Difficulties Faced by Translation Students in Translating Scientific Texts from English - into - Arabic

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ABSTRACT:

It is unquestionable that English – Arabic scientific translation is increasingly becoming a topic of much concern and importance today. This study was conducted on fourth year students studying at Translation Department, College of Arts, Al-Mustansiriyah University, to investigate errors made by Iraqi students at the University level in translating a scientific text from English into Arabic; it was conducted on 66 students. The students were given a scientific text to translate and then the text was analyzed according to a special scoring scheme to show the problems in translating the items concerning order and sequence (clear and unclear), Translation (Under translation , complete translation, and over translation), and Accuracy (title and numbering). According to statistical analysis, the students made errors and faced some difficulties in translating the text because many of them depended on using dictionaries for general purposes instead of using specialized scientific dictionaries.

1. Introduction

In scientific works, subject matter takes priority over the style of the linguistic medium, which aims at expressing facts, experiments, hypotheses, etc. The reader of such scientific works does not read it for any sensuous pleasure which a reader of literary works usually seeks, but he is after the information it contains. Scientific words differ from ordinary and literary words

since they do not accumulate emotional associations and implications. This explains why the translation of a scientific work is supposed to be more direct, freer from alternatives, and much less artistic than the other kinds of prose. The language of scientific and technical language is characterized by impersonal style, simpler syntax, use of acronyms, and clarity. The translator of scientific texts has to posses some knowledge (at least a general sort of knowledge) of the subject matter he undertakes to translate. The words (or scientific vocabulary) in a scientific text are usually used with a precise signification (Fargal, M. and Shunnaq, A., 1999:210-211). Each word usually has one well-defined meaning which is not ambiguous, nor likely to change whenever it occurs. They even occur with similar signification in different languages of the world. The scientific vocabulary in fact is specialized, and not intelligible but to scientists and students of science.

Translating a scientific text from English into Arabic nowadays is not a straight forward activity, since it involves certain translation problems. In fact, Arabic had played an essential role in the progress of science and humanity in general, over the centuries. Arabs in sciences (such as chemistry, geometry, algebra, astronomy, engineering, medicine, etc.) made valuable and very important additions and contribution to human knowledge, for they (the Arabs) were the "pioneers of learning and bringers of light to mediaeval Europe" (IIyas, A., 1989: 109-111).

2. Scientific Register:

Scientific texts underline the information content without bothering about features that are characteristic of poetic texts, such as rhyme, and connotative or symbolic meaning. We also notice that most of the elements in scientific texts are not unexpected. One might even define the meaning of these texts according to the actual use of items to refer to things in the real world or to the “extension” as contrasted to the potential meaning of things as they are perceived, conceived, or represented in terms other than their actual appearance and/or function by the perceiving man, or to the ‘intention’ of their producers (Weinrich, 1976: 14). For the purpose of more vivid characterization of these texts, we shall mention some major ones of these features by referring to Bakr-Serex (1997: 54-7):

First, this register is characterized by the logical order of utterances with clear indication of their interrelations and interdependence.

Second, it flourishes the use of terms specific to each given branch of science; in modern science; however, there is a tendency to exchange terms between various branches of science.

Third, another characteristic feature of this register is the frequent use of specific sentence-patterns, usually the Postulatory, the Argumentative and the Formulative patterns. The impersonality of this type of writing can be revealed in the frequent use of passive voice constructions with which scientific experiments are generally described.

Fourth, one more observable feature of the scientific register is the use quotations, references, and foot-notes in accord with the main requirement of this register, i.e. the logical coherence of the ideas expressed.

Finally, science does not have its own syntax only, but also its own terminology. And we have already hinted at the importance of the familiarity with this terminology resting on a solid foundation of previously acquired knowledge on behalf of the translator. Therefore, it is not the language itself which is special, but certain words or their symbols.

3. Requirements of a scientific translator

According to some Translators, to be a scientific translator one should have (Gasagrade, 1954: 335-40):

1. Broad knowledge of the subject-matter of the text to be translated.

2. A well-developed imagination that enables the translator to visualize the equipment or process being described.

3. Intelligence, to be able to fill in the missing links in the original text.

4. A sense of discrimination, to be able to choose the most suitable equivalent term from the literature of the field or from dictionaries.

5. The ability to use one's own language with clarity, conciseness and precision.

6. Practical experience in translating from related fields. In short, to be technical translator one must be a scientist, or engineer, a linguist and a writer.

4. The Test

4.1Population and Sample of the Test

This test was conducted on fourth year students studying at Translation Department, College of Arts, Al-Mustansiriyah University, to investigate errors made by Iraqi students at the University level in translating a scientific text from English into Arabic. The choice was primarily based on the fact that students at this level have a fairly good command of English after 2-4 years of intensive study. Added to this, they have studied and practiced translation in a number of courses. I have chosen for the test (60) fourth year students of total (66) students made of two sections (A, B). The two sections were gathered together and tested (Table 1).

Table (1) Population and Sample of the Test

University / College	Department	Section		Total students	Present	Absent	Missing Answers
		A	B				
Al-Mustansiriyah, College of Arts	Translation	34	32	66	55	6	5

Present: Refers to those students who answered the test without any lack in answer, but with mistakes (total 55 students) Absent: Refers to those students who did not attend the test (total 6 students).

Missing Answers: Refers to those students who might have unanswered the test completely because of arriving late after the first quarter of time allotted for the test (total 5 students).

4.2 Description of the test

The passage chosen for the test is a scientific passage titled "Oil Exploration and Production Activities" (IIyas, A., 1989:160). The tested were allowed to consult general and specialized dictionaries because translating the words without a specialized dictionary could give the wrong meaning. The students were asked to translate the text from English into Arabic. The passage has deliberately been chosen for the following reasons:

(a) The students have already been familiarized with the topic by one of the teachers, who has been teaching them for the last four years. Thus, the meanings in this passage most likely fall within their understanding.

(b) It is of a fair length to suit the allocated time which is (120) minutes.

(c) There was an answer paper attached with the text of the test to save time and effort in answering.

(d) The passage is rather interesting for the testing students as they have to deal with its translation requirements, especially in matters like translation (complete translation, under translation, over translation), order and sequence (clear, unclear), accuracy (title, numbering).

4.3 Scoring Scheme

In order to ensure reliability of our results, a special scoring scheme was set that depends on the answers of the students (Table 2). The scores for answers ranged as follows:

Order and Sequence : Clear (0, 3, 6)
Unclear (zero)

Translation : Under Translation (zero)

Complete Translation (0 , 5 , 10)

Over Translation (zero)

Accuracy : Title (0 , 3 , 6)

Numbering (0 , 3 , 6)

The Scoring scheme has been done by the researcher.

Section	Rate	Subsections	Rate
Order and Sequence	6	Clear	6
		Unclear	0
Translation	10	Under Translation	0

		Complete Translation	10
		Over Translation	0
Accuracy	12	Title	6
		Numbering	6
Total	28	Total	28

TABLE (2) Distribution of Test's Items

Order and Sequence: Clear: The translation of ideas and information should be in logical order.

Unclear: The translation of the text will not be understood if the sequences of paragraphs are not translated orderly.

Translation: Over Translation: Means that the translation is more than required.

Complete translation: Means that the translation should not be too long or short.

Under Translation: Means that the translation is not complete. Less than required.

Accuracy: Titles: The reader can understand what the text سسmeans from the title; because the mistranslation of a title may cause some confusion in understanding what the text means.
Numbering: Translating the number of sentences in order is very important, because the wrong order with right translation might be misleading.

4.4 Model Answer

A model answer that deserves the full-mark which is (28) marks was prepared for the proper translation of the text. This model answer was used in order not to be confused for the translation of the term that has a general meaning and a specialized meaning when looking it up in a dictionary. This

model answer was taken from a book entitled "Theories of Translation" (IIyas, A., 1989: 160-161). Before starting the test, the original text in English and its translation in Arabic were also examined by another colleague who teaches them scientific translation at Translation Department, College of Arts, Al-Mustansiriyah University to see if the text is suitable to translate by the students (Appendix 1).

5. Data Analysis

5.1 Facility Value

Data analyses were conducted in terms of statistical methods. A formula has been set up to calculate the percentage of students who gave correct answers to the test items:

$$FV = \frac{R}{N}$$

Where (FV) means facility value of the test items (also called "item difficulty"). It shows how easy or difficult an item is to the testees' (Table 3). While (R) is the number of correct answer, and (N) is the number of the students taking the test (Heaton, 1989: 178, 9). The statistical means of FVs for items in the text ranged between 45% and 51%, which is quite an appropriate range of values.

