

Investigating University Students' Difficulties in Translating Computing Terms From English Into Arabic

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Abstract:

The present study seeks to investigate university students English language learners' difficulties in translating scientific terms and to draw attention to the role of adopting the appropriate method that may produce high quality translation using purely Arabic vocabulary. The data was gathered by means of a research tool in the form of a written translation test. The analysis of the data confirms that students' mistakes are due to their ignorance of appropriate methods they to be used to translate scientific terms and to their unfamiliarity with the computer sciences peculiar language. The result revealed that the difficulties student face, are due to their lack of background knowledge concerning the computing terms, as well as their ignorance to the importance of adopting a method that facilitates the translation process and assures a good translation production., some pedagogical implications have been provided as a starting point towards resolving this problem and helping the students cope with scientific terminology in the process of translation.

Key-word: Translation ,scientific terminology , computer

المستخلص:

تسعى الدراسة الحالية إلى التحقق من الصعوبات التي يواجهها طلاب الجامعات والمتعلمون في اللغة الإنجليزية في ترجمة المصطلحات العلمية ولفت الانتباه إلى دور تبني الطريقة المناسبة التي قد تنتج ترجمة عالية الجودة باستخدام مفردات عربية بحتة. تم جمع البيانات عن طريق أداة بحث في شكل اختبار ترجمة مكتوب. يؤكد تحليل البيانات أن أخطاء الطلاب ترجع إلى جهلهم بالطرق المناسبة لاستخدامها في ترجمة المصطلحات العلمية وعدم إلمامهم بلغة علوم الكمبيوتر الخاصة. وكشفت النتيجة أن الصعوبات التي يواجهها الطالب تعود إلى نقص المعرفة الأساسية المتعلقة بمصطلحات الحوسبة، بالإضافة إلى جهلهم بأهمية اعتماد طريقة تسهل عملية الترجمة وتضمن إنتاج ترجمة جيدة. تم توفير بعض الآثار التربوية كنقطة انطلاق نحو حل هذه المشكلة ومساعدة الطلاب في التعامل مع المصطلحات العلمية في عملية الترجمة. الكلمة المفتاحية: ترجمة، مصطلحات علمية، حاسوب

Introduction

1.1 Back ground

Scientific translation is not like other translations, it goes beyond just rendering words from one language into another. It is rather considered a tool that helps people around the world develop and progress in the field of science. Thus a translator needs to ensure an accurate delivery of information and shows faithfulness and commitment to the source and the target language, so that the translated information can be used easily and help in developing other countries. One of the main problems that translation trainees may face is how to deal with translating scientific terms from English into Arabic, and in choosing the best method to achieve a high quality translation of those terms which may enrich the Arabic language.

1.2 Aims of the Study

This study aims to:

1. Investigate third year English language learners' difficulties in translating scientific terms
2. Investigate the role of adopting the appropriate method that may produce high quality translation using purely Arabic vocabulary.

1.2 The statement of the problem:

The present research attempts to highlight the common mistakes, if any, 3rd year students at the English Language Department University of Dongola make when attempting to translate scientific terms from English into Arabic. To highlight the method they most often use in translating such terms, and whether this method is the source of the difficulties they face and whether it is reliable enough to ensure good results and serve Arabic language.

1.3 Significance of the study:

Students lose their motivation while they have taught new scientific term. This may lead to a chain of reaction that can hinder learning and this study attempts to find a solution . This attempting will bridge the gap between the expectations of both teachers and students in teaching vocabulary and translating terms .

1.4 Research Questions

In attempting to investigate the translation problems encountered in translating English scientific terms into Arabic by 3rd year learners of English, it is necessary to answer the following questions:

1. What are the terminological obstacles students face in translating the scientific terms from English into Arabic?
2. What kind of method students use in translating scientific terms?
3. Is this method responsible for the mistakes they commit?

1.5 Hypotheses of the study

1. There are some terminological obstacles that face students in translating the scientific terms from English into Arabic.
2. There is an appropriate method students use in translating scientific terms.
3. There is a method responsible for the mistakes which students commit.

1.6 Methodology of the study

The research used the descriptive method and. Tests are used as a collecting data tool

Literature Review

2.1 Introduction

This part presents a literature review of the different definitions of the translation concept introduced by many theoreticians, and a brief discussion of translation types and strategies will be mentioned. And also sheds light on scientific translation, with particular emphasis on science and terminology; stating their definition and characteristics.

2.2 Definition of Translation

Defining translation has always been a problematic issue in the sense that one finds more than one definition, each one reflects a different perspective and a theoretical basis in which scholars seek the same goal namely, equivalence. In common practice, one can usually identify two different senses of translation. One aims at transferring ideas and messages via rewording or paraphrasing, as an in everyday life when a layman tries to explain or express ideas in a different way by using different words only even if within the same language.

The other sees translation as an act of transferring messages from a source language into a target language, be it oral or written, for the sake of establishing equivalence to get the appropriate meaning (1).Some scholars' definitions of translation focus on the approach of preserving the original or source text effect; to others translation consists of reformulating the message of the source text into the closest equivalent of the target language. They gave priority to meaning preservation as much as possible then focusing on the style. For others (translation is to substitute a piece of writing in one language by its corresponding piece

of writing in another language. (2) translation is any process that results in transferring the meaning from one language into another. For him the main goal is to deliver meaning of the source language by using the equivalents available in the target language. (3) define translation from two different perspectives. First as a process, translation is an act of taking a text from one language and transforming it into another. In this sense, Focus on the part of the translator. Second as a product, translation focuses on the results achieved by the translator, the concrete product of translation.

.2.3 Types of Translation

At this level, translation will be looked at from the viewpoint of classification of types and methods. (4) Three main types of written translation: Intra-lingual translation, inter-lingual translation, and inter-semiotic translation. Intra-lingual translation is the translation of textual materials within the same language and may include rewording or paraphrasing. Inter-lingual translation is to translate textual materials from one language into another. It is also referred to as the proper translation. Whereas inter-semiotic translation is the translation or the interpretation of the verbal signs by non verbal signs as translating ideas or emotions into a painting or in symphony of music. In addition, each theorist looks at these types of translation differently and classifies them in different ways. For example, literal versus free translation is a sufficient classification. According to him, all the available typologies can be squeezed into these two types. All in all, the available typologies may include the following (5).

