

Use and Evaluation of Computer-Aided Translation Tools (CAT) on the Word Level from the Perspective of Palestinian Translators and Translation Trainees

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Abstract

This research study aimed to identify the use and evaluation of Computer-Aided Translation (CAT) tools in the translation of Arabic/English words and expressions from the perspective of Palestinian translators and translation trainees (PTTT). Previous studies have addressed technology and translation in general and the use of CAT tools in particular, still there have been no studies that addressed the evaluation of Arabic- English CAT tools. A sample of 400 translators and translation trainees were selected, and a questionnaire, adapted from a Chinese study (Xu & Wang 2011), was completed by 308 participants. In addition, 12 semi-formal interviews were conducted with selected PTTT. Results revealed that PTTT highly recommended using CAT tools, indicating that they are fast and convenient; still the majority considered them unreliable and recommended that caution should be practiced in using them. Not all CAT tools are used by PTTT, either because they are new or not sufficiently developed to handle some of the challenges of parsing and translating Arabic.

Keywords: Authoritative websites, Computer-Aided Tools, Online Dictionaries, Palestinian translators, Translation Trainees, Search Engine

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Introduction

Recent global developments in technology and translation industry, in particular, have made it imperative for all translation institutions and translators to change their approaches towards translation as a science and a profession. Zerfass (2016) points out that translation technology influences the work of translators since there are now tools that serve the translator throughout the whole process. all the way. Furthermore, Xu and Wang (2011, indicate that “translators today are expected to be able to use CAT [Computer Assisted Translation] tools so as to survive in the translation market.” (p. 62)

Building on the work of Xu and Wang (2011), who surveyed a sample of 100 Chinese translation students regarding their attitudes toward CAT, and responding to the lack of research on this topic across the Arab world, this study aimed to describe and analyze the views of Palestinian translators and trainees regarding CAT tools focusing on their awareness of available tools, the sources of that awareness, and how they reported using them.

Study Questions

1. What CAT tools do Palestinian translators and translation trainees (PTTT) report relying on when doing Arabic/English or English/Arabic translation, where do they learn about them, and how do they use them?
2. Which online resources, including dictionaries and search engines, do PTTT report preferring, and how do they evaluate their relative usefulness?
3. According to respondents, do Palestinian translation teachers discourage or encourage translation trainees from using online resources?
4. Do PTTT perceive that training in CAT tools should be part of the curriculum in translation courses and programs?
5. What general attitude do Palestinian translators and translation trainees hold regarding CAT tools?

Literature Review

According to Williams (2013), “Translation plays a central role in everyday life across the planet” (p.119). Furthermore, Hatim and Munday (2004) indicate that, “increasing globalization and the impact of internet have already popularized fast translations of promotional literature, technical manuals, webpages and other all ranges of communication into other languages.” (p.112)

CAT tools in this research refer to electronic dictionaries, search engines, and online translation software rather than Translation Memory or Machine Translation. As such these tools have become mainstream for commercial translation production, and such technology applications continue to change human-machine interactions in translation dynamically (O’Hagan, 2016).

Given the discussion of these tools in Xu and Wang (2001), this study will describe the existing research on translation tools for Arabic/English translation with a focus on the end-user.

By way of background, Palestinians become translators in two ways. One category of translators starts studying a language major, whether Arabic or English, with a minor in Translation. After these students graduate, either they find work as translators and administrative assistants whose job description includes translation work, or they might pursue an M.A. degree in Translation from one of two local universities. (Few Palestinians can travel abroad to seek advanced degrees in translation, sometimes because of visa restrictions Palestinians face when travelling internationally.) These programs focus mainly on linguistics with very limited training in practical interpretation.

The second category of individuals becomes translators by a very different route. They are, for instance, doctors, lawyers, engineers, tour guides, or language teachers who studied abroad, so they are eligible to take the licensing test offered by the Palestinian Ministry of Justice. Ultimately, both categories of individuals sit for the qualification examinations. They must pass first a written test that includes both general and technical sections, and if they pass, they move to the second exam, which is oral. If they pass this second exam, they are issued a translation license renewable annually. If applicants fail the first exam, they can retake the test the next year and continue doing so until they successfully pass it and move to the second exam. (Ministry of Justice, 1996)

In the translation field, Katan (2009) indicated that the focus, based on a survey of the translator's world, should be the top five "most important" translator interests, "finding the right word in the other language: practice, strategies, e-tools, subject knowledge and contrastive grammar"(p. 2002). Thus, the present study focused on the third most crucial aspect, e-tools, which includes search engines, online dictionaries, bilingual corpora, translation software, etc. Furthermore, Pym (2011) argues that "new translation technologies such as translation memories, data-based machine translation, and collaborative translation management systems, far from being added tools, are altering the very nature of the translator's cognitive activity" (p.1). Thus, this survey also sought to discover whether and to what extent PTTT were familiar with these tools.

However, some researchers have expressed their reservations concerning the use of electronic resources in helping translators do their work. LeBlanc (2013, indicates that translation memories "are a barrier to creativity" (p.7). She argues that "this approach is seen as problematic by a majority of translators in that it changes the whole mental process and thus reduces translation to a mere sentence replacement activity" (p.7). These claims make a strong argument that it is not always appropriate to use CAT tools, especially when the translated work has to do with literary texts (Elimam 2007). Reliability in the use of CAT tools becomes more challenging in the case of English-Arabic translation, as detailed below. According to Imre (2015) reliability is a decisive factor in the choice of online sources since, "as the technological rush resulted in the publishing of dictionaries containing many typological, grammatical, content-related and layout-related errors (Imre, 2014a; Imre, 2014b), the most important advantage of dictionaries – reliability –seems to be shaken" (p. 16).

Some scholars like Pérez (2001) and Al Jaber (2008) argue that what made these online resources even more attractive to translators is that the publishers of those dictionaries, according to Dziemianko (2010 as cited in Ranalli 2013, p.77), “have made them freely available online where, for many purposes, they can be consulted more quickly and conveniently than the paper-based versions”. On the other hand, in the case of machine translation, Zaretskaya, Pastor and Seghiri (2016, Conclusions) indicate that the quality of translation continues to be of significant concern, “especially for professional translators who remain reluctant to incorporate MT as a constant component of their working process.” (para.1)

As for research on modern technology and Arabic/English translation, few papers addressed the use of CAT tools in general (Al Jaber, 2008, Alotaibi, 2014, Al-Tamimi, 2017, Elimam, 2007, Mahfouz, 2018, and Thawabteh, 2013). Thawabteh (2013) suggests that CAT tools usually seemed very complicated and even frustrating when first introduced to students. He also pointed out that with the minimal attention devoted to CAT tools both in the academic and industrial realms in the Arab world as a whole, the stereotypical image of the independent translator working alone persists, thus grounding the concept of translation in its purely traditional sense. However, Alotaibi (2014) was very optimistic about the use of technology in translation classes. In another study published in 2017, Alotaibi discusses the production and compilation of a parallel corpus for Arabic and English. Moreover, Mahfouz (2018) is more optimistic and indicates that the image and role of translators in the Arab world would witness a turning point due to the spread of CAT tools.

Study Methodology

Data was collected via a slightly modified version of an already tested survey originally used by Xu and Wang (2011) on a sample of Chinese students learning Chinese/English translation. The survey was adapted to the Palestinian context based on suggestions from local translators and three colleagues who are specialists in the field. The modified version of the survey consisted of five parts: 1. PTTT demographic and educational background, 2. PTTT awareness of CAT Tools and their sources, 3. Methods of finding a translation solution in the process of Arabic/English translation, 4. PTTT comments on online translation software and online dictionaries, and 5. Changes brought about by using online resources and the necessity of incorporating CAT tools in translation work.

In addition to the survey, the study made use of semi-structured interviews. 12 interviews were conducted with translation trainees and translators in the field. Comments from these interviews helped elucidate specific survey responses, and provided a richer context for interpreting their significance.

Study Sample

The subjects of the research consisted of two categories: Translation trainees and practicing translators. Translation trainees from Bethlehem University, Bethlehem and Al-Quds University, Abu Deis, were at the time of the survey enrolled in at least three translation courses offered as

pre-requirements for a translation specialization. The courses covered such topics as advanced linguistics for translators; translation history and theory; principles of translation; and translation in technical, commercial, literary, legal, or journalistic fields. As for translators in the field, all have a licensed translator certificate issued by the Palestinian Ministry of Justice, which indicated that they had successfully passed the two exams administered by the Ministry as discussed above. The authorized translators work in different locations in the West Bank and Jerusalem.

The total number of the study population was 450 subjects. They completed three hundred eighty-eight questionnaires; 76 incomplete questionnaires were discarded. Ultimately, 308 questionnaires form the basis for the results reported below.

Results

This section details the results of the study based on responses to the questionnaires and the interviews. PTTT were asked about the reported use of CAT tools (which was taken as clear evidence of awareness), the primary resource used when a translation problem was encountered, and the sources of respondents' information about CAT tools.

Table 1. *Reported use of the computer-assisted translation (CAT) tools*

Item	Responses	%
Online electronic bilingual dictionaries	253	33%
Internet search engines	204	26%
Online translation software	196	25%
Translation memory systems	59	8%
Terminology management system	65	8%
	777	100%

Respondents selected one or more than one item which they knew. Among CAT tools reportedly used, online electronic dictionaries received the highest percentage (33%) followed by online translation software (25%) and Internet search engines (26%). Thus, PTTT reported relying on specific CAT tools when doing Arabic/English/Arabic translation.

Notably, only 8% reported using terminology management systems. This low level of use or even awareness of such systems by PTTT could be related to their sole reliance on CAT tools like online electronic dictionaries, online translation software (Reverso), and internet search engines (specifically, Google, Ask, Yahoo, and Bing).

Interviews revealed that respondents were simply not familiar with translation memory systems, terminology management systems, and monolingual, bilingual or multilingual corpora for several reasons. In contrast, even among those who were aware of these tools, some felt that

the available information banks had insufficient Arabic memory banks while others pointed out that existing systems often fail to take into account the intricacies of Arabic grammar, particularly concerning ambiguities resulting from case markings and the misparsing of ambiguous forms (e.g. treating a noun as if it were a conjugated verb). Also, an additional complaint was the vast differences in the semantic fields of common words, as illustrated by the following example of the verb *to go* (*dahaba*); it would best be translated as:- *vanish, omit, forget, prepare to, steal, be destroyed, leave, depart, disappear, perish, sweep away, do, ignore, conduct* (someone), *die, lead* (someone), *annihilate, travel, escape, be about to, hold the view, prepare, decline, slip, abduct, believe, gild, lose sight of, lead, dwindle, take* (someone) *along, skip, or think*. Further, as noted by Thawabteh (2013), “Gemination is orthographically signalled in Arabic by a symbol called shadda... Absence of such symbols leads to confusing the different parts of speech of words” (Al-Jabr 2008. p. 112, emphasis in original) (p.85). These observations and similar ones came up often during the interviews, and likely help account for PTTTs’ hesitancy to use or avoidance of specific CAT tools.

Table 2 indicates the initial method respondents reported using when seeking a solution to a translation problem. (Some respondents chose more than one response.) Here, 23% of the respondents chose online dictionaries as the first resource they used, followed by 17 % for online translation software, and 16% for internet search engines. Additionally, out of the 983 responses, 131 (13%) reported the use of offline electronic dictionaries

Table 2. *The reported method initially used for finding a translation solution*

Item	Responses	%
Use of online dictionaries	224	23%
Use of online translation software	163	17%
Use of internet search engines	158	16%
Use of offline electronic dictionaries	131	13%
Consult with teachers who speak Arabic natively	85	9%
Consult with fellow students or others	63	6%
Consult with native speakers of English	62	6%
Rendering a translation according to Arabic word meaning	51	5%
Use of traditional printed Arabic-English dictionaries	46	5%
Total	983	

The significance of these results is considered below in the discussion of the reliance on print resources.

Sources of Awareness

Table 3. *Reports from where respondents get information about CAT tools*

Answer	Responses	%
Internet	241	38%
Teachers of translation	193	30%
Fellow students or friends	142	22%
Media advertisements	56	9%
Others	1	1%

Two hundred forty-one responses (38%) considered the internet as their primary source of awareness, followed by teachers (30 %) and friends (22%). The impressive new information was that teachers were not the first source of awareness, as is usually expected in such an academic setting.

Reliance on Printed or Online Resources

As for reliance on printed or online resources, Table 2 shows that only 5% of the responses reported that they used printed resources as their first line of attack in solving a translation problem, which entails that 95 % do not first turn to print resources. The low percentage of reliance on printed material aligns with what one licensed translator who had no formal training in translation but who has been practicing for 15 years commented: “Printed dictionaries make you feel safe, and there are not so many options.” Another interviewee, a freelance translator in her early 30s, who had majored in English and minored in translation, stated, “I prefer to use *Al Mawrid Dictionary*, of course, for it is a reliable source.”

That even 5% of the respondents reported relying on printed resources is noteworthy and indicative of several local challenges. First, those who become translators but have no formal instruction in the field often rely on “safe” alternatives, as the above comments illustrate. Second, training programs in translation (and interpreting) in Palestine have significantly evolved in the past decade in no small part thanks to the increased availability of technology in educational institutions and the growing number of CAT resources. However, despite these advances, the available technology and access to these resources are sometimes less than ideal. Third, as the quotation by the freelancer demonstrates, some translators, even trained ones, do not keep up with advances in the field. A final observation relates to comments noted above about the lack of confidence some translators have in CAT tools because, traditionally, at least, resources on Arabic generally and particularly those related to Arabic/English translations have lagged behind those available for other languages.

Translation trainers’ attitude

Table 4 offers information regarding the question of whether Palestinian translation teachers, through their comments, encourage translation trainees to use online resources or

discourage them from doing so. The assumption behind the question was that teachers play or could play a key role in knowledge about CAT tools and their appropriate use. The overwhelming majority of the 308 responses chose the option, “They are somehow useful, but one needs to be cautious when using them.” Eight of the twelve interviewees agreed that teachers of translation recommended CAT tools and viewed them as useful. Still, the interviewees indicated that the teachers had expressed the need to use CAT tools judiciously.

Table 4. *Teachers’ comments on CAT tools*

Answer	Respondents	%
They are somehow useful but one needs to be cautious when using them	250	81%
They are very helpful to translation and worth using	50	16%
They are not helpful and not worth using	8	3%
	308	

One interviewee, a licensed translator and a recent graduate with major in Arabic and a minor in translation, noted that “My translation teacher contributed positively to my knowledge of search engines. We used to browse the internet in addition to the dictionaries and look at images and watch videos [in class] to help us understand the meaning. Teachers are the number one source for the right use of CAT tools.” Such comments demonstrate the vital role translation teachers can play in familiarizing students with currently available tools and modeling their appropriate use. Trainers of translators would likely agree that it is the judicious use of CAT tools that needs to be taught, modeled, and encouraged. As Starlander and Vázquez (2013: Introduction, para. 1) indicate, trainees need to be taught how to evaluate CAT tools to help them differentiate among available options. At the same time, trainers of translators would be disappointed to find that some colleagues continue to dismiss the value of such tools.

That some trainers of translators do not see the value of CAT tools raises the question of their perceived reliability generally, an issue hinted at earlier. Table 5 provides some insight into this question.

Table 5. *Perceived reliability (dependability) of CAT tools*

Answer	Respondents	%
Reliable	209	68%
Not so reliable	99	32%
	308	100%

Sixty-eight percent of the respondents reported they perceived CAT tools as reliable. One interviewee, a licensed translator with no formal training in translation, noted, “These resources are only helpful in saving time, but the rest of the work lies on the translator, who has to decide and choose.” Such comments stress the need to set criteria for helping translators-in-training choose the most appropriate tool and for teaching them how to evaluate differentiate between different CAT tools.

Most Frequently Used Online Dictionaries

As noted in the methodology section, the dictionary options listed in the survey were taken from students' responses to questions about the dictionaries they used. Table 6, presents information about dictionaries that are designed as bilingual dictionaries, those that offer a translation option, and one that is uniquely in English.

Table 6. *Most frequently used online dictionaries*

Answer	Respondents	%
Merriam Webster	225	25%
Google Language Tool	161	17%
Oxford Online Dictionary	152	16%
Free Dictionary	104	11%
Al Maany	100	11%
ARAB Dict Box	88	10%
Urban Dictionary	51	6%
Babylon	26	3%
Al-Mughni	11	1%
	918	

Interestingly, the most frequently chosen option was Merriam Webster, receiving 225 responses. In this case, respondents were thinking of translating from English into Arabic. Given current pedagogical practices in Palestine, what this choice represents is going first to Merriam Webster's English-language dictionary site to see a word's meanings and to find synonyms whose meanings translators might know in Arabic. As a check or additional resource, they then use the link to another Merriam Webster product, Britannica English-Arabic Translation. This product presents Arabic translation equivalents with example sentences in English but not Arabic.

Except for Urban Dictionary, discussed below, all the remaining choices are designed as bilingual dictionaries; that is, users initially choose whether they will be using the Arabic/English option or the English/Arabic option. Among these, Google Language Tool and Oxford Online Dictionary received a similar number of responses, around 16%-17%; these were followed by Free

Dictionary, Al-Maany, and Arabic Dict Box, chosen by 10%-11% of the respondents. Trailing these options were Babylon (3%) and Al-Mughni (1%).

Of particular note is the use of dictionaries that were designed with Arabic as the source language, specifically, Al-Maany, Arab Dict Box, and Al-Mughni. According to Google App. Store, Al-Maany received an overall user rating of 4.5 out of 5, with 77% of respondents listing it as their favored choice (n=15530). These high ratings likely result from several features of the site that increase accuracy. Of these three dictionaries, Al-Maany, more than others, gives information based on both the complex and nuanced structure of Arabic morphology and aspects of use related to domain or register. Additionally, it provides examples of corpus-generated sentences demonstrating how a word is used in context in both languages. Buell (2017) explains that, “Almaany has seven different free, two-way bilingual (X-Arabic/Arabic-X) dictionaries, including one in English. This is probably your best all-round choice... Almaany does a bit of word analysis ... this dictionary is an excellent resource”. This view was shared by several interviewees who agreed that the Almaany dictionary was the quickest and most convenient since it first introduced the different derived forms of a word with their significance in Arabic and then used each entry in a specific context along with the English equivalent. (Because Arabic, like all Semitic languages, is based on root-and-pattern morphology, words are derived by mapping a consonantal stem carrying semantic meaning onto a morphological pattern indicating grammatical function. Arabic dictionaries are traditionally arranged by the consonantal stem, and entries for all derived forms are grouped with the stem from which they are derived. The use of the Urban Dictionary was also reported; one assumes for the possible meanings of modern slang and current terms in domains that might not be represented in more traditional lexicographic resources, even monolingual English ones.

Criteria for Online Dictionaries

RefSeek Guide (2018) ranked online dictionaries according to authority, coverage, usability, and utility. Among the top Arabic references were Qamus Al Muhit, Oxford Bilingual Dictionary, and Arabic English Bilingual Visual Dictionary. It was interesting to note that 152 respondents (16%) mentioned Oxford Online Dictionary. Still, there was no mention of either Qamus Al Muