometer*

The initial obstacle during the translation process was the lack of knowledge and information about Sclerometer as the object of research. Appropriate basic knowledge of the research object can support the quality of translation. On the other hand, the lack of information on the general description, usage, and specification of Sclerometer can make the translation process difficult especially in determining the proper sentence structure and word composition.

**Solution:**

Search the internet for information on the general description, usage, and specification of Sclerometer and ask the technician from the company.

*2. The lack of ability to analyze long and difficult sentences*

Translating could sometimes become difficult when encountering long sentences that are difficult to understand.

Example:

橡胶。塑料硬度是橡胶。塑料综合性能的反映，而邵氏硬度计是测量橡胶，塑料硬度的一种比较精密的测量工具。

The above sentences can be separated into three parts.

**Table 4.** Examples of Hard and Long Sentences

Original Sentence	Indonesian early translation	English Translation
橡胶 Xiàngjiāo	Karet	Rubber
塑料硬度是橡胶 Sùliào yìngdù shì xiàngjiāo	Kekerasan plastik adalah karet	Plastic hardness is rubber
塑料综合性能的反映， Sùliào zōnghé xìngnéng de fǎnyìng, 而邵氏硬度计是测量橡胶，	Cerminan dari fungsi komprehensif plastik, <i>shore hardness tester</i> adalah sejenis alat ukur yang relatif	Reflecting on the comprehensive function of plastics, shore hardness tester is a kind of relatively

ér shào shì yìngdù jì shì cèliáng xiàngjiāo, 塑料硬度的一种比较精密的测量工具。 Sùliào yìngdù de yī zhǒng bǐjiào jīngmì de cèliáng gōngjù.	akurat untuk mengukur kekerasan karet dan plastik.	accurate instrument for measuring the hardness of rubber and plastics.
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The above words can be translated as follows:

Plastic hardness is the reflection of the comprehensive function of rubber and plastic. *Shore Hardness Tester* is a measuring tool that can accurately measure the hardness of rubber and plastic.

### Solutions:

To conquer long and difficult sentences, first, use the verbatim translation to find out if there are repeated words that need to be simplified so that the sentences become shorter and easier to understand.

### 3. The lack of knowledge on the industrial vocabularies particularly mechanical engineering

The manual uses a lot of new vocabularies especially those that are related to industrial and mechanical engineering. There were some difficulties in the translation due to the lack of comprehension of industrial vocabularies.

Example:

**Table 5.** Examples of Industrial Vocabularies

No	Vocabularies			
	Hanzi	Pinyin	Type of word	Meaning
1	测量	Cèliáng	Verb	Measure
2	厚度	Hòudù	Noun	Thickness
3	检验	Jiǎnyàn	Verb	Examine
4	精密	Jīngmì	Adjective	Accurate
5	均衡	Jūnhéng	Adjective	Balanced
6	类型	Lèixíng	Noun	Type
7	平均	Píngjūn	Adjective	Average
8	使用	Shǐyòng	Verb	Use
9	试样	Shìyàng	Noun	Sample
10	说明	Shuōmíng	Verb	Directions
11	同样	Tóngyàng	Adjective	Equal; same
12	性能	Xìngnéng	Noun	Function
13	压针	Yā zhēn	Noun	Indentor
14	硬度计	Yìngdù jì	Noun	Hardness Tester
15	指示	Zhǐshì	Verb	Instruct
16	综合	Zōnghé	Adjective	Comprehensive



**Solutions:**

Increase knowledge of industrial and mechanical engineering vocabularies by reading related articles on the internet or through Chinese practical and electronic dictionaries. *Pleco* and *Hanping Lite* are two electronic dictionaries that are often used because they do not only provide meanings but also how to apply the words into sentences.

4. *The difficulty in selecting the proper words*

One word may have more than one meaning, and the selection of meaning must correct and meet the context. In a sentence, a word holds a vital role, and for that selecting the most proper word composition is not an easy task to do. Because one wrong choice of word may lead to ambiguity for the readers.

For example:

- 硬度计 (Yīngdùjì) in Indonesian it is ‘penguji kekerasan’, but in its everyday usage, it is often called ‘Hardness Tester’ thus, it is then called by its English term.
- 压针 (Yāzhēn) if translated verbatim to Indonesian it would mean ‘jarum tekanan’, however, in Sclerometer User Manual it is called *Indentor*, and it is a common term that is used in the industrial field. Hence, *Indentor* becomes the translated word.

**Solution:**

Find another translation, if the first result does not match with the context of the sentence, and ask the technician for the application of the original text or phrase.

5. *There are certain terms with no equivalent in the target language*

During the process of language transfer from Chinese to Indonesian, there were a few vocabularies that cannot exactly be translated or to be precise, there is no Indonesian word that is equivalent to that of Chinese. If the words are still translated into Indonesian, the meaning will not be accurate.

Example:

- 台式硬度计 (táishì yīngdù jì)
- 便携式硬度计 (xié dài shì yīngdù jì)
- 邵氏硬度计 (shào shì yīngdù jì)

These three words are translated into:

- 台式硬度计 (táishì yīngdù jì) → *Desktop Hardness Tester*
- 便携式硬度计 (xié dài shì yīngdù jì) → *Portable Hardness Tester*
- 邵氏硬度计 (shào shì yīngdù jì) → *Shore Hardness Tester*

**Solutions:**

Do not translate those three words to Indonesian, because the English terms are already provided and they are more easily accepted and understood by the readers.

6. *The results of literal translation seem a bit stiff*

The use of literal translation method for Sclerometer User Manual could not escape from being stiff as this method is very oriented to the source language.

Example:

1 秒钟时表中指示的读数，以测三个点的平均值为该试样的硬度。

*1 miǎo zhōng shí biǎo zhōng zhǐshì de dúshù, yǐ cè sān ge diǎn de píngjūn zhí wèi gāi shìyàng de yīngdù.*

Translation: The reading shown in the table at 1 second is the average value of the three test points, that is the hardness of the sample.

**Solution:**

Maximize the use of regular vocabularies that are often seen in the target language texts and do a little revising if the translation still sounds too stiff.

**CONCLUSION**

There are a few things to consider in translating Sclerometer User Manual using the literal translation. First is the linguistic style, since the manual uses many technical terms, the scientific linguistic style must be applied in the process of translation, as well as the choice of word compositions to minimize errors in translation. Second is the target readers of the manual. If the readers do not have knowledge of the related field, it is important to simplify the linguistic compositions in their favor to avoid ambiguousness.

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