

## *Original Paper*

# Inaccuracy in the Translation of Dentistry Terms from English into Arabic

Ayman R. Nazzal<sup>1\*</sup> & Mohammad F. Khmous<sup>2</sup>

<sup>1</sup> Department of English language & Literature, An-Najah National University, Nablus, West Bank

<sup>2</sup> Nablus, West Bank

\* Ayman R. Nazzal, Department of English language & Literature, An-Najah National University, Nablus, West Bank

Received: August 27, 2020      Accepted: September 7, 2020      Online Published: December 28, 2020

doi:10.22158/sll.v5n1p10

URL: <http://dx.doi.org/10.22158/sll.v5n1p10>

### **Abstract**

*This study investigates the inaccuracies manifested in the translation of dental terms from English into Arabic by Palestinian dentists. It underscores the fact that the translation of dental terms is part and parcel of technical translation; and accounts for the major causes and provides an adequate solution for such inaccuracies.*

*The findings of the study point out the shortcomings of using different dental translation strategies simultaneously for the same term and point out that the experience and the institutional background of the dentists have a profound impact on the accuracy of translating dental terms. The findings have also underlined the difference between technical and conventional translation rules. While the study points out that dentists have used Arabicisation, transliteration, and descriptive translation strategies for the accomplishment of adequate equivalences in the translation of dental terms, it has shown also that Arabicisation is highly neglected and rarely used by dentists in comparison with the other two translation strategies. Transliteration is the most common especially among specialists and descriptive is mainly used by dentists with non-specialists.*

*The methodology used in this study relied heavily on the data taken from a pilot study, carried out through the distribution of a questionnaire to a hundred dentists at the American University in the city of Jenin and in the city of Nablus on the West Bank, followed with a number of personal interviews with a number of dentists.*

### **Keywords**

*technical and dental translation, context-free/bound, conventional and non-conventional rules*

## 1. Introduction

### 1.1 Introduction

Not long ago, little attention was given to translation as a field of study; it was regarded as a branch of linguistics. After that, translation studies were given more attention and became a fully-fledged field of study.

The word translation itself derives from the Latin term [About the Language Realm] (n.d). Retrieved January 15, 2016 from <http://www.languagerealm.com/articles/history-of-translation.php> “to bring or carry across”. The ancient Greek term is “metaphrasis” (“to speak across”) and this gives us the term “metaphrase” (literal or word-for-word translation)—as contrasted with “paraphrase” (a saying in other words). This distinction has been existed at the heart of the theory of translation throughout its history: Cicero and Horace employed it in Rome; Dryden continued to use it in the seventeenth century and it still exists today in the debates around “fidelity versus transparency” or “formal equivalence versus dynamic equivalence”.

Hajjaj (1997, p. 40) argues that translation has always been recognized as one of the most important and necessary activities in all human life. Translation among human languages is very vital and important indeed. Suffice it to say that in the age of technologies, no group of people within a nation can do without access to the world of information and technology in many aspects. Technology has increasingly been invading every home in every corner of the world through radio, television, computer networks and printed media. It is almost impossible for all people to learn just one language in their life time, and because English has become the most globally used language, translation to and from English remains the means for facilitating international communication.

Translation is not only a complex event, but it is also a multi-purpose activity, requiring skill, knowledge and an immense of efforts. The ability to transfer the thoughts and ideas from one language to another in written or oral form is not innate; it needs more knowledge, experience and practice. While every normal human being is born predisposed to acquire a language, translation does not work in the same way. It needs hard work to be learnt and mastered through a constant process.

Enani (1999, p. 5) defines the translator as “a writer who formulates ideas in words addressed to readers. The only difference between him and the original writer is that these ideas are the following ones”.

El Shafey (1985) has argued that a translator first analyzes the message and makes the ideas easily absorbed and understood in the TL; s/he breaks the ideas down into its simplest and structurally clearest elements, transfers it at this level into the TL in the form which is most appropriate for the intended audience. The translator represents the link between the ST and the target TL receivers. His/Her role is very important in this regard because s/he is the main authentic honest source who will write the message for others. El Shafey (1985, p. 95) added that “A translator instinctively concludes that it is best to transfer the “kernel level” in one language to the corresponding “kernel level” in the “receptor language”.

Farghal and Shunnaq (1999, p. 2) have stated that “translation is often regarded as a project for transferring the meaning from one language into another”. Translation is then regarded as a human activity which enables human beings to exchange ideas and thoughts in any language. In fact, translation is highly relevant to all sciences, philosophy, linguistics, sociology and psychology.

Newmark (1988, p. 5) defines translation as “rendering the meaning of a text into another language in the way that the author intended the text”. Hatim and Munday (2004, p. 3) have argued that “translation is a phenomenon that has a huge effect on everyday life”. Translation is that kind of science which facilitates understanding among different nations in all aspects of life.

Technical translation is considered as a main branch in translation studies since technical sciences develop rapidly all over the world. Therefore, the need for technical translation to or from English language is very important so as to cope with that huge number of technical terms that are being coined in all languages in general and in the English language in particular. All of these terms are mainly names of different inventions, electronics, industrial products, machinery, medical sciences and other scientific fields. It is universally acknowledged that industrialization has led to the formalization of translation for business purposes since the eighteenth century. Newmark (1988, p. 51) says, “technical translation is one part of specialized translation”. Despite the small number of technical terms in a text in general, they still play an important role in the text meaning. In that, Newmark (ibid) says, “Although terminology doesn’t form more than 5% to 10% of the whole text, it still plays an important role in the text”. In a sense, the text will not be acquired or understood properly unless the intended meaning of the terms is clarified. Translation is considered as a mediation between cultures in different aspects. The translator, though, has the capacity to enhance and facilitate our understanding of all global developed scientific sciences. Medical or dental terms are one branch of these scientific developments which need to be understood and illustrated through translation.

Gambier Y. and Doorslaer L. (2011, p. 80) have presented that medical sciences have represented the oldest translation type since ancient times, dating back to ancient Mesopotamia. In subsequent civilizations, medicine has played a major construction and dissemination of medical knowledge through Greek, Latin, Arabic, English and many other languages.

Medical interpreters have an important role in hospitals, doctors’ clinics, courts, conferences and many other medical areas where the patient or audience does not speak the native language of the medical staff. Medical interpreters’ responsibilities are to interpret, translate and facilitate information from the medical staff to patients or from English medical language to Arabic language for example. In addition, [The Translator] (2001) Retrieved January 20, 2016 from <http://atlasls.com/blog/?p=65>

“If the patient has any questions or concerns, a reverse interpretation is required so doctors and nurses can properly address the patients symptoms, concerns or questions”. Dentistry is one field of medical translation that can represent serious challenges to translators. It is observed that some dentists do not translate dentistry terms in the same way or in an accurate way, and they sometimes cause some

conventional or technical translation problems when translating from English into Arabic. It is also very obvious that the dentistry terms inaccurately translated from English into Arabic may cause great damage to the real intended meanings of these terms. The dental text should not be dealt with as a text free; on the contrary, it must be recognized as a text bound; this problem results from the random use of the term translation using English Arabic dictionaries. Dental translation should follow the rules of technical translation so as to avoid translation problems. Moreover, the lack of knowledge in the Arabic language basic rules is another obstacle that hinders accurate dental translation results.

The vast developments in dentistry as well as in medical sciences in general—actually need hard work in the field of translation so as to cope with all the new English terms in the Arabic language. Therefore, there is a need to find out the accurate way to transfer (translate) these scientific achievements and coin them in the Arabic language. The Arabic language translators or dentists—as specialized in the field—should work hard to find out the accurate equivalences for these dental terms according to the Arabic language accurate linguistic rules. Hence, translating English dentistry terms from English into Arabic accurately is vital and necessary for all dentists so as to acquire the exact intended meaning and then to convey the original translated English dental texts or terms to both specialists and non-specialists.

This study focuses mainly on the inaccuracy of dental terms translation from English into Arabic and the expected negative consequences of that inaccurate translation. The discrepancies between the different translations observed in the pilot study represent the cornerstone of the study. Many other data sources will also be examined including a number of personal interviews with a number of dentists, as well as some authentic dental or medical dictionaries such as *The Unified Dictionary of Dentistry* (UDD) and *The Unified Medical Dictionary* (UMD). This study examines the inaccurate areas and sheds light on the difference between technical and conventional translation rules. It also tries to find out the most satisfying solution for dentistry terms translation problem.

### *1.2 Statement of the Problem*

This study aims to explore the problems that translators or dentists may encounter in translating English dentistry texts or terms into Arabic, based on the available literature on technical translation. The thesis mainly identifies two problematic or inaccuracy areas: conventional and technical.

First, Greek and Latin languages are the main sources of the medical terms where prefixes or suffixes are added to the “root word” which becomes a new term; basically, it is usually a term derived from Greek or Latin as source languages. The following important points are in place:

- 1) In fact, English speaking communities are pioneers in modern technologies, so all of these technologies are of Greek and Latin origins.
- 2) English medical terms are widely used among Arabic specialists who favor transliteration over Arabicisation or descriptive. At the same time it has been found that Arabicisation is rarely used among specialists whereas descriptive is used with no-specialists. Hervey and Higgins (1992) have said that,

translation could be viewed as a process of conveying the gist of the source text message into a target text message, and they have added that in technical translation the target text should be as close as possible to the source text.

The distinction between conventional and technical translation represents the most common problems that encounter both translators and dentists when translating technical or dentistry terms from English into Arabic in particular. Many of these problematic areas are found in the translations of many dentists. As an example of an inaccurate dental translation is found in the following dental term, translated from English into Arabic: First, the term “contamination” means تلوث in Arabic whereas it was translated into عدوى by some dentists which is not only inaccurate but totally wrong [Wound basic] (n.d), Retrieved January 23, 2016 from <https://quizlet.com/57036959/wound-basic-flash-cards/>.

“Contamination” implies the presence of microorganisms that do not necessarily colonize or reproduce in the host. ‘Infection’ implies colonization and reproduction of the organism within the host”.

Disease only occurs when the infection impairs the health of the host.

Another example, [Differentiate between contamination infection and disease] (n.d), Retrieved January 25, from [http://www.answers.com/Q/Differentiate\\_between\\_contamination\\_infection\\_and\\_disease\\_What\\_are\\_the\\_possible\\_outcomes\\_in\\_each](http://www.answers.com/Q/Differentiate_between_contamination_infection_and_disease_What_are_the_possible_outcomes_in_each). If someone got HIV containing blood on the skin, they would have contamination. If HIV got into their bloodstream and reproduces, they would have infection. They do not have disease until they begin showing signs and symptoms of AIDS. Contamination may but does not always lead to infection, and infection may but does not always cause disease. It is not necessarily true that every contamination leads to infection.

### *1.3 Purpose of the Study*

This study is expected to investigate and to identify the exact problematic areas that encounter dentists in translation of dentistry terms. The researcher’s investigation has led to identify two areas: conventional and technical where translation has been inaccurate, if not wrong. It has been found that the different connotations of dental terms are sometimes misunderstood, thus causing problems in translation of dentistry terms.

In the course of translation history, translation discourse distinguishes between types of translation equivalences according to many different pioneers in translation: word for word and sense for sense, formal versus dynamic, literal versus free, formal versus textual equivalence, semantic versus communicative, foreignisation versus domestication, globalization versus localization, instrumental versus documentary. However, in technical translation—as in dentistry—formal, documentary, semantic, or faithful translation is more required. The technical competent translator is to be aware of these types of equivalences in this regard.

The following are the three main equivalences that are applied in technical dental translation:

- 1) Descriptive equivalence.
- 2) Transliteration equivalence.
- 3) Arabicized equivalence.

Fischback (1986) maintained that “translating medicine is regarded as the most universal and oldest field of scientific translation because of the homogenous ubiquity of the human body” (as cited in Shajji, 2013, p. 4).

This is very apparent in dentistry where there are many terms used daily by dentists and their staff in the course of delivering care to patients, maintaining patients’ records and preparing claims. Many terms are familiar, especially to experienced individuals, but in general the accuracy of dental terms translation from English into Arabic depends mostly on the dentist’s institutional background [Terms and Definitions] (2015), Retrieved January 30, from <http://www.ada.org/glossaryforprofessionals.aspx> “New dentists and staff, however, may not be as familiar—and over time new terms come into use and old terms are revised for clarity”.

#### *1.4 Research Questions*

The present thesis pursue to answer the following questions:

- 1) What are the main problems that translators face in translating technical terms?
- 2) What are the most common inaccurate features in translating dentistry terms?
- 3) What is the effect of experience and the institutional background of the dentist in the translation process?
- 4) What are the main causes of this inaccuracy?
- 5) What are the direct and indirect effects of this inaccuracy on both patients and dentists?
- 6) What are the possible solutions for the problem?

#### *1.5 Significance of the Study*

The main significance of the study lies mostly in understanding the exact problematic areas in the translation of dental terms and how this problem can be solved.

The significance of the study can be divided into two main parts. First, there is little research on conventional and technical inaccuracy in the translation of dental or medical terms from English into Arabic as to specialists and non-specialists. Second, it is geared toward materializing the shortcomings of inaccuracy in translating the dental terms. Third, it is also an attempt to shed light on the most problematic dental terms that are translated from English into Arabic by dentists or other dental texts, thus achieving a stable method of dental translation terms. Finally, the study is also significant to dentists, students of dentistry, translators and researchers in the field.

The pilot study was conducted in which a number of dental terms or texts were submitted to dentists to translate from English into Arabic. The sample of the pilot study was 100 dentists from Nablus City in Palestine and the Arab American University in Palestine to include all the dentists in Palestine who come from different institutional backgrounds. The dentists were asked to translate some problematic

dental terms from English into Arabic. The results of this study were very clear regarding the conventional and technical problems. At the same time, the dentists reported, in the personal interviews, that they do not usually use Arabic equivalence for the English dental terms when they communicate with specialists, but they always use transliteration instead.

Depending on the data analyses, the researcher found that the institution where the dentists have graduated from had a clear important role in the range of accuracy in the translation of dental terms from English into Arabic.

### *1.6 Limitations of the Study*

The study is limited to a number of limitations:

- 1) The dentists were asked to translate a number of dental terms or texts which had some problematic translation areas.
- 2) The study focused on dentists mainly who came from Nablus and the Arab American University in Jenin.
- 3) The study focused on three main technical or medical translation strategies: Arabicisation, descriptive and transliteration.
- 4) The study focused on the range of knowledge depth in Arabic as a basic requirement for an accurate translation.

### *1.7 Structure of the Study*

The study falls into five main chapters as follows:

The thesis is divided into chapters according to the chronological order of scientific research methodology. Chapter one includes an introduction in which the researcher touches on historical background of translation in parallel with the importance of technical and medical translation. It also introduces the different components of main ideas of the study. Chapter Two is devoted to pioneers in medical translation or dentistry translation. It also discusses the general features of technical and medical terms translation and how they are different from the daily usage of language. It includes definitions of dentistry term translation and the characteristics of medical and dental translation. It concludes with a look at the importance of dentistry translation to specialists and non-specialists.

Chapter Three focuses on the methodology of the study. It describes the community of the study, the sample, the primary sources of the data collection which include: Pilot study and personal interviews with a number of dentists. Chapter four is devoted to analyses of data collection and personal interviews depending on authentic reliable dental sources. The analytical results showed a variation in the translation of dentistry terms in many aspects of technical or conventional inaccuracy. Chapter Five incorporates the findings and results of this study and offers a number of recommendations.

## 2. Methodology and Theoretical Frame

### 2.1 Introduction

This section is an overview of the methodology used in the thesis, such as pilot study, interviews with a number of dentists and some dental texts analyses. It also focuses on the frames that have been used to collect the data which is the main base of the study. Moreover, it discusses the most common equivalences and strategies of medical translation.

### 2.2 Description of the Study

Just as the foundations support and decide the shape of a building, a theoretical framework provides the rationale for predictions about the relationships among variables of the research study.

This chapter discusses the methods and procedures that are used to collect the data which are necessary for the thesis analyses and then come up with the necessary results and recommendations. This chapter also includes the districts of the respondents and some other necessary information about them that are vital for the study analyses. The chapter displays the necessary sources of the data include mainly the pilot study, dental texts analyses and short interviews with a number of dentists.

### 2.3 Tools and Data Collection

The crucial first concern of the study is to find out the difference between conventional and technical translation inaccuracy in the translation of dental terms from English into Arabic. The dental texts and terms are translated by a number of dentists. A number of significant discrepancies have been observed and analyzed about these different translations. The second aim of this study is also to absorb beneficial results about the importance of accurate translation of the dental terms to both specialists and non-specialists combined with the best required sources that the dentists can rely on in dental translation, beside the recommended dental translation strategies. Third, the effect of the different translation strategies that are followed, either between dentists themselves (specialists) or between dentists and patients (non-specialists) on the other hand, asymmetrical talk, on dental translation accuracy.

The target dentists are mainly from Nablus City, who learned dentistry in different institutions, and the Arab American University in Jenin. Moreover, some personal interviews are conducted with a number of dentists.

### 2.4 Population & Sample of the Study

The sample of the study consists of 100 dentists, 65 dentists from Nablus and 35 undergraduate students from the Arab American University in Jenin. Apparently, not all targeted dentists have received their education in English language. The Arab American University in Jenin is one sample that proves that Palestinian universities use English language in their medical faculties, but at the same time not all Arab universities use English language as a learning language. Clearly, the targeted dentists from Nablus City have not received their education in English language only, which means that not all dentists in Palestine receive their dentistry education in English only. As a result, the sample that covers



the study may be considered as a systematic and may make the problem clear and convenient for the study and analytic calculations.

The respondents were asked to translate 20 dental texts from English into Arabic. The texts include a large number of problematic translation areas of the dental terms which can be an actual sample for the study. The dentists were asked to translate the whole texts to find out how they do translate the intended meaning of the whole dental text first, then observe and analyze the different translations of every dental term. The dentists were also asked to mention their institutional background and the number of years' experience so as to find out the effect of these factors on the of translation accuracy range, compared also with the translation results of the undergraduate students from the Arab American University in Jenin. Although the language of dentistry is universal, not all dentistry faculties use English language as a language of dentistry teaching. Therefore, the institutional background of the dentists has a tangible effect on the dentists' accurate translation degree of the English dental terms into Arabic language, and so there is a variation between the dentists themselves. The dentists who have graduated from East Europe, Russia, Ukraine or Syria in particular face some difficulties in English medical terms translation accuracy. However, many dentists have argued that they face some difficulties in using "Arabicization" equivalence in dental terms translation.

### 2.5 The Procedures of the Study

The data of the study has been collected from translated dentistry terms by different dentists from Nablus, and the Arab American University in Jenin. Different inaccurate areas of the dental terms translations have been observed through comprehensive analyses in the pilot study. Moreover, other translated dental terms from English into Arabic, either in dentistry conferences or other dental texts, have been also examined in the pilot study which have shown translation inaccuracy.

The main authentic sources that are used in the study are:

First, (*The Unified Dictionary of Dentistry English-Arabic, 2009*) The Arab Health Ministers has adopted the initiative of Union of Arab Doctors in the late sixties in the previous century in publishing (*The Unified Dictionary of Dentistry English-Arabic, 2004*) and continue its modernization in coordination with the Director General World Health Organization to produce the Arabic program for the organization.

Some points about the two dictionaries can be pointed out in this concern as follows:

**First**, (*The Unified Dictionary of Dentistry English-Arabic, 2004*).

2004. *The Unified Dictionary of Dentistry English-Arabic.com*. Translated and Retrieved February 3, 2016, from <http://applications.emro.who.int/dsaf/dsa563.pdf>.

- 1) It uses just one Arabic word for the English expression, but other synonyms are not used unless it is very necessary in order to make the translation unified.
- 2) If there are many foreign synonyms for the same dental term, for historical reasons, it just translates its original meaning.

- 3) It uses the common words in Arabic or that were previously used by Arab scientists.
- 4) It uses transliteration equivalence for exotic words because it is difficult to find an Arabic equivalence for these terms.
- 5) It works hard to make the term Arabicized so as to be easier for Arabic language derivations.
- 6) It considers the Arabicized term an Arabic term which follows the Arabic structural rules.
- 7) It is committed to choose the easiest exotic terms from all foreign languages such as Latin, French and English without being restricted to only one foreign language so as to be also easier in the Arabic language.
- 8) It translates species names in the taxonomy of animals and plants, but microbes are not Arabicized.

**Second,** (*The Unified Medical Dictionary, 2009*) (المعجم الطبي الموحد)

2009. *The Unified Medical Dictionary.com*. Retrieved February 3, 2016, from <http://www.emro.who.int/Unified-Medical-Dictionary.html>.

The following is an introductory about what has been said about this dictionary.

“The Unified Medical Dictionary (UMD) is a multilingual medical dictionary. The first edition was issued in the 1960s by the Arab Medical Union in Baghdad, Iraq, to meet the urgent need in Arab countries for unified medical terms. Since 1973, the year of the third edition, WHO has taken the lead in maintaining and developing it, with valuable contribution from the Arab Health Ministers’ Council, Arab Medical Union and Arab League Educational, Cultural and Scientific Organization (ALECSO). A specialized committee of experts was set up to collect, verify and add to the medical terms. The committee receives feedback, comments and information from experts and professionals from all over the Arab world, as well as medical terms approved and issued by the Arab academies in Cairo, Damascus, Amman and Baghdad.

The UMD is available in print, on CD and on the internet. The fourth edition of the UMD contains more than 150 000 terms in English and Arabic. Most of these terms are available also in Farsi, French, German and Spanish”.

It is really the first dictionary that introduces the medical terms in Arabic language. It provides an opportunity for those who are not specialized in Medicine to have an access to medical sciences from the inside so as to recognize the diseases, their causes and their newly coined names, particularly associated with the names of their discoverers of Western or other scientists. Moreover, it illustrates the classifications of the diseases and their types the various disciplines, the symptoms that we feel and the symptoms that we do not feel.

Third, another important authentic source is (*Oxford Study Dictionary, 2010*) which is mainly used by the students of dentistry specially in Arab American University in Jenin.

Pilot study is the main data collection in this study in addition to personal interviews with a number of dentists. The targeted dentists graduated from different universities and from different countries as has been mentioned earlier. They were asked to translate some controversial dentistry terms through contexts

and the researcher focuses on both the whole translated text and then the dental terms in each context to find out the discrepancies between the different translations, and recognize the kind of problem whether it is really technical or conventional. The researcher has classified the translated terms according to the type of inaccuracy, and the inaccuracy created by the difference in technical and conventional translation. In the following chapter the first section will discuss the inaccuracy of technical and conventional translation of the dentistry terms. Some dentists and translators fall in real technical problem when translating these terms into Arabic. It is clear that the institutional background also has great effect on the accuracy of translation.

It is necessary for all dentists to understand the English dental term in their native language so as to understand the gist of its message and get its exact crucial meaning.

This study is concerned with assessing different aspects and dimensions of translation inaccuracy of dental texts and terms which shows discrepancies between the translated contexts either by dentists or other translators from English into Arabic.

The mainly used frame in translation is to gauge equivalence between ST and TT and to investigate the problematic translation areas to come up with a possible solutions for this problem.

#### 2.6.1 Interviews with Dentists

The researcher has conducted some personal interviews with experienced dentists about the use of dental terms in terms of its importance to both dentists and patients in English and Arabic. They have provided the researcher with a significant guideline about dental terms translation from English into Arabic. Moreover, the questions were mainly about the importance of translating dental terms use between dentists themselves and between dentists and patients. In addition to this, they have been asked about the main references they use in understanding the dental terms. One of the aims of this study is to discover the types of equivalences that are used among dentists when translating English terms from English into Arabic. They have confirmed that they usually use transliteration equivalence in most of their communication, then comes the second equivalence which is descriptive translation. A few number have said that they have used Arabicisation in translating dental terms which has the most common and known problematic area.

#### 2.6.2 The Questionnaire

Conducting pilot study is the main data collection method used in the study in addition to other dental translated texts analyses. The questionnaire included a large number of dental terms introduced through texts which have problematic translation inaccurate areas. It is the way to reach a reliable data through a comprehensive study about inaccuracy in dental terms translation. The dentists have been asked to translate a number of dental terms from English into Arabic. The first section of the questionnaire includes general information about the dentist especially his/her experience period and the institutional background which is very important to come up with the required results as follows:

The main aim of the first section is to find out the effect of both experience and the institutional background on the dentists translation accuracy of the dental terms from English into Arabic. This questionnaire covers the regions of Nablus and the Arab American University in Jenin.

In the second section, the respondents have been required to translate 20 texts that include a number of problematic dental terms when translated from English into Arabic. The translation of the terms has been analyzed to find out the different kinds of problematic areas. It was found that many terms have not been translated in the same way or in an inaccurate way. The questionnaire has been analyzed and the researcher tries to figure out the types of inaccurate translation areas and the reasons behind that. Moreover, the questionnaire has tested the regional effect of the accurate translation from and Nablus and the Arab American University in Jenin.

### 2.7 Statistical Analyses

The 100 copies of the questionnaire were collected and analyzed depending on the previous mentioned dental sources: *The Unified Dictionary of Dentistry* and *The United Medical Dictionary*. The translated dental terms are presented in different table—analyses that include different translations by dentists compared later with the translation of UDD and UMD. Finally the tables also include the use of different translation strategies which clarify the negative effect of using different translation strategies for the same term.