TABLE (3) Facility Value of Each Item

Item	R (Correct Answers)	N (students)	Mean
Order and Sequence	29	60	0.48
Translation	27	60	0.45
Accuracy	31	60	0.51

5.2 Scores' mean and pass rate

Table (4) below shows results of scores' mean and pass rate concerning the items of the test:

Table (4) Scores' Mean and Pass Rate

Item	Order and Sequence	Translation	Accuracy	Mean
Scores' Mean	49.9%	49.0%	50.4%	49.8%
Pass Rate (Min. 50%)	49.7%	48.2%	52.8%	50.2%

The data analysis of the results shown above in table (4) reveals the following points:

1. In terms of scores' mean, the student's performance in the items above is at the percentage of (49.8%). The pass rate is (50.2%), which is considered to be a poor rate.
2. The results in terms of pass rate in item of accuracy amounting at (52.8%) is much better than the results of pass rate in item of order and sequence amounting at (49.7%) and item of translation amounting at (48.2%).
3. Both scores mean (50.4%) and pass rate (52.8%) of item of accuracy are significantly higher than scores mean and pass rate of the other two items, see table (4) above

6. Analysis of Errors

This study is not going to deal with every problem that faces students of Translation when translating scientific texts from English into Arabic, as this would require more extensive work. Therefore, a few problems will be discussed in which students make errors and which are very important to take into consideration. Error analysis focuses on a multi-directional purpose. According to Corder (1981:45), error analysis has two purposes: theoretical and applied. The theoretical purpose serves to explain what and how a learner learns when she/he studies a second language. The applied purpose serves to enable the learner to learn more efficiently by exploiting our knowledge of her/his dialect for pedagogical purposes. Also error analysis shows where students face difficulty in translation in which that error might be grammatical, structural, semantic, or stylistic. Researchers are interested in errors because they are believed to contain valuable information on the strategies that people use to acquire a language. A specialized translation differs from any other kind of translations because the translator has to use a specialized dictionary in choosing

the exact meaning of a word and there can be no omission of words because this will lead to misunderstanding of the original text. A special scoring scheme was set in section previously on which the researcher scored the students translations. This scoring scheme contains three items, which are:

1. Order and Sequence.
a. Clear.
b. Unclear.
2. Translation.
a. Over Translation.
b. Complete Translation.
c. Under Translation.

3. Accuracy.
a. Title.
b. Numbering.

Students at this Department made some errors in the items above. Though the students had a lesson in translating scientific texts, errors were done because the students only took several lessons at their fourth year of study and at second semester in translating such kinds of texts, , and having lack in meanings of some words. Most errors were committed in the items of Translation and especially in over translation, in the item of accuracy especially in translating the title, and in the items of order and sequence especially in connecting the sentences together.

According to the errors made in the items above, the order is arranged according to their difficulty in translating as shown below:

1. Translation.
a. Over Translation.
b. Complete Translation.
c. Under Translation.
2. Oder and Sequence.
a. Clear.
b. Unclear.
3. Accuracy.
a. Title.
b. Numbering.

1. Translation

a. Over Translation: There were (11) answers incorrect out of (60) answers, where the text was translated and added to it more information than required from the original text.

b. Complete translation: There were (27) answers correct out of (60) answers, where the students did not add or delete any information from the original text.

c. Under Translation: There were (22) answers incorrect out of (60) answers, where the students deleted some information from the original text.

2. Order and Sequence

a. Clear: There were (29) answers correct out of (60) answers, where the students translated the sentences in the text with clear order and sequence.

b. Unclear sequence: There were (31) answers incorrect out of (60) answers, where the students did not commit to translation of the sentences in the text in order and sequence.

3. Accuracy

a. Title: There were (31) answers correct out of (60) answers, where the students translated the title of the passage correctly. Some students translated the title by using general dictionaries which gave them wrong translation for the meanings (exploration, production) (Table 5).

b. Numbering: There were (31) answers correct out of (60) answers, where the students translated the numbers of the passage correctly. Some students translated the number of the sentence wrongly, but the translation of the sentence was right and this was confusing.

TABLE (5) Errors in translating the title of the text:

Word	alized Dictionary	lodel Answer	Error
Exploration	التنقيب	التنقيب	استكشاف
			استخراج
Production	الحفر	الحفر	إنتاج
			منتجات

7. Conclusions:

Data analysis draws the following conclusions in the results obtained by fourth year students studying at Translation Department, College of Arts, Al-Mustansiriyah University, while translating scientific texts from English into Arabic:

1. The collected data revealed a number of errors related to this area of specialized translation. They revealed that by using general dictionaries is more difficult to translate specialized texts. Moreover, translating from English into Arabic is more difficult than translating from Arabic into English, because many specialized meanings give more than one meaning.
2. The students at this Department performed poorly in translating some items in the text. During the test some students used general dictionaries and electronic dictionaries to translate the specialized meanings. This led to wrong translation of the terms.
3. Students should be given some knowledge and lessons on how to use monolingual and bilingual dictionaries.

المشاكل التي تواجه طلاب الترجمة في مجال ترجمة النصوص العلمية من

اللغة الانكليزية إلى اللغة العربية

احمد عادل نوري

الخلاصـــــــة

لقد أصبحت الترجمة العلمية من اللغة الانكليزية إلى اللغة العربية من أكثر المواضيع ذات تزايد و اهتمام مستمرين في يومنا هذا. تم إجراء هذه الدراسة على (66 طالب) من المرحلة الرابعة الذين يدرسون الترجمة و أنواعها في قسم الترجمة /كلية الآداب / الجامعة المستنصرية لبحث الأخطاء التي يقع فيها الطلاب عند ترجمة النصوص العلمية، تم إعطاء الطلاب نص علمي و تم تحليل التراجم التي قام بها الطلاب وفق مخطط خاص للتصحيح و شمل الفقرات التالية التنظيم و التتابع (واضح، غير واضح)، الترجمة (تحت الترجمة ، ترجمة كاملة ، و فوق الترجمة) و الدقة (العنوان، الترقيم). كل هذه الفقرات تم تحليلها بيانا" و قد واجه الطلاب مشاكل و صعوبات في ترجمة النص العلمي من اللغة الانكليزية إلى اللغة العربية لان البعض منهم استخدم قواميس عامة و ليست قواميس ذات اختصاص علمي .

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Appendix 1

- Scientific Text with its modal Translation in Arabic:

الاســـم :

الجامعـــة :

الكليـــة :

القســـم :

Oil Exploration and Production Activities

Drilling mud's are needed to lubricate the drill bit; to stabilize boreholes against collapse; to transport rock cuttings to the surface and to prevent the influx of reservoir fluids into the borehole. These mud's comprise various solids suspended in water (water based mud's) or oily emulsions and water (oil-based mud's), and are re-circulated throughout the drilling operation.

Oil-based mud's are particularly useful in the drilling of wells at a sharp angle from a platform, enabling wider recovery from the field. Surplus mud is removed from the drill cuttings before discharging; when oil-based mud is used the discharged cuttings contain typically 15 percent oil. A number of steps can be taken to minimize adverse environmental effects, these include:

1- Replacement of diesel oil, as a base, by more expensive low toxicity oil.
2- Improvement of handling techniques, thus minimizing spills.
3- Reduction in the amount of mud and hence oil adhering to discharged cuttings by the efficient use of separation equipment.
4- Research into drilling mud's with the same properties as oil-based mud but containing far less oil.

Most oil exploration and production activities are subject to national regulations which are set at levels that prevent harm to the marine environment. Most companies also have their own strict internal standards, which are adopted where national requirements do not exist.

Modal Translation in Arabic

أنشطة التنقيب و الحفر عن النفط

تدعو الحاجة إلى أطيان الحفر لتزليق لقمة الثقب، و تثبيت ثقوب الحفر ضد الانهيار. و نقل قطع صخرية إلى السطح، و الحيلولة دون تدفق سوائل المكمن إلى داخل ثقب الحفر. و تشتمل هذه الأطيان على مواد صلبة مختلفة معلقة في الماء (تعرف بالأطيان المائية القاعدة) أو على مستحلبات نفطية مع الماء (تعرف بالأطيان النفطية القاعدة) و يعاد تدويرها خلال مراحل عملية الحفر بأكملها .

و الأطيان النفطية القاعدة مفيدة بصورة خاصة في حفر الآبار على شكل زاوية حادة من المنصة، الأمر الذي يمكن من استخلاص أوسع مدى من الحقل. و ينقل الطين الفائض من قطع الحفر قبل التفريغ، و عندما يستعمل الطين النفطي القاعدة تكون القطع المفرغة حاوية مثاليا" 15 في المائة من النفط. و تشمل الخطوات المتخذة لتقليل التأثيرات البيئية المعاكسة إلى الحد الأدنى :

1. استبدال زيت الديزل ، كزيت قاعدي، بنفط أبهظ ثمنا" ذي سمية منخفضة .
2. تحسين الأساليب التقنية للمعالجة، و بالتالي تخفيض الاراقات إلى الحد الأدنى.
3. تخفيض كمية الطين، و بالتالي النفط الملتصق بالقطع المفرغة باستعمال أجهزة الفصل الفعالة.
4. البحث في الأطيان ذاتها المماثلة للأطيان النفطية القاعدة و لكنها تحوي نفطا" اقل بكثير.

و معظم أنشطة التنقيب و الحفر تخضع لأنظمة و وطنية توضع على مستويات تحول دون إلحاق ضرر بالبيئة البحرية . و تحوز أغلبية الشركات ايضا" مستوياتها الذاتية الداخلية الصارمة التي يجري تبنيها حيث لا يوجد متطلبات وطنية .