

## COMMON ERRORS IN TRANSLATION OF LABORATORY EQUIPMENT MANUAL IN AN ESP CLASS

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### *Abstract*

*Industrial revolution 4.0 provided greater opportunities for digital technologies. Therefore, English is essentially needed especially in health sciences since it serves as language of instruction in guidelines published by WHO, recent updates in research journals, and the like. Consequently, English had been a compulsory subject in institutions of higher learning. In medical laboratory technology, English is needed to be applicable in comprehension of laboratory equipment manuals. The purpose of this study was to analyze common errors in translation of laboratory equipment manuals in an ESP class. This was a descriptive quantitative study. Data were obtained from assessment of 34 translation works performed by students in an ESP class. This study used authentic materials. There were four common problems identified in this study, word-choice problems, grammatical problems, pragmatic problems, and cultural issue. Grammatical problems became the cases with highest occurrence ranging from 82.35 – 97.6% among the errors found in the translation performed by the students.*

**Keywords:** *Laboratory equipment, Manual, Translation, English for specific purposes*

### INTRODUCTION

Industrial revolution 4.0 provided great opportunities for making use of digital technologies. Therefore, literacy plays a pivotal role on daily basis. Fitriyani and Aziz explained there are three types of literacy which develop in this Era, namely data literacy, technology literacy and human literacy (Fitriyani & Aziz, 2019). Consequently, English is essentially needed in workplace in order to keep up with rapid advancement in this era, including health sector where the newest journal and researches are published in English. Guidelines released by World Health organization are also published in English. Due to this fact, many institutions of higher adopt English into their curriculum.

However, it is still difficult to achieve the expected English language abilities, especially for non-English major. Masduki who assessed the English language abilities of students of non-English major found that almost half of them were still below average level (Masduki, 2011). Specifically, English language abilities of students from health sciences did not differ from previous research. Sulistiana, et al.

found that their students were still in beginner level (Sulistiana et al., 2019). The similar results were also obtained in nutrition sciences (Aflah & Rahmani, 2018) and medical record administration (Setyowati, 2012). In medical laboratory technology, most of the students were also classified in the lowest level, either in written English (Juita & H, 2019) or in spoken English (Juita, 2021).

In English class of medical laboratory technology, students are expected to apply their knowledge on reading laboratory equipment manual. They are expected to be able to identify the basic probes, operate, and maintain the laboratory equipment based on what they have read in the manual. To be able to read and comprehend a text, a student should also be able to translate it into their language (Malekan & Hajimohammadi, 2017).

### **English for Specific Purposes**

English for specific purposes is defined as the English learning for specific purpose for non-native speakers of English, for example English for vocational students. Agustina emphasized that learning approach, content, and methodologies can be designed corresponding to the learning goals (Agustina, 2014).

Basturkmen in Yulientinah et al. stated that English for specific purposes has two characteristics, absolute and variable. In absolute characteristics deal with discourse, grammar, and specific language skills. Variable characteristics applied different learning methods with general English because it is designed to achieve specific goals. It is usually designed for adults learners or working people.

Some researches showed English for specific purposes is needed in English language learning. Saliu and Hajrullai found that 75% of college students perceived that English learning related to specific field is essentially needed (Saliu & Hajrullai, 2016). A research by Yulientinah also pointed out that English was also needed for academic purposes and discussion on topics relevant to specific field of study were to be considered (Yulientinah et al., 2020). Boscher emphasized that English for specific purposes assisted students to comprehend latest journal discussing recent updates in health sciences. It also supported them to be promoted to higher positions (Bosher &

Stocker, 2015). Due to these facts, English for specific purposes has been integrated into the curriculum of higher learning.

### **Using Translation as an Approach in ESP Classes**

Recent researches presented preference on translation-based learning in ESP Classes. This will effectively work in English classes where English is perceived as a foreign language. This research highlighted that this approach differed from the old translation approach which focused on grammar translation method (Mažeikienė, 2018). Recent approach on translation-based learning in ESP classes focused on adapting some relevant texts from source language to target language and make it understandable in the target language. This is also supported by Chirobocea who stated that this approach focus on specific vocabulary and authentic materials which supported their knowledge on English to be applicable in workplace (Chirobocea, 2019).

There are some benefits which can be obtained by integrating translation into ESP classes. First, this enables the students to apply their language skills in workplace. Mažeikienė specified that this can improve the students' competencies and performance (Mažeikienė, 2018). Second, it can induce independent learning where students need to explore their language skills resulting in in-depth understanding. This is in line with Rushwan who reiterated that the translation-based learning encourage students to focus on the level of sentence, phrase, and word (Rushwan & Mohammed, 2017).

### **Translation Issues Associated with Machine Translation**

Industrial revolution 4.0 makes rapid advancement in digital technologies. However, the students cannot rely on machine translation which are readily available. Even if the students can transfer a text from the source language into the target language they still need to make it understandable and demonstrable. Furthermore, a word in english can have multiple meanings. A translator need to select the appropriate meaning based on the context (Taamneh, 2018). This will be difficult to be done by the machine because the machine just processes the translation. It does not

take context and synonyms into account when accomplishing the translation tasks. In addition, academic texts frequently contain terminologies which are difficult to translate (Maloku-Morina, 2013). Machine translation usually deals with basic vocabularies and scarcely deals with terminologies. Therefore, translation on specific terminologies does not work on machine translation. Finally, the result of machine translation often contain errors, such as grammatical error and content error (Napitupulu, 2017). This problem arises when grammar of the source language does not correspond to grammar of target language, thus it is difficult to find the equivalent translation. Based on these reasons, it is obvious that students cannot rely on machine translation, especially when the texts to be translated contain academic terminologies related to some fields of study.

### **Frequently Encountered Problems in Translation**

Napu and Hasan explained there were five problems dealing with translation: grammatical problem, word-choice problem, rhetorical problem, pragmatic problem, and cultural issue (Napu & Hasan, 2019).

1. Grammatical problems deal with differences in grammar of the source language and target language
2. Word-choice problems deal with some words which have multiple meanings. The meaning of the word itself is determined by the context where it is used.
3. Rhetorical problems deal with figurative language used in the source text.
4. Pragmatic problems focus on how to transfer the message in the text into the target language without changing the meaning.
5. Cultural issues discuss about texts containing cultural terms or culture-related things which do not exist in the target language.

### **METHODOLOGY**

This is a descriptive quantitative study. Data were gathered and analyzed to explain phenomena which are being studied (Gay et al., 2012). Numerical data were obtained from assessment of translation performed by the students. There were 34 translations

works of the students taking an English for specific purposes class. They became the instruments of the study. The students were instructed to perform translation on the manual of laboratory equipment. The manuals of laboratory equipment chosen for this study was microscope which was widely used in medical laboratory technology. The manual used in this study was authentic materials provided by the manufacturers which are available online. The results of their translation were then analyzed to classify common errors found in them. Those errors were subsequently categorized into five common problems found in translation.

## RESULTS

There were four of five common problems in translation which were identified in the results of translation performed by the students: word-choice problem, grammatical problem, pragmatic problem, and cultural issue.

*Table 1. Identification of Translation Problems*

<b>Problems identified</b>	<b>Number of cases</b>	<b>Range in Percentage</b>
Word-choice problem	6	14.71 – 76.47
Grammatical problem	4	82.35 – 97.06
Pragmatic problem	3	35.29 – 64.71
Cultural issue	3	73.53 – 98.05

The most common of translation problems identified among the students were grammatical problem which covered 82.35 - 97.06% of the population which meant that these grammatical problems were identified in more than two third of the students. In some cases, almost all students (97.06%) had problems with grammatical issue.

Word-choice problem was the category where number of cases identified were the lowest of all (14.71%). This meant that in some cases associated with word-

choice, only 14.71 of the students had problems with word-choice during the process of translation.

Pragmatic problem and cultural issue became the second and third common translation problems identified in this study. The lowest percentage was 35.29% and the highest percentage was 88.24%. This meant that at least one third of the students had difficulties translating texts associated with pragmatic and cultural issue.

## DISCUSSION

### Word-choice Problems

Word-choice problems deal with words, phrases, and idioms. Cases found in this category are:

1. Approximately (word)
2. User-friendly design (phrase)
3. Keep in place (phrase)
4. An inward-facing rotating nosepiece (phrase)
5. A built-in security slot (phrase)
6. Smooth rounded design (phrase)

Most students did not have difficulty dealing with single word. The only word they had difficulty was the word *approximately*. This word was written *approx.* in a sentence, “*The CX23 microscope is one of the lightest in its class, with a total weight of approx. 5.9kg (13.01 lbs).*” There were 6 students (17.65%) who skipped this word in their translation.