1. Semantic versus communicative translation
2. Formal versus dynamic translation.
3. Non-pragmatic versus pragmatic translation.
4. Non-creative versus creative translation.

Even though) discussed only the literal and free

translation, he started by literal translation which, according to him, is of two types:

1. Word-for-word translation;
2. Direct translation.

The first type aims at translating individual words only taking no consideration of the grammatical or other linguistic differences. Hence word-for-word translation involves extreme fidelity to the wording of the source text and forces the translator to set the exact equivalents. On the other hand, the second type, direct translation, considers the grammar and the linguistic differences. Many theoreticians, including, claimed that this type could be a very dangerous method because it may destroy the meaning. In this sense, "its adoption frequently leads to a complete distortion of the meaning of the original" (6). This method has severe limitations.

On the other hand, free translation is to translate under no limitation, translate freely; it is also referred to as sense-for-sense translation. In free translation, the translator focuses on producing a natural readable target text. It is more target text oriented than literal translation; free translation does not take much consideration to preserve the source text wording. (7) Free translations should be *unbounded*.

2.4 Translation Strategies

Strategies are sets of procedures that are used to translate; each one has a scale of facility that may be more helpful than the other. (8) classified translation techniques or strategies into two types, direct and oblique.

2.4.1. Direct Translation Techniques

Direct translation techniques are used when there are conceptual elements that can be transposed into the target language. Those techniques as follows

1. Borrowing
2. Calque
3. Literal translation

2.4.1.1. Borrowing

borrowing as the attempt to take words from one language and put them in another language alphabet. These words are naturalized to suit the grammar and the pronunciation of the target language. Eventually these words become part of the lexicon system of the target language as in Arabic language (9). For example

1. Computer 2. كمبيوتر. Microwave الميكرويف

Also the English language has borrowed numerous words from different languages. For example,

1. *Résumé* and *café passé* from French
2. *Kindergarten* and *hamburger* from German

2.4.1.2. Calque

Calque or loan translation is the literal translation. It is to translate a phrase borrowed from another language literary, preserving the source language structure and the manner of expression which may not be familiar to the target language. For example, *champions' league*, *week-end* and *cool* are new borrowed expression used in French and Arabic.

2.5.1. Oblique Translation Techniques

These techniques are used when the translator cannot translate elements from the source language without adjusting or changing the meaning, the grammatical and stylistic elements of the target language. Oblique translation includes:

1. Transposition
2. Modulation
3. Reformulation or equivalence
4. Adaptation
5. Compensation

2.5.2.1. Transposition

Transposition is to involve changes at the parts speech order when translating, especially at the grammatical level. This type is used frequently, because of the wide range of possibilities it offers for translators. Also, it is seen as a solution for *untranslatability*. For example (10)

1. *A blue bus* → *بص ازرق*; *a tall girl* → *فتاة طويلة*.
2. *Blue ball* → *boule bleue* in French.

2.5.2.2. Modulation

Modulation is a type of translation where the translator adds changes to the grammatical and semantic structure of the source language to suit the target language without affecting the meaning, because it has to convey the same idea of the source text, and yet it should not carry awkwardness to the reader of the target text. Two major types of modulation, *recorded modulation*, also called *standard modulation*, and *free modulation*. Recorded modulation is usually used in bilingual dictionaries. Thus, it is already type to use. The elements translated by standard modulation are fixed, it is obligatory to keep them as they are. For example:

1. It is easy to understand → *من السهل أن افهم* It does not suit the Arabic language, and stylistically inappropriate to translate it as, *من* من *الصعب ألا افهم* Free modulation is considered to be more practical, because it has many possibilities to change the expression of the source language to suit the target language, for instance, translators can change the negative form into the positive form.

2.5.2.3. Equivalence

This technique requires the translator to be creative, especially in the case of translating idioms, proverbs, or slogans of advertising. This process allows the translator to reduce or expand the number of words, but not to drop crucial information. It is also used to make implicit expressions in the source language explicit in the target language. For example:

1. Give the devil his due → *أعط كل ذي حق حقه*
2. A hungry man is an angry man → *كاد الفقر أن يكون كفرا*

1.5.2.4. Adaptation

In this type, the translator attempts to make textual materials that are specific to a given language culturally appropriate to another language. "It is a shift in cultural environment". For example:

1. like father like son → *هذا الشبل من ذاك الأسد*

2.5.2.5. Compensation

Compensation is a strategy used to replace items that cannot be translated from the source text by others in the target text, that is, to express the meaning using different items not available in the source text but have the same sense. Translation is not just a movement between two languages but also between two cultures. Cultural transposition is present in all translation as degrees of free textual adaptation departing from maximally literal translation, and involves replacing items whose roots are in the source language culture with elements that are indigenous to the target language. The translator exercises a degree of choice in his or her use of indigenous features, and, as a consequence, successful translation may depend on the translator's command of cultural assumptions in each language in which he or she works."

Finally, each one of the above procedures has its own characteristics, advantages and disadvantages, thus translators are free to use any one if they see its efficiency in translating a given text. Moreover, it is allowed to use more than one strategy in one text. These procedures should not be used haphazardly; the translator has to state the reason behind choosing a certain strategy. Also the cultural gaps between languages should be taken into consideration when adopting any of these procedures in translation.

2.6. Scientific Terminology

Scientific terms are not simple words; they are special and complex ones. Scientific terms are the most significant feature in science, they discriminate it from other registers (literary) (11). These terms make scientific texts incomprehensible for lay people; they are directed to experts of the science. Thus scientists use them to dignify their written works, in each jargon has its own list of terms which lay people would not understand easily. "Every

profession has its growing arsenal of jargon to fire at the lay man and hurls him back from its walls.” Furthermore, scientific terminology varies from the regular and literary words since ‘they do not accumulate emotional associations and implications’ (12).

2.7 Definition of Scientific Translation

Scientific translation is mainly about translating terms in the fields of science and technology of all kinds, medicine, physics, chemistry, mathematics, computer sciences...etc from one language into another. Scientific translations do not involve literary texts; they only deal with texts from the world of electronics, medicine, law, economics, engineering, chemistry, computer science, automotive engineering, geology, etc. The number of technical fields is infinitely large, and terminology is expanding and changing daily (13). The scientific translation is considered as one of the most important issues, as the world develops, new technology appears, and along with them emerge new terms to which finding an equivalent may pose a problem. It is not easy at all to translate scientific terms that emerged in western developed countries languages into a language of third world countries which are still having financial and social problems(14).

2.8. The Aim of Scientific Translation

Scientific translation primary goal is to deliver scientific information; it aims at presenting well expressed information, that may be used *easily, properly and effectively*. He referred to scientific translation as a *communicative service*, which offers new information for new audience, since scientific translation is regarded as communicative service; it certainly involves three main people, which are the author, the translator and the reader. He added also, that it is much more than just rendering source text language and style. Its main concern is to ensure delivering information accurately and correctly, in that it insures that the reader may use this information easily(15).

2.9. Terminology in Translation

It is undeniable that terminology has a significant role in scientific translations, and it is a crucial feature in scientific texts. "Terminology is, perhaps, the most immediately noticeable aspect of a technical text and indeed it gives the text the "fuel" it needs to convey the information". Following the same sense, terminology is considered to have a very crucial part in English -Arabic translation. Nowadays, the Arab world witnesses an important process of transferring new founded western terms(16). This process aims at finding an equivalent for the source language terms in the target language. In this sense, there are two types of technical terms.

The Methodology of the study

3.1 Structure of the Study

The present study consists of two main chapters, a theoretical and a practical one. Chapter one is divided into two parts, the first part attempts to highlight the main aspects concerning translation in general and the second part is devoted to tackle scientific translation and terminology. It also deals with the methods used in translating scientific terms and ends with a brief account of computer sciences in the Arab world.

Chapter two is devoted to the description, interpretation and analysis of the data collected and ends up with some pedagogical recommendations that may be considered as a solution for the terminological problems in translating scientific texts.

3.2 Research Tools

In order to test the hypothesis and get the required information, the data will be collected through the use of a test.

The test is composed of one exercise in which third year English students will be asked to translate fifteen sentences from English into Arabic.

3.3 Participants

Third year English language students at Dongola University will be the chosen population sample to conduct this study. Thirty students will be chosen randomly from the total population of students enrolled for the academic year 2017/2018. The choice of third year students is motivated by the fact that they have been studying translation for two years now and, hence, are supposed to have a good mastery of translation from English into Arabic.

2.1. The Choice of Population

The participants in this study were third year students of English (at the University of Dongola- Department of English, Faculty of English Languages. The choice of this population was motivated by the fact that the participants have been studying English for three years and; therefore, are likely to have a fairly good command of English. They are also supposed to have no problems in translating scientific terms from English into Arabic because the course they follow includes two teaching units, ESP and translation. About 30 students have been chosen randomly from the total population to take part in this study.

2.2. The Corpus

The corpus that was taken into consideration in this study was in written form, which was collected from (30) students written translation production of the test.

2.3. Description of the Test

The research tool used in this study is test. The aim is to uncover the students' translation deficiencies as far as computer terms are concerned and to highlight the terminological problems they encounter in translating English computer terms into Arabic.

The test is in the form of a translation exercise which consists of fifteen short simple sentences taken from different texts from "Computer Basis for Idiots" (17). The sentences included were

carefully and deliberately chosen to ensure that each contains at least one computer term. The reason behind choosing sentences rather than a text is to avoid all others areas of difficulty which may arise as a result of a text textuality and to ensure a great amount of terms from different fields of the computer.

2.4. Administration of the Test

The test was administrated to the informants by their teacher. In order not to influence them, the researcher chose not to inform the informants of the aim of the test.

The test was done as homework because the teacher is aware of the students' translation competence and has concluded that if it were taken in class, probably no one could manage to translate the computer terms embedded in each sentence.

2.5. Analysis Procedure

The outcomes of this research will help examine the students' translation of computer terms to see the terminological problems they encounter when translating an English source text into an Arabic target text. The following procedures were used in order to analyze the mistakes and problems the students faced during translation:

The identification of the translation mistakes made by the students was based on the method they preferred to use. · The total number of the terms to be translated was about twenty terms(18). The mistranslated terms will be classified in tabular formats each of which shows the rate of the mistake in the form of percentages, number of its occurrences, method used to translate it, and a suggested translation.

The suggested translation will be the standard on the basis of which the informants' mistakes are evaluated. · The translation deviations will be classified in tables according to the translation method used by the informants.

Data Analysis and Discussion

2.6.1. Analysis of the participants' Translations

All the students responded to the test except three who did not hand back their work, which means that only 27 samples were analyzed. However, not all of them translated all the sentences. The following tables illustrate the students' translations, their frequency of occurrence, and the number of the students who participated in the translation.

The translations differ from one student to another, but sometimes similar ones are found. The tables also indicate that the respondents' answers, when referred to in the present study, are reported without any modification, alteration or correction.

Sentence one: "Home page is the first page retrieved when accessing a Web site." Not all the participants translated the first sentence. Among the 27 participants, two did not attempt to translate it. The sentence contains two computer terms, each one has been translated using more than one method, which leads to more than one suggested translation.

The tables below give more details.

1. Term one: Homepage

The English term

Suggested Translations	frequency of Occurrences	Percent-age %	The method used	
الصفحة الرئيسية-1	1-Homepage	21 213	77.77%	Neologisms
صفحة البداية-2			7.40%	
الصفحة الأساسية-3			3.70%	
No equivalents			11.11%	
Total	27	100%		

Table 2: Translation of the First Term Homepage

From the above table, it seems that most of the participants have no problem in translating the term “Homepage” using only Arabic vocabulary. As it is shown in the above table, there are three suggested translations. The first one occurred 21 times with 77.77% of the total percentage, the second occurred only twice (2), with a percentage of 7.40%, whereas, the third one occurred only once with a percentage of 3.70%. However, three participants did not translate it. The analysis of these translations reveals that most of the participants used neologisms in order to render the term into Arabic; therefore, they succeeded to use pure Arabic terms rather than transcription. The first suggestion “الصفحة الرئيسية” seems to be the closest correct equivalent for “Homepage”.

2. Term Two: Website

The English term	Suggested Translations	Frequency of Occurrences	Percentage %	The method used
2-web-site	الواب	6 7 5 2 2 1 2 2	22.22%	1-Transcription only for the word “web” 2-neologisms for the whole item
	موقع		25.92%	
	موقع		18.51%	
	الالكتروني		7.40%	
	الانترنت		7.40%	
	موقع الشبكة		3.70%	
	موقع		7.40%	
	معلوماتي		7.40%	
	موقع ويب		7.40%	
	No equivalent			
Total	27	100%		

Table 3: Translation of the Second Term **website**

The above table shows that the majority of the participants translated the term “website” using different methods. The term consists of two items “web” and “site”, each was translated with the available equivalent found in Arabic. The analysis reveals seven suggestions. Some of the participants treated the term ‘website’ as if composed of two separate items; others translated it according to the transcription method using only one word as “الواب” which has no specific Arabic meaning. This type of translation occurred six (6) times with a percentage of 22.22%. The term ‘موقع’ was also used separately. Although it does not convey the meaning of the term as a whole in English, it is the closest equivalent for the word “site”. The two items have been translated as a whole only two times as موقع ويب. The other suggestions الموقع الالكتروني is not suitable because the term الالكتروني was not in the source text, the same thing for the word الانترنت. As for الموقع الشبكة and موقع معلوماتي, they can be considered as appropriate since they were translated using pure Arabic items, a method which favours the use of neologisms.

• **Sentence two:** “Connection speeds

are measured in kilobits per second.” All of the participants translated the second sentence. This sentence contains two computing terms; “connection speeds” and “kilobits”.

3. Term One: Connection speeds

The English term	Suggested Translations	Frequency of Occurrences	Percentage (%)	The method used
1-Connection speeds	سرعة تدفق الانترنت-1	7 7 7 1 1 2 2 0		neologisms
	سرعات التوصيل-2		25.92%	
	سرعة الاتصال-3		25.92%	
	سرعات الوصل-4		25.92%	
	الاتصالات السريعة-5		3.70%	
	سرعة الربط-6		3.70%	
	سرعة ذاكرة الكمبيوتر-7		7.40%	
	No equivalents		7.40%	
Total	27	100%		

Table 4: Translation of the Term **connection speeds**

As it is shown in the above table most of the students used the method neologisms to translate “connection speeds”. It was translated using pure Arabic words. The results of the analysis revealed seven suggestions for the term. The first, second and third have the same percentage 25.92%, the fourth and the fifth have a percentage of 3.70%, the sixth and the seventh occurred with percentage of 7.40%. The term consists of two items “connection” and “speed”, the latter was given the same equivalent by all the participants “سرعة” or “سرعات” in plural. However, most of the suggestions were emphasized the term “connection”. The first suggestion “سرعة تدفق الانترنت” cannot be considered as an equivalent since it does not include the translation of “connection”. This

suggestion is a translation of terms that did not exist in the source language which are “التدفق الانترنتي”; hence it carries the implied meaning or idea of “connection speeds” which was about internet connection. The second one “سرعات التوصيل” also cannot be considered as a closest equivalent for “connection speeds”, because the term “التوصيل” carries the meaning of the word “to deliver” or “delivering”. The third one “سرعة الاتصال” also refers to another meaning which is “speed communication” which is not acceptable as a translation for “connection speeds”, the same thing applies to the fifth suggestion “الاتصالات السريعة”. The term “السريعة” is an adjective whereas in the source text it is a plural noun, whereas, the term “الاتصالات” refers to the meaning of the word “calls” in English language. The fourth suggestion “سرعات الوصل” and the sixth suggestion “سرعة الربط” could be acceptable because the terms “الربط” and “الوصل” have the meaning of “to connect”. The last suggestion “سرعة ذاكرة الكمبيوتر” cannot be accepted as an equivalent for “connection speeds” because it is a translation for another term which did not occur in the source text “computer memory speed”.

4. Term Two: Kilobits

The English term

Suggested Translations	Frequency of Occurrences	Percentage (%)	The method used	
2-Kilobits	كيلوبايت-1 No equivalents	27 0	100% 0%	Transcription
Total	27	100%		

Table 5: Translation of the Term **kilobits**

As it is shown in the above table, all the participants translated the term “kilobits” using one method which is transcription. This type of translation introduces no meaning for the word; it was

rewritten in Arabic alphabet. Therefore, it yields one suggestion only. This may be due to the fact that it does not yet have an equivalent in Arabic vocabulary, and indeed the research for “kilobits” equivalent in Arabic revealed no available items which can be used as equivalent in Arabic language and which may carry an approximate meaning. However the term “kilobits” is a unit of measurement for computer memory, it consists of two items “kilo” and “bit”. The word “bit” means a unit of information in a computer that must be either 0 or 1.

Sentence three: “Many businesses that offer wireless internet connectivity advertise as hotspots.” 70.37% of the participants translated the third sentence. This sentence contains two computer terms; “wireless” and “internet”. These terms have been analyzed in the participants’ translations as the tables illustrate.

5. Term One: Wireless

The English term

Suggested Translations	Frequency of Occurrences	Percentage (%)	The method used	
1-Wireless	اللاسلكي-1 No equivalents	18 9	66.66% 33.33%	Neologisms
Total	27	100%		

Table 6: Translation of the Term **wireless**

As the above table shows the term “wireless” was translated 18 times with a percentage of 66.66 %, which is clear that more than half of the students attempted to translate it, while the rest 33.33% did not translate at all. The method used was neologism, i.e., using pure Arabic vocabulary. The term “wireless” consists also

of two items “wire” and “less”, this was taken into consideration while translating the term, thus, in Arabic one can discriminate between two items “سلكي” which is equivalent to “wire” and “لا” as an equivalent for “less” which is the only accepted translation.

6. Term Two: Internet

The English term

Suggested Translations	Frequency of Occurrences	Percentage (%)	The method used	
2-Internet	الانترنت-1 No equivalents	19 8	70.37% 29.62%	Transcription
Total	27	100%		

Table 7: Translation of the Term **Internet**

From the above table one can see that 70.37% of the participants attempted to translate the term “internet” and all of them used the transcription method. This is the only satisfactory translation so far; the participants failed to provide an adequate equivalent for this term which should be in pure Arabic vocabulary and carries its meaning in the source language. The term “internet” is defined as a large system of connected computers around the world; it is a worldwide network of connected computers. Therefore one can translated it as الشبكة الحاسوبية. This translation is an acceptable one since it carries the meaning of the term.

Sentence four: “Web pages addresses are formally called URL (Uniform resource locators).” The fourth sentence had the highest rate of participation, with a percentage of 96.29%. The sentence contains one computer term “URL (Uniform Resources Locators)”, the analysis of the given translations of this term is illustrated in the table below.

7. Term: URL (Uniform Resources Locators)

The English term	Suggested Translations	Frequency of Occurrence	Percentage (%)	The method used
1- URL (Uniform Resource Locators)	المصدر- ١			
	2-URL			
	م.م.م محرر المصادر			
	المنتظم- ٣		7.40%	
	ال يو.ار.		51.85%	
	ال- ٤	2	11.11%	1-Transcription
	محلات	14	11.11%	2-Neologisms
	المصدر	3 3 1 1 3	3.70%	
	الموحد- ٥		3.70%	
	محدد المصادر		11.11%	
	المنتظم- ٦			
	No equivalents			
Total	27	100%		

Table 8: Translation of the Term **URL (Uniform Resource Locators)**

As it is shown in the above table, the term was translated by 24 participants from the total number. They provided six suggestions and they used two methods; transcription and neologism. The term consists of four items; an abbreviation and three words. The first suggestion has a ratio of 7.40%, the second 51.85%, the third and the fourth 11.11%, and finally the fifth and the sixth 3.70%. To starting with, the first suggestion “المصدر” can be considered as an equivalent for the first suggested term since it is a translation of only one item. The second one “URL” used by the majority with a total percentage of 51.85% shows that more than half of the students failed to translate it appropriately, in fact, it cannot be

considered as a translation at all because the term is still in English and the participants used it in Arabic. The third suggestion “م.م” can be accepted as an adequate translation, no item was missing from the suggested translations and only Arabic vocabulary was used. However, it is not an exact equivalent for the English expression. The same thing applies to the sixth suggestion, “محدد المصادر المنتظم” the intended meaning in both suggestions is not achieved. Also, the fourth suggestion “ال.ار” is considered as inappropriate translation because it still has the source language pronunciation and it does not denote any meaning in Arabic. However, the translation of the fifth suggestion, “محللات المصدر الموحد”, could be the nearest equivalent; it carries the meaning of the source language term.

· **Sentence five:** “Click the outlook express icon on the windows desktop or in the quick launch toolbar.” Less than half of the participants attempted to translate the fifth sentence, with a percentage of 40.74%, the lowest participation so far. Compared to other sentences, This one includes the highest number of computer terms; it contains five terms that will be analyzed in the following tables.

8. Term One: Click

The English term	Suggested Translations	Frequency of Occurrences	Percentage (%)	The method used
1-Click	اضغط-1	11	40.74%	Neologisms
	انقر-2	3	11.11%	
	No equivalents	13	48.14%	
Total	27	100%		

Table 9: Translation of the Term **Click**

The above table shows that the term ‘Click’ was translated by 14 participants who

provided two different translations using the same method, “neologism”. The term was translated using only pure Arabic words. 40.74% of the total participants translated the term as “انقر”. However, 11.11% translate it as “اضغط”. The rest of the participants with a percentage of 48.14% did not translate it at all. Of the total number of the suggested translations only one could be the nearest equivalent for the term “click”. As for the first one “اضغط” it carries the meaning of “press” in English; it is to push something firmly using the fingers, whereas “انقر” is just to press something very briefly. Therefore, the second suggestion seems to be the nearest equivalent to the term “click”.

9. Term Two: Outlook Express

The English term	Suggested Translations	Frequency of Occurrences	Percentage (%)	The method used
2-Outlook express	السريع -1 outlook	1 1 1 1 23	3.70%	1-neologisms 2-Transcription
	مطلع		3.70%	
	نظام النقل		3.70%	
	السريع-2		3.70%	
	الاتولوك-3		3.70%	
	المعبرة-4		85.18%	
	No equivalents			
Total	27	100%		

Table 10: Translation of the Term **Outlook Express**

It seems evident from the above table that only four (4) participants attempted to translate the term “Outlook Express”. Each one provided a different equivalent for the term. The participants used two methods; transcription and neologisms. The first suggestion “السريع” is not suitable to be accepted as a translation, the participants translated only one item “السريع” and

kept the second item “Outlook” in English as it is.

The second translation is “السريع” *Here the participants tried to provide pure Arabic translations for the term. However, their suggestions were not successful because they do not carry the meaning of the English expression. The same thing applies to the fourth suggestion “المعبرة” This is a pure mistranslation of the term because the participants understood the term as expressing an idea. The third suggestion “الاتولوك” is a mere transcription of the term; it does not carry any sense in Arabic at all. The term “Outlook Express” is used for free online mail; it is primarily a name of a company that offers a free emailing via the net. Therefore, it cannot be given an equivalent in Arabic language. The reason behind giving it to be translated is to test the participants’ ability and awareness of the internet terminology.*

10. Term Three: Windows

The English term	Suggested Translations	Frequency of Occurrences	Percentage (%)	The method used
3- Windows	1-Windows 2-النافذة No equivalents	1 8 18	3.70% 29.62% 66.66%	Neologisms
Total	27	100%		

Table 11: Translation of the Term **Windows**

Most of the participants (66.66%) made no translation attempt for the term “Windows” and those who translated it (29.62%) had no problems in finding the exact equivalent using one method which is neologism. The suggested translation is “النافذة” This suggestion is successful as it uses a pure Arabic term and which is the closest equivalent for “windows”.