## 3. Result

This study has pointed out the problematic areas in dental translation from English into Arabic and has attributed the inaccurate translation areas to the lack of experience in technical translation rules. The study has also focused on the type of translation strategies used in technical translation in general and in dental term translation in particular which are: Arabicisation, transliteration and descriptive translation. At the same it has cautioned against the haphazard use of different translation strategies without following certain translation rules and taking into account the type of the dental text and recipients. The findings have also underscored the tendency of dentists to resort to transliteration strategy when interacting with other specialists at the expense of other strategies on account that it is the easiest one although it is not the optimal option in some cases. In fact, using acronyms or abbreviations is very common among dentists, and using transliteration translation strategy for abbreviations or acronyms leads to a high ambiguity. Moreover, the experience and the institutional background of the target dentists have shown great influence on the accuracy of dental terms translation and have revealed the significant differences between the dentists who have received their education in English language or in other languages. Finally, it is observed that there is smattering of the basic rules of both Arabic and English languages.

**Table 1. Terminological Translation Equivalences: Descriptive vs. Arabisation and Transliteration**

Medical term	Descriptive	Arabisation	Transliteration
Enuresis	انقطاع البول	زرام	أنيوريسيس
Acromegalia	ضخامة الالتهابات	عرطلة	أكروميغاليا
Collutory	غرغرة مضمضة	طلاء الفم	كليودري
De-sequestration	عودة الدم للدوران	إزالة المحتجز	سكوستريشن

#### 4. Discussion

Clearly, some dentists were not fully aware of the three translation strategies and it is not recommended to use them simultaneously which could cause serious ambiguity. Choosing the translation strategy depends mostly on the type of the dental term and the institutional background of the dentists. Some dentists maintained that they usually used simplified descriptive translation strategy for the English dental term specially when communicating with laymen or non-specialists, but they use transliteration strategy for the dental term especially with specialists, bearing in mind that the majority of them did not give any importance to Arabisation translation.

The following table shows the translation strategy which the dentists adopted for to translate the following dental terms in the personal interviews. It is very obvious that they supported descriptive translation when communicating with non-specialists and used the transliteration strategy when communicating with specialists; however, the majority of them refrained from using the Arabisation translation strategy.

Table 2 shows the Arabisation translation strategy according to UDD and UMD.

**Table 2. Terminological Confusion and Ambiguity in Relation to Descriptive vs. Arabisation vs. Transliteration Translation**

No.	Dental term	Descriptive equivalence	Arabisation equivalence	Transliteration equivalence
1.	Burs	حفارات	أزيز	البيرس
2.	Cephalometrics	صورة مقطعية	قياسات الرأس	سيفالو
3.	Profile	منظر جانبي	شاكلة للصورة الشعاعية	البروفائل
4.	Composition	حشوة تجميلية	تركيب	كوبوزيشن
5.	Hand piece	قبضة		الهاندبيس
6.	Apex	ذروة الجذر	قمة	الابكس
7.	Scalar	مقلعة اسنان	مقلحة أسنان	سكيلر
8.	Panoramic image	صورة بانوراما	بانورامي	بانوراما
9.	Bonding	مادة لاصقة	الصاق	بوندينج
10.	Elevator	أداة الخلع	رافعة	اليفيتر

11.	Forceps	زرادية	ملاط	الفورسيس
12.	Veneer	عدسات الاسنان	كسوة خزفية	فنير
13.	Cement	مادة الصاق	ملاط	السمنت
14.	Suction	الماصة	مص	السكشن
15.	Needle	إبرة	ابرة، حقنة	النيدل

Table 3 below shows the discrepancy in the translation of dental terms resulting from the use of both Arabicisation and transliteration strategies.

**Table 3. Terminological Confusion and Ambiguity in Relation to Arabicisation vs. Transliteration Translation**

No.	Dental term	Arabicized equivalence	Transliteration
1.	Dentition	تسنين	الدنتيشن
2.	Edentulous	عديم الاسنان	اندنتلس
3.	Quadrant	الربعية	الكوادرنانت
6.	Enamel	مينا	اناميل
7.	Cementum	الملاط	السمنتم
8.	Dentin	عاج	الدنتين
9.	Pulp	لب	البلب
10.	Interproximal	التلاصق	الانتربروكسيمال
11.	Mesial	أوسط	الميزل
12.	Buccal	فحوى	الباكل
13.	Occlusal	الإطباق	الكلوزال
14.	Distal	القاصي	الدستال
15.	Facial teeth	الأسنان الوجه	الفيشل تيث
16.	Spectrum	مطياف	سبكتروم
17.	I-lingual	ل-لساني	
18.	Clinical crown	تاج سريري	اكلينيكال كراون
19.	Gingiva	اللثة	الجنجيفا
20.	Caries	النخر	الكاريس

## Acknowledgements

The first and the last gratitude is devoted to God almighty for this great grace that inspired me with the ability to have this successful work and bring it to life despite the hard time I have passed through lately. Special thanks to many other people who have greatly supported and encouraged me. The deep gratitude is dedicated mainly to the psychological presence of my mother and father despite their long time death, who are constantly present in my heart and mind which provides me with the necessary support to stand firm and overcome all the odds and difficulties. Second, I wish I could have the ability to pay my supervisor Dr. Ayma Nazzal his right for his constant encouragement, support, stand, advice and patience during the time of the thesis preparation. He is a real honest faithful guidance and director who has shown patience and has helped me to materialize this work. Special thanks to the members of the examining committee, Dr. Fayez Aqel and Dr. Mohammad Thawabteh who have had valuable comments and directions with which the thesis could have been a successful one. My immense gratitude to all of my instructors who have enlightened me the road towards translation and linguistics knowledge in the different courses in all my M.A. programme time, namely: Dr. Ruqaya Hirzahllah, Dr. Fayez Aqel, Dr. Odeh Odeh, Dr. Nabeel Alawi, Dr. Sameer Issa, Dr. Abdulkareem Daragmeh, and Dr. Sufian Abuerah. My warmest thanks are also dedicated to my dear wife who showed patience, support, and encouragement. Finally, I would like to thank all my friends and relatives who constantly supported and encouraged me.

## References

- Baker, M. (1992). *In Other Words*. London: Routledge. <https://doi.org/10.4324/9780203133590>
- Byrne, J. (2006). *Technical translation, Usability Strategies for Translating Technical Documentation*. Netherland: Springer.
- Byrne, J. (2012). *Scientific and Technical Translation Explained*. New York: St. Jerome Publishing.
- Catford, J. C. (1965). *A Linguistic Theory of Translation*. London: Oxford University Press.
- Chabner, D. (2009). *Medical Terminology: A short Course* (5th ed.). U.S.A: Saunders Elsevier.
- Chabner, D. (2010). *Medical Language Instant Translator* (4th ed.). Maryland Heights: Saunders.
- Darwish, A. (2009). *Terminology and Translation: A Phonological-semantic Approach to Arabic Terminology*. Melbourne: Writescop Publishers.
- Dickens, H., Hervey, S., & Higgins, I. (2002). *Thinking Arabic Translation*. London: Routledge. <https://doi.org/10.4324/9780203167120>
- Drury, V. W. (1984). Patient information leaflets. *British Medical Journal*, 288, 427-442. <https://doi.org/10.1136/bmj.288.6415.427>
- Ead, H. (1998). *Arabic (or Islamic) Influence on the Historical Development of Medicine*. Cairo University: Heidelberg, Germany. Retrieved February 8, 2016, from <http://www.levity.com/alchemy/islam19.html>

- El Shafey, F. A. M. (1985). *Compounding in English and Arabic, Implications for Translation Methodology* (Unpublished MA Thesis). Cairo University, Cairo. Retrieved January 14, 2016, from <http://translationjournal.net/journal/21novice.htm>
- Enani, M., (1999). *Graduated Exercises in Translation from Arabic to English*. Cairo: Anglo Egyptian Bookshop. Retrieved January 16, 2016, from <http://translationjournal.net/journal/21novice.htm>
- Fargal, M., & Shunnaq, A. (1999). *Translation with reference to Arabic and English: A particular Guide*. Jordan: Dar Al-Hillal for Translation.
- Fug, P., & Keown, K. (1997). *Machine Translation*. New York: Kluwer academic Publisher. Retrieved July 3, 2015, from <http://link.springer.com/article/10.1023/A:1007974605290#page-1>
- Gambier, Y., & Doorslaer, L. (2011). *Handbook of Translation Studies* (Volume 2) Amsterdam/Philadelphia: John Benjamins Publication Company. Retrieved December 17, 2015, from <https://benjamins.com/#catalog/books/hts.2/main>
- Glover, B., & Knight, K. (1998). Translation Names and Technical Terms in Arabic Text. In *Semitic Proceedings of the Workshop on Computational Approaches to Semantic Languages* (pp. 34-41). Retrieved February 6, 2016, from <http://dl.acm.org/citation.cfm?id=1621760>
- Haddad, R. (2008). *Translation of Medical Terminology: An Analytical Study* (Unpublished MA Thesis). Yarmouk University, Irbid. Retrieved January 4, 2016, from <http://repository.yu.edu.jo/bitstream/handle/123456789/3376/495174%20%20%20.pdf?sequence=1>
- Hajjaj A., & al-Jrrah, H. (1996). Problems in Technical Translation. *Albasaer*, 1(3).
- Hatim, B., & Mason, I. (1990). *Discourse and the Translator*. London: Longman.
- Hatim, B., & Munday, G. (2004). *Translation: An Advanced Resource Book*. London: Routledge. <https://doi.org/10.4324/9780203501887>
- Herget, K., & Alegre, T. (2009). Translation of Medical Terms. *Translation Journal*, 13(3). Retrieved December 7, 2015, from <http://translationjournal.net/journal/49medical1.htm>
- Hervey, S., & Higgins, I. (1992). *Thinking Translation*. London: Routledge.
- Mason, I. (2001). Communicative/Functional Approaches. In Baker, M. (Ed.), *Routledge Encyclopaedia of Translation Studies* (pp. 29-32). London and New York: Routledge.
- Montalt, V. (2007). *Translation Step by Step: Learning by Drafting*. New York: Routledge.
- Nassar, M. (2002). *Loss in Meaning in Translating Medical English Texts into Arabic* (Unpublished MA Thesis). Yarmouk University, Irbid.
- Newmark, P. (1988) *A Textbook of Translation*. London: Prentice Hall International.
- Pilegaard, M. (1997). *Translation of Medical Research Articles*. In A. Trosborg (Ed.), *Text Typology and Translation* (p. 160). Amsterdam: John Benjamin Publishing Company. Retrieved January 5, 2016, from [https://books.google.ps/books?id=5jLOKD3gFyMC&pg=PA160&lpg=PA160&dq=Fishback+\(+1986:+160&source=bl&ots=E9Wx09pSSf&sig=x4BwhVmVVENpDK4or-T5ihL-qFc&hl=ar&sa=X&ved=0ahUKEwiK-Kvymu7LAhXG2CwK](https://books.google.ps/books?id=5jLOKD3gFyMC&pg=PA160&lpg=PA160&dq=Fishback+(+1986:+160&source=bl&ots=E9Wx09pSSf&sig=x4BwhVmVVENpDK4or-T5ihL-qFc&hl=ar&sa=X&ved=0ahUKEwiK-Kvymu7LAhXG2CwK)



- HVhEDVUQ6AEIGTAA#v=onepage&q=Fishback%20(%201986%3A%20160&f=false
- Quah, C. (1999). Issues in the Translation of English Affixes into Malay. *Journal des traducteurs/ Meta: Translator's Journal*, 44,604-616. <https://doi.org/10.7202/003881ar>
- Richards, J., & Schmidt, R. (2013). *Longman Dictionary of Language Teaching and Applied Linguistics* (4th ed.). New York: Routledge. Retrieved February 7, 2016, from [http://www.academia.edu/3670674/Longman\\_Dictionary\\_of\\_Language\\_Teaching\\_and\\_Applied\\_Linguistics\\_4th\\_Edition\\_](http://www.academia.edu/3670674/Longman_Dictionary_of_Language_Teaching_and_Applied_Linguistics_4th_Edition_)
- Seiny, M. (1987). Pan-Arab and international corporation in technical terminology. In the proceedings of the Ninth Conference for Translating and the computer (pp. 169-171). Aslib, London. Retrieved August 1, 2015, from [www.mt-archive.info/Aslib-1987-Sieny.pdf](http://www.mt-archive.info/Aslib-1987-Sieny.pdf)
- Shajji, H. (2013). *Terminological Inconsistency in Medical Translation from English into Arabic* (Unpublished MA Thesis). An-Najah University, Nablus.
- Tagliacozzo, R. (1975). *Information Processing and Management* (Vol. 12). U.K: Pergamon Press. Retrieved July 3, 2015, from <http://deepblue.lib.umich.edu/bitstream/handle/2027.42/21872/0000278.pdf?sequence=1>
- Towaim, M. (2007). *Grammatical and Lexical Features of Scientific and Technical Language* (Unpublished MA Thesis). Yarmouk University, Irbid.
- Wells, C., Peterson, T., & Hannigan, C. (2008). *Technical Writing: A Resource for Technical Writers at All Levels*. New York: Kaplan Publishing.
- Wilss, W. (1982). *The Science of Translation, Problems and Methods* Tübingen. Germany: Gunter Narr Verlag.

### Electronic References

- Retrieved November 20, 2015, from [http://www.jostrans.org/issue01/art\\_aixela.php1](http://www.jostrans.org/issue01/art_aixela.php1)
- Retrieved November 23, 2015, from [http://arbs.nzcer.org.nz/supportmaterials/language\\_of\\_science.php](http://arbs.nzcer.org.nz/supportmaterials/language_of_science.php)
- Retrieved January 15, 2016, from <http://www.languagerealm.com/articles/history-of-translation.php>
- Retrieved January 20, 2016, from <http://atlasls.com/blog/?p=65>
- Retrieved January 23, 2016, from <https://quizlet.com/57036959/wound-basic-flash-cards/>
- Retrieved January 25, 2016, from [http://www.answers.com/Q/Differentiate\\_between\\_contamination\\_infection\\_and\\_disease\\_What\\_are\\_the\\_possible\\_outcomes\\_in\\_each](http://www.answers.com/Q/Differentiate_between_contamination_infection_and_disease_What_are_the_possible_outcomes_in_each)
- Retrieved January 30, 2016, from <http://www.ada.org/glossaryforprofessionals.aspx>
- Retrieved February 2, 2016, from <http://www.metmeetings.org/en/metm10-poster-dental-terms:432>
- Retrieved February 5, 2016, from <https://www.youtube.com/watch?v=QvDw6m2kA6Q>
- Retrieved February 5, 2016, from <http://www.thefreedictionary.com/loan+translation>
- Retrieved February 6, 2016, from <http://globalvis.com/2014/05/technical-translation-4-rules-of-thumb/>

-Retrieved February 6, 2016, from [https://en.wikipedia.org/wiki/Technical\\_translation](https://en.wikipedia.org/wiki/Technical_translation)

-Retrieved February 7, 2016, from <http://www.mtmlinguasoft.com/what-is-technical-translation/>

-Retrieved February 15, 2016, from <http://applications.emro.who.int/dsaf/dsa563.pdf>

-Retrieved March 6, 2016, from [http://www.answers.com/Q/Differentiate\\_between\\_contamination\\_infection\\_and\\_disease\\_What\\_are\\_the\\_possible\\_outcomes\\_in\\_each](http://www.answers.com/Q/Differentiate_between_contamination_infection_and_disease_What_are_the_possible_outcomes_in_each)

-Retrieved February 7, 2016, from [http://www.academia.edu/3670674/Longman\\_Dictionary\\_of\\_Language\\_Teaching\\_and\\_Applied\\_Linguistics\\_4th\\_Edition\\_](http://www.academia.edu/3670674/Longman_Dictionary_of_Language_Teaching_and_Applied_Linguistics_4th_Edition_)