Most problems in word-choice were associated with phrase, either noun phrase or verb phrase. In noun phrase, modifier comes in front of the noun, whereas in Bahasa Indonesia, modifier follows noun. Therefore, some errors found in the translation of noun phrase, for example in *smooth rounded design* which was mostly translated as *halus desain bulat*. This case was found in 26 students (

Moreover, the students were not familiar with noun phrases which had more than one modifier and separated with a dash. This modifier usually had single meaning,

thus it was separated with a dash, For example in *user-friendly design*. This phrase was mostly translated as *desain pengguna yang ramah*.

In addition, verb phrase also became problems in translation, for example in a phrase *keep in place* in the sentence, “A locking pin keeps the observation tube in place” which were frequently translated as “*sebuah pin pengunci menjaga tabung observasi di dalam tempatnya*”. This was found in 5 students (17.47%).

### **Grammatical Problem**

Most problems associated with grammatical problem found in the translation were

1. Active and passive sentences
2. Adjective phrase

Most students failed to identify passive sentences and tend to translate it as active sentences, for example in a sentence “*the arm is angled*” which was translated as “*lengan mikroskop menyudut*”. This case was found in 28 students (82.35%).

Furthermore, almost all students failed to identify adjective phrase in a sentence, thus they failed to identify the main sentence which finally led to slight changes in the meaning of the sentence. An example of this case was in the sentence: “*An inward-facing rotating nosepiece facilitates a larger working area above the stage, enabling easier operation and specimen exchange*” This case was found in 33 out of 34 students (97.05%).

### **Pragmatic Problem**

Pragmatic problems arise when the students couldn't identify the meaning of this word in the source language before translating them into the target language. Some of the words associated with pragmatic problems are

1. Stage
2. Objective
3. Field of view

In this case, these three words were terms related to the field of medical laboratory technology. These are parts of microscope. Before doing the translation,

the students should have initially identified that these are words specific to medical laboratory terms. The word stage which meant *meja preparat* became *tahapan*, *panggung*, or *stadium* when it was literally translated. This case was found in 12 students (35.29%). Then, objective which should be translated as *lensa objektif* became *tujuan* in literal translation. This case was found in 22 students (64.71%).

### **Cultural Issue**

One of the difficulties in translating texts was cultural issue. There were some things in the source language that did not exist in target language, for example:

1. Translation of the plural pronoun like “they” or “them”
2. Translation of it which does not have specific meaning
3. Difference in unit of measurement between countries.

First, plural pronoun *they* meant *mereka* in Bahasa Indonesia. However, they were used differently in English and in Bahasa Indonesia. In English, *they* could refer to all plural noun, whereas *mereka* was only used to replace human noun. An example of this case could be seen in a sentence, “*Interpupillary adjustments, ranging from 48 to 75 mm enables individual users to set them to their needs*”. The use of pronoun *them* in this sentence refers to interpupillary adjustments. Therefore, it shouldn’t have been translated as *mereka*. However, 33 out of 34 students (98.05%) did this.

Second, the use of *it* as reference which did not have specific meaning, for example in the sentence, “*A storage compartment on the back of the CX23 microscope makes it easy to stow the power cable after use*”. The use of pronoun *it* in this sentence does not have specific meaning, so it was not necessarily translated as *itu* in Bahasa Indonesia. This was found in 25 students (75.35%)

Finally, difference in unit of measurement also became a problem in translation, for example “*The CX23 microscope is one of the lightest in its class with a total weight of approx. 13.01 lbs*”. Indonesia used *kg* instead of *lbs* to measure weight. 26 students (76.47%) had difficulty translating this and chose to skip it.



## CONCLUSION

There were 4 out of 5 translation problem dealing with English for specific purposes which were identified in this study. They are word-choice problem, grammatical problem, pragmatic problem, and cultural issue. The most common problems found in grammatical problems which covered 82.35 – 97.06%. the lowest case found in word-choice problem which covered 14.71 – 76.47%. In some cases, in this group, only 5 students had difficulty with word-choice.

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