

## Translating Petroleum and Geological Terms from English into Arabic by EFL Students: Difficulties and Strategies

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### Abstract

This study aims to investigate the difficulties encountered by EFL students in translating petroleum and geological terms from English into Arabic. It also intends to identify the strategies used by these students to translate these terms. To achieve these aims, a translation test and a questionnaire were administered to 20 Libyan undergraduate students studying at the College of Engineering Technology, Janzour, Libya. The analysis of the translation test and the questionnaire reveals that the students encounter some difficulties as they translate these terms. These difficulties are due to the students misunderstanding of the terms meaning, their unfamiliarity with these terms and their limited linguistic abilities which enable them to find suitable equivalents to these terms. The analysis also demonstrates that the students use few strategies, such as literal translation and Arabization, and these strategies led them to give unacceptable translations to these terms. Based on these findings, some recommendations and suggestions for overcoming such difficulties are proposed at the end of this study.

**Keywords:** Technical Terms, Petroleum and Geological Terms, Translation Difficulty, -Translation Strategy, Literal Translation.

### ملخص الدراسة:

تهدف هذه الدراسة إلى تحديد الصعوبات التي يواجهها طلبة اللغة الإنجليزية كلغة أجنبية في ترجمة المصطلحات البترولية والجيولوجية من الإنجليزية إلى العربية. وتهدف هذه الدراسة أيضا لتحديد الاستراتيجيات التي يستخدمها هؤلاء الطلاب لترجمة هذه المصطلحات. ولتحقيق هذه الأهداف تم إجراء اختبار ترجمة واستبيان استبيان على 20 طالبًا جامعيًا لبيبيًا يدرسون في التقنية الهندسية / جنزور. و بعد تحليل نتائج الاختبار والاستبيان تبين أن الطلاب يواجهون بعض الصعوبات في ترجمة هذه المصطلحات. تُعزى هذه الصعوبات إلى سوء فهم الطلاب لمعنى المصطلحات ، وعدم الإلمام بهذه المصطلحات ، والقدرة اللغوية المحدودة على إيجاد مرادفات لهذه المصطلحات. أظهر التحليل أيضًا أن الطلاب استخدموا بعض الاستراتيجيات ، مثل الترجمة الحرفية والتعريب، وقادتهم هذه الاستراتيجيات إلى تقديم ترجمات غير مقبولة لهذه المصطلحات. وبناءً على هذه النتائج تم طرح بعض الاقتراحات والمقترحات للتغلب على هذه الصعوبات في نهاية هذا البحث. **الكلمات المفتاحية:** المصطلحات التقنية، المصطلحات البترولية والجيولوجية ، صعوبة الترجمة، إستراتيجية الترجمة ، الترجمة الحرفية.

**Introduction**

Technical translation is an area of translation that involves the translation of documents or texts related to technology and technical topics and deals with the application of scientific and technological terminology. It is distinguished from other forms of translation by its terminology and grammatical features, and it is a part of specialized translation which includes several disciplines, such as politics, commerce finance and others (Newmark, 1988). It "encompasses the translation of special language texts, i.e., written texts using Languages for Special Purposes (LSP)" (Wright & Wright, 1993:1). This type of translation deals with the translation of scientific terms of all kinds: "medical, physical, chemical, mathematical, mechanical, technological, biological, agricultural, computer, internet and other terms of various branches of science" (Ghazala, 1995:156). These definitions clarify that specialized and technical translations are specified to the translation of scientific related to the different fields of science.

Technical translation requires a translator to have a good understanding of the subject as well as having a knowledge of the terms used in that field in both the source and the target language. Translating technical terms is a difficult task for EFL learners because it requires them to have several skills and competencies. It requires them to apply the theoretical principles of translation and good linguistic competence in the source and the target language. It also requires EFL students to identify and explain the grammatical, stylistic and genre peculiarities of the text in the source language and the target language. Moreover, it requires them to follow accepted norms and requirements of the source and target language for terminology and correct formation of terms when translating (i.e. appropriate equivalent of such terms in target language).

As technical translation is a problematic area for students and translators, substantial research studies were conducted to investigate several issues related to this area of translation. Some of them focused on the problems encountered by translators and EFL/ESL students when translating this type of terms. Other studies examined the

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strategies employed by them when translating this type of terms. One of these studies was done by Hazza (2013) who investigated the problems faced by Jordanian translators and the strategies used by them in translating computer terms from English into Arabic. He utilized a translation test and a questionnaire to collect the data of this study. The findings of this study revealed that many Jordanian translators were unfamiliar with employing various strategies connected to translating computer terms. Hazza concluded that computer terms translations require translators to be familiar with these terms and to use specialized dictionaries and get assistance from the specialists working in this field.

Similarly, Argeg (2015) conducted a study to identify the problems encountered by medicine students and professional translators working at UK hospitals and clinics as they translate medical terms from English into Arabic. He collected the quantitative and qualitative data of this study by using a questionnaire. The findings revealed that translating medical words is difficult for inexperienced students and translators, but it is relatively simple for experienced professional translators. The research also revealed that many professional translators employ computer-assisted translation or machine translation tools to assist them in translating medical terms. Agreg stated that students and translators who are working in the field of medicine should learn and be aware of the medical terms and their translation.

Correspondingly, Abdellatif (2016) investigated the problems faced students and examined the strategies used by them to translate cell phones terms from English into Arabic. The results showed that the students faced many problems due to their use of literal translation, their wide use of Arabization, and their lack of sufficient experience and practice of translating cell phones. The study recommended that the translators need to enhance their knowledge of mumbo-jumbo vocabulary in their field and have a wide understanding of cell phone jargons and synonyms.

On the same vein, Hassan (2017) explored the techniques used in translating English technical terms (Microsoft terminology) into

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Arabic. The researcher compared the different translations provided for the same SL term. The results showed that it was more appropriate to use Arabic-expanding techniques with technical terms to preserve the integrity and authenticity of Arabic as (TL) at a time of a marked increase in the number of SL technical terms.

The technical terms translation strategies is another significant issues which has little concern from researchers. Translation strategy is "a potentially conscious procedure for solving a problem faced in translating a text, or any segment of it" (Loescher,1991: 8). Few studies were done to investigate the strategies employed by students and translators to translate technical term. One of them was done by (Zakia, 2018) who Investigated the strategies of translating technical terms from English into Arabic. She found that the students have used two main strategies, neologism and naturalization to translate social scientific terms. Using these strategies, the students succeeded in choosing the appropriate Arabic equivalents for some terms, but they failed in translating others. Zakia argued that Students need a distinct strategy to translate social scientific terms. She added that they should take into consideration constant, cultural, and stylistic matters.

There are many translation strategies applied by translators to translate technical terms. Hazza (2013) found that Jordanians translators utilize some strategies in rendering terms that do not have equivalents in TL. These strategies are approximation, avoidance borrowing, domestication, and paraphrasing. Ghazala (2008) pointed out that there are three different types of strategies utilized by students and translators to translate technical terms. The first one is the transcription or transference where the translator converts the literal spelling of the English term into Arabic. The second strategy is naturalization when the translator uses the English term as a root and only adds the Arabic letters. The last one is Coinage which allows the translators using new terms that are not used in Arabic before. Newmark (1988) added other translation techniques, which literal translation where direct or free translation can work, and transposition where the structure of the sentences can be changed from SL to TL.

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Having reviewed the literature, it has been found that the students encounter difficulties in translating terms from English into Arabic. These difficulties arise from the fact that technical terms are words and expressions which cannot be translated literally. These difficulties could be due to lack of knowledge, lack of resources such as special glossaries and lack of awareness of differences between SL and TL equivalence. It is also clear that there are several strategies adopted by students and translators to overcome problems that have faced students in rendering the terms from English into Arabic. It is also found that there are few studies examine the translation of geological and petroleum terms. Moreover, to the best of the researcher's knowledge, research studies investigating these issues are scant.

Therefore, this study aims to investigate the difficulties faced by the third-semester students at the College of Engineering Technology in translating petroleum and geological terms from English into Arabic. It also aims to identify the strategies employed by these students to do so. To achieve these objectives, the following questions were formed:

1. What are the difficulties faced by the third-semester students in translating petroleum and geological terms from English into Arabic?
2. What are the strategies students use in translating petroleum and geological terms from English into Arabic?

### **Methodology**

#### **The Participants**

A sample of 20 undergraduate students was randomly selected from the third semester students from the Department of Petroleum at the College of Engineering Technology, Janzour. All the students are Libyan. They have been educated under the same educational system, and they have many things in common. They are 16 males and 4 females, and their ages ranged from 20 – 22 years. These students have been studying English since their primary schooling, and they are required to study English (ESP) during their study at the Department. One of the students' third-semester requirement is

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studying technical, petroleum, and geological terms. These students are expected to become engineers after their graduation.

#### **Data Collection Instruments**

The instruments, which were used to collect the data, were a translation test and a short questionnaire.

#### **The test**

The test is used to assess the students' abilities in understanding and translating successfully petroleum and geological terms and to investigate whether the students encounter difficulties in translating petroleum and geological terms from English into Arabic or not. It also examines the strategies employed by the students while translating these terms from English into Arabic. The test consists of twenty technical terms taken from Longman Illustrated Dictionary of Geology. The terms are intentionally put in isolation to avoid any other kinds of difficulties such as the effect of the context. The analysis of the data (i.e. students' translations to the terms included in the test) would reveal some of the students' difficulties in translation and some of their used strategies

#### **The Questionnaire**

The questionnaire is designed to report the students' attitudes and opinions towards translation from English into Arabic and to identify their used strategies while translating technical terms. It also intends to research the students' difficulties as they translate these terms. It consists of ten items (closed-ended and open-ended questions). Some of the questionnaire items ask students about their attitudes towards translation in general and towards translation of technical terms. The other items of the questionnaire ask students to report the difficulties that they encountered in translating the petroleum and geological terms and state the strategies that they employ to translate these terms. The quantitative data obtained from the questionnaire were analyzed by using descriptive statistics (number and percentage), and the qualitative data were analyzed by using thematic analysis (putting the students' answers under specific themes).

**Translating Petroleum and Geological Terms from English****Results and Discussion**

This section is devoted to present the analysis of the data obtained from the test and the questionnaire. The data gives useful insights into the types of difficulties students encounter in translating petroleum and geological terms and the translation strategies they use to deal with these difficulties.

Table 1 below shows the percentage of the acceptable and unacceptable translations of the students to the petroleum and geological terms of the test. It demonstrates that few of the students were able to give acceptable translations to some of the test terms, and most of them failed to do that with many terms. This denotes that finding a suitable equivalent to the technical terms in the target language is not an easy task for EFL students.

**Table 1: Students' Translations of Petroleum and Geological Terms**

Petroleum and Geological Terms	Acceptable Translation	Unacceptable Translation	Blank Translation
Bedding	15%	75%	10%
Unconformity	75%	15%	10%
Cementation	35%	45%	20%
Fault	30%	60%	10%
Lithification	5%	80%	10%
Cement bond log	15%	75%	10%
Erosion	80%	15%	5%
cap rock	20%	75%	5%
water cut	15%	75%	10%
Block	10%	75%	15%
Chert	5%	85%	5%
Chron	10%	70%	20%
Cleavage	80%	10%	10%
Caledonian	10%	45%	45%
Lava	85%	5%	5%
Littoral	15%	60%	25%
petrogenesis	15%	75%	10%
medial moraine	15%	75%	10%
Mine	10%	45%	45%

For example, most of the students (75%) failed to give acceptable translation to the geological term (Bedding) as they translated it as

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Only 15% of the students conveyed the term appropriately which is طباقية – تطبق. سرير - فراش. These results imply that most of the students did not understand the meaning of this technical term as they used literally translation to it. On the other hand, most of the students (75%) gave an acceptable translation to the term (unconformity). (e.g. تباين طباقي عدم توافق) This suggests that the students knew the meaning of this term well, and this term was familiar to them.