11. Term Four: Desktop

The English term	Suggested Translations	Frequency of Occurrences	Percentage (%)	The method used
1- سطح المكتب- 2- مكتب القراءة- No equivalents	4- Desktop	3 1 23	11.11% 3.70% 85.18%	Neologisms
Total	27	100%		

Table 12: Translation of the Term **Desktop**

As it is shown in the above table, the majority of the participants (85.18%) failed to give an equivalent for the term “desktop”, while the rest provided two suggested translation. To put differently, three (3) participants were able to grasp the meaning of the English expression and ended up with a successful Arabic translation as it illustrated in the table. On the other hand, the second suggestion “مكتب القراءة” is not a very successful translation, since it does not carry the meaning of the English expression, but it has the meaning of “reading desk”. The term “desktop” is specific to computing lexicography, “desktop” is the view in computer screen which is intended to represent the top of a desk which contains certain icons.

12. Term Five: Toolbar

The English term	Suggested Translations	Frequency of Occurrences	Percentage (%)	The method used
5-Toolbar	1- شريط شريط الأدوات- 2- No equivalents	1 1 25	3.70% 3.70% 92.59%	Neologisms
Total	27	100%		

Table 13: Translation of the Term **Toolbar**

The table above shows that only two students managed to provide equivalents for the term, while the rest (92.59%) failed to translate it. Each one from the two participants provided one suggested translation; the first one rendered the term “toolbar” into “شريط الأدوات” while the second one translated it as “شريط الأدوات”. Both of them used neologism as a method of translation. The second suggestion is a successful one, it is the nearest equivalent to the English term; it carries the meaning and it is a pure Arabic vocabulary. Toolbar is a window that contains a range of icons that access tools; so one participant from the total sample succeeded to provide an equivalent for the term.

· **Sentence six:** “Enter information for a different e-mail account.” Most of the participants (88.88%) attempted to translate the sixth sentence. There is only one computer term in this sentence which is “Email account”. The term consists of two items. The table below shows the participation concerning translating this term

13. Term: Email Account

The English term	Suggested Translations	Frequency of Occurrences	Percentage (%)	The method used
1-Email account	1- بريد الكتروني	9 1 4 3 1 1 1 2 2 1 2	33.33%	1-neologisms 2-transcription
	2- البريد السريع		3.70%	
	3- ايميل		14.81%	
	حساب بريد		11.11%	
	4- الالكتروني		3.70%	
	5- علبتك البريدية		3.70%	
	6- مواقع الكترونية		3.70%	
	7- حسابات		7.40%	
	8- رصيد الرسائل		7.40%	
	9- مختلف الرسائل		3.70%	
	10- Email		7.40%	
	No equivalents			
Total	27	100%		

Table 14: Translation of the Term **Email Account**

The above table shows that the participants provided ten (10) suggested translations, and they used two methods in their translation; neologisms and transcription. From the ten suggestions, only the fourth one “حساب بريد الكتروني” which occurred three times with a percentage of 11.11% succeeded to convey the required meaning of the English term because it is a complete translation of the term. Unlike the first suggestion “بريد الكتروني” which had the highest percentage of occurrences 33.33% among the ten suggestions. This suggestion is a correct equivalent, but it is not a complete translation, there is one item missing which is “account”. The third suggestion “ايميل” occurred four times with a percentage of 14.81%. The term was transcribed and thereby carries no meaning in Arabic for it cannot be accepted as a translation. The rest of the suggestions are not close enough to be accepted as equivalents for the English term because either the rendering is not correct, like translating items did not exist in the source language, as in “مواقع الكترونية”, “علبتك البريدية”, “البريد”, or it is not complete as in “مختلف الرسائل”, “رصيد الرسائل”. The last suggestion “email” cannot be accepted as an equivalent because it is not a rendering; the term is still as it is in the source language.

· **Sentence Seven:** “Click the screen name box, type your screen name, and then click the password box and type your password.” To start with, 85.18% of the respondents translated the seventh sentence. This sentence contains one computing term “screen name box”, the term consists of three items. The analysis of the participants’ translations revealed nine different suggested translations; they used one method which is neologism.

14. Term: Screen name box

The English term	Suggested Translations	Frequency of Occurrences	Percentage (%)	The method used
1- Screen name box	صندوق اسم الشاشة-1 الإطار المخصص للاسم	9 1 4 1 1 1 1 4 1 4	33.33%	Neologisms
	على الشاشة-2		3.70%	
	خانة الاسم-3		14.81%	
	الشاشة اسمها-4		3.70%	
	مربع اسم الشاشة-5		3.70%	
	مفتاح شاشة الاسم-6		3.70%	
	الاسم-7		14.81%	
	خانة الاسم المستعار-8		3.70%	
	المساحة المخصصة لكتابة الاسم-9		14.81%	
	No equivalents			
Total	27	100%		

Table 15: Translation of the Term **Screen name box**

The suggested translations have different ratios of occurrence. The first one has the highest ratio with a percentage of 33.33% while the second and the fourth, fifth, sixth, seventh and ninth had a ratio of 3.70. Each one occurred only once. The third and the eighth occurred with a percentage of 14.81%. Starting with the first suggestion “صندوق اسم الشاشة” it is clear that this is a literary translation. The participants attempted to translate

the components of the term separately which ended up with meaningless rendering of the term. The same thing applies to the third suggestion “الشاشة”, the fourth suggestion “خانة الاسم”, the fifth suggestion “اسمها”, and the sixth “اسم”. The seventh “اسم” is not a full translation of the term; it is only a translation of one item which is “name”. The rest of the suggestions are acceptable translations of the term with the second one “الشاشة” being the closest equivalent as it carries the meaning of the English term.

· **Sentence Eight:** “To remain signed in but hidden, click I am available and click invisible.” The analysis of this sentence shows that 74.07% of the participants translated it. The sentence contains one computing term “signed in”. The participants came out with four suggested translations as it is shown in the table below.

15. Term: Signed in

The English term	Suggested Translations	Frequency of Occurrences	Percentage (%)	The method used
1- Signed in	1- مسجلا- دخولك	9 8 1 1 8	33.33%	Neologisms
	2- اتصال		29.62%	
	3- كمشارك		3.70%	
	4- لك رمزا-		3.70%	
	No equivalents		29.62%	
Total	27	100%		

Table 16: Translation of the Term **Signed in**

It is evident that eight participants failed to give an equivalent for the English term. While the rest attempted to translate it using neologism as a method. Eventually, they provided four suggestions, the first one has the highest ratio of occurrence with a percentage of 33.33%, the second with a ratio of 29.62%, and the third and the fourth have the same percentage 3.70%. Only the first suggestion could be accepted as a closest equivalent; it has the source term meaning rendered into the target one. Whereas, the rest of translations are not appropriate since they carry a different meaning.

· **Sentence Nine:** “You can also click the Auto sign in option.” 92.59% of the participants translated the ninth sentence which includes one computer term. The term was translated using different methods: transcription, naturalization and neologisms. The analysis revealed nine different suggested translations as it is shown in the below table.

16. Term: Auto sign in option

The English term	Suggested Translations	Frequency of Occurrences	Percentage (%)	The method used
1- auto sign in option	خيارات التسجيل-1			Transcription Naturalization Neologisms
	2- auto رمز تسجيل الدخول			
	3- التلقائي في الإشارة		11.11%	
	الاتوماتيكية		7.40%	
	4- في لوحة خدمة الرمز		25.92%	
	5- الالي	3 2 7 1	3.70%	
	التسجيل	1 1 1 1	3.70%	
	6- الالي	5 4	3.70%	
	الدخول		3.70%	
	7- الاتوماتيكي-الزر		18.51%	
	الاتوماتيكي		14.81%	
	8- للاتصال الرمز في			
	9- الخيار			
	No equivalents			
Total	27	100%		

Table 17: Translation of the Term **Auto sign in option**

As the analysis reveals, not all of the nine suggestions come close to convey the meaning of the English term. Only the third suggestion “تسجيل الدخول التلقائي في”, with the highest percentage of occurrences (25.92%) among the other suggestions, succeeded to convey the required meaning and it is translated using pure Arabic terms. Some of the suggested translations which kept some items of the source term as they are pronounced in the source language as in suggestions two, four, seven and eight the English term “auto” did not change in the translation process they were merely transcribed and , therefore, did not succeed to give the meaning of the English term. **Sentence Ten:** “Open the messenger menu, point to Yahoo! chat and join a room.” Except for one participant, all the students translated the tenth sentence. The sentence includes two computing terms “Messenger” and “Yahoo chat”. The terms were translated using two methods transcription and neologisms. The analysis reveals different suggested translation as the tables show.

17. Term: Messenger

The English term	Suggested Translations	Frequency of Occurrences	Percentage (%)	The method used
1- Messenger	1- الماسنجر	12 1 5 1 2 3 1 0	44.44%	Neologisms Transcription
	2- ألساع		3.70%	
	3- الرسائل		18.51%	
	4- الراسل		3.70%	
	5- Mes-senger		7.40%	
	6- المراسل		11.11%	
	موصل		3.70%	
	7- الرسائل		0%	
	No equivalents			
Total	27	100%		

Table 18: Translation of the Term **Messenger**

The participants provided seven suggested translations. The first one has a percentage of 44.44%, the second, fourth and seventh occurred with ratio of 3.70% for each, whereas the third one had a ratio of 18.51%, the fifth 7.40% and finally the sixth 11.11%. The first suggestion “الماسنجر” is a transcription of the English term; it does not convey the meaning of the term and, therefore, is not an appropriate translation. The second one “الساع” which has been suggested by one participant is adequately rendered. It is in Arabic and it carries the exact meaning of the English term which the one who delivers messages. The third suggested translation “الرسائل” can be accepted as an equivalent because it refers to “letters” or “mails” which does not exist in the source language. Fourth suggestion “الراسل” refers to the “sender” of the message. The fifth suggestion “Messenger” is not a translation at all of the English term; the English term was used but written using Arabic letters and therefore is can be considered as a translation. The sixth suggested translation “المراسل” was also not successful to convey the source term meaning, it rather refers to “the correspondent”.

18. Term: Yahoo Chat

The English term	Suggested Translations	Frequency of Occurrences	Percentage (%)	The method used
2- yahoo chat	1- ياهو تحدث	7 3 9 4 3 1 1 1 0	25.92%	Neologisms Transcription
	2- ياهو تكلم		11.11%	
	3- ياهو دردش		33.33%	
	4- Yahoo		14.81%	
	5- ياهو محادثة		11.11%	
	6- ياهو راسل		3.70%	
	دردشة		3.70%	
	7- الكترونية		3.70%	
	8- غرفة محادثة		0%	
	No equivalents			
Total	27	100%		

Table 19: Translation of the Term **Yahoo Chat**

The table above shows that all of the participants attempted to translate “yahoo chat” into Arabic and thus eight translations were provided. Most of the participants’ suggestions succeeded to convey the required meaning; however, only one could be the closest equivalent. To start with the term consists of two items “yahoo” and “chat”; the first item is a name of a company that offers free chatting and mailing via the net, hence, no equivalent is yet available in Arabic language for it. The results revealed that all the participants transcribed it into Arabic letters. On the other hand “chat” has many suggested translations as it is shown in the above table. The one that could be the closest equivalent is the fifth one “ياهو محادثة” with a percentage of occurrence 11.11%, i.e., only three students from the total sample succeeded to set the right equivalent. Furthermore, the analysis shows that four participants put the term “yahoo” as translation which is not accepted as a rendering at all. Also the sixth suggestion “ياهو راسل” is not a correct rendering of the term because the word “chat” is translated as “send” in Arabic.

· **Sentence Eleven:** “You can subscribe to mailing lists and newsletters on the web to have news emailed to you.” Half of the population sample (51.85%) attempt to translate the eleventh sentence, in this sentence there is one computer term which is “emailed”, it was translated using two methods; neologisms and transcription. The analysis of the term translation is illustrated in the below table

19. Term: Emailed

The English term	The Suggested Translations	Total Number of Occurrences	Percentage of Translation (%)	The method used
1- Emailed	ترسل-1 الحصول على-2 ترسل إليك عبر البريد 3- الالكتروني تستقبل الاميلات-4 تبعث لك-5 لتنتقل الاخبار بالبريد الالكتروني 6- جديد للبريد-7 No equivalents	1 2 1 2 1 1 1 18	3.70% 7.40% 3.70% 7.40% 3.70% 3.70% 66.66%	Neologisms Transcription
Total	27	100%		

Table 20: Translation of the Term **Emailed**

66.66% of the participants did not translate the term, and left as blank. The rest came out with seven different suggestions. The first, third, fifth, sixth and seventh suggestions occurred only one time, while the second and the fourth occurred twice for each. The first suggestion “ترسل” and the fifth suggestion “تبعث لك” are in pure Arabic terms, even though both of them can not be accepted as an equivalent for the English term. Since they do not carry the whole meaning of it, both of translation

carries only the meaning of “send”, while the English term aims at sending mails via the net. The same thing for the second suggestion “الحصول على” it does not convey the total sense of the source term. Whereas the third suggestion “ترسل اليك عبر البريد الالكتروني” which is provided by only one participant, is an adequate rendering of the English term, this translation conveyed the meaning, and it is in pure Arabic words. Also the sixth suggestion “لتنقل الاخبار” The fourth suggestion “الاميلات” is not a successful attempt, since the English term is transcribed and naturalized as “الاميلات”. The last suggestion “جديد للبريد” is a mistranslation of the English term; the word “جديد” did not exist in the source term, also the source term is a verb whereas this suggestion is a noun.

· **Sentence Twelve:** “A blog is a publicly accessible personal journal that enables an individual to voice her /his opinion.” This sentence has the lowest rate of participation with percentage of 37.03%, it contains one computing term “blog”. Only seven participants attempted to translate the term, they adopted transcription as a method of translation.

20. Term: Blog

The English term	The Suggested Translations	Total Number of Occurrences	Percentage of Translation (%)	The method used
1- البلوق 2- Blog No equivalents	1- Blog	3 4 20	11.11% 14.81% 74.07%	Transcription
Total	27	100%		

Table 21: Translation of the Term **Blog**

As it is shown in the above table, the participants provided two suggested translations, three (3) participants translated as “البلوق” and four (4) participants put it as it is in the source language

“blog” in the Arabic sentence. Both of the suggestions can not be accepted as a translation, the first one is transcription of the term, thus it carries no meaning even if it is in Arabic alphabet. The second suggestion is not a translation, no rendering was introduced.

· **Sentence Thirteen:** “Scan incoming files for viruses.”

77.77% of the participants translated this sentence; it includes one computing term which is “scan”. The term was translated using neologisms as a method, the analysis of this term translation is provided in the below table

Results , Conclusion and Recommendations

5.1 Results

1. The difficulties student face, are due to their lack of background knowledge concerning the computing terms, as well as their ignorance to the importance of adopting a method that facilitates the translation process and assures a good translation production
2. translations reveals that most of the participants used neologisms in order to render the term into Arabic.
3. the majority of the participants translated the term “website” using different methods.
4. a transcription of the English term does not convey the meaning of the term and, cannot give an appropriate translation.

5.1 Conclusion

The present study was carried out to investigate third year students' problems in translating English scientific terms into Arabic, and to find out the methods they use to render those terms, and whether these methods are responsible for difficulties they face. The practical part of this research revealed two main results, the first one was that a great number of students use a translation method aims at using pure Arabic vocabulary, while others preferred another

one which did not serve the Arabic language; in that they ended up with inaccurate rendering. The second result showed that even the students used an appropriate method, they could not provide adequate equivalents, and this was due to their careless and the restricted background of the computing field, and do not have a good mastery of the two languages. On the other hand it was proved that using a given method may lead to incorrect and unacceptable translation. This should be taken as a sign, that Arabic language suffers a serious lack of scientific vocabulary, thus one should pay more attention and give higher importance to scientific translation theory and its methods that would ensure the enrichment of Arabic language.

Ultimately, some pedagogical recommendations were given. It was suggested that teaching scientific translation theory and the methods that may facilitate the process of translation, may help in confronting the problems student face in translating scientific terms.

It was suggested that teaching scientific translation theory and the methods that The outcome of this study shows that the students are not aware of the importance of adopting an accurate translation method while translating scientific terms, and the significance of rendering those terms into pure Arabic vocabulary, in order to deliver an adequate meaningful equivalents; and preserve the Arabic language identity, also they seemed careless about the major invention of foreign terms into Arabic language, which threatens its identity; as the world develops Arabs should be creative in the production of the terms for the new introduced terms.

5.3 Recommendations

1. Here are some recommendation suggested that might make the translators more aware and reconsider the best method, which should carry meaning and aims at using in pure Arabic vocabulary. The syllabus design concerning teaching translation for third year students does not include any course where the students

will be introduced to scientific translation as a theory and the methods used to translate scientific terms.

2. syllabus design are practising only, till first year master, where they will be introduced to translation theory, even though, the syllabus does not contain the study of scientific translation and its methods.
3. The students should be equipped with the basic scientific translation standpoints, and be exposed, in earlier stages of their academic acquisition of the translation skills, to the vital role that methods of translating scientific terms play in facilitating the translation process, and help to produce adequate equivalents.
4. The students should be taught to be creative and avoid transcription of the foreign items, which decreases the quality of the translation, they need to learn the methods serve the Arabic language more, so they can translate and convey the required meaning easily.

may facilitate the process of translation.

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