Another example is the student's translation to the term (cementation). Only 35% of the students gave an acceptable translation to this term. (e.g. سمنتة التحام المادة اللاصقة) It is also found that most of the students gave an unacceptable translation to the term (45%) or give no translation to it (20%). The unacceptable translation of this term shows that the students used the Arabization method which does not reflect the appropriate meaning of this term.

The analysis of the student's translation to the technical terms of the test reveals that most of the students faced difficulties in translation as they were unable to provide acceptable translations to these terms. This could be a result of the students' misunderstanding of these terms, the students' lack of linguistic competence, the students' lack of equivalents of these terms in Arabic and the students' unfamiliarity with these terms. The analysis also indicates that the students used the literal translation strategy which led them to give unacceptable translations to the terms. This clarifies that the students were not aware of the different effective strategies of translation.

Similarly, the results of the questionnaire show that most of the students had problems in translating technical terms. Most of the students reported that they come across many problems while translating technical terms. Some of the students stated that they do not understand the meaning of these terms, and others said that they cannot have suitable equivalent to these terms in target language. One of them reported that there are no equivalents to some terms in Arabic language. Other students said that he uses Google translators to understand the meaning of these terms. However, this translator may not help them to decode the meaning of some terms. Some of the students also reported that they use literal translation which does not



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always convey the appropriate translation of these terms. These results show that the students had poor competence of translating the geological and petroleum terms, although they are specialists in this field and they are demanding to do that especially in their exams.

Although the students who participated in this study are not specialized in translation, the findings of this study are corresponding to those results of the previous studies conducted with translators and EFL students by Alrishan & Smadi (2015); Argeg, (2015); Zakia, (2018) and Abdellatif, (2016). All of these studies show that students face difficulties in translating technical terms (e.g. misunderstanding of the meaning, have no equivalent to the term and others.). These difficulties are due to a lack of knowledge concerning both English and Arabic terms, misunderstanding of the terms meaning, wrong of selection of equivalents, unfamiliarity with the terms and others.

### **Conclusion and Recommendations**

This study aims to reveal the difficulties encountered by the third-semester students at the College of Engineering Technology / Janzour in translating petroleum and geological terms from English into Arabic. It also aims to identify the strategies used in translating such terms. The results reveal that most students had some problems in translating such terms. Some of these problems were misunderstanding of the terms meaning, lack of proper knowledge of translating petroleum and geological terms, and poor degree of proficiency. The students also were unfamiliar with these terms and suffered lack of translation skills and linguistic ability. The findings also indicate that the students used some strategies which led them to give unacceptable translations to these terms. Some of these strategies were Arabization strategy, literal translation and others. This suggests that the students did not acquire and adopt appropriate strategies that enable them to provide acceptable translations to petroleum and geological terms. This also refers to that students did not have good knowledge about these terms and about using dictionaries and glossaries of technology and science.

To overcome these problems and difficulties of translating technical terms, it is suggested that students should have the ability to

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adopt effective translation methods and suitable strategies for translating petroleum and geological terms. The students also need to have sufficient knowledge of how to use an acceptable translation approach as well as precise definitions of petroleum and geological words. In addition, they need to use specialized dictionaries which would assist them to expand their knowledge of the technical terms and helps them to translate petroleum and geological words from English into Arabic. Moreover, teachers need to train their students to translate technical terms and raise their awareness of applying effective translation strategies. They need to teach their students the different strategies that help them to give accurate translation to these terms, and they need to familiarize their students with the technical terms to understand their meaning well. Teachers also need to encourage their students to translate these terms during their reading and writing inside and outside their classrooms.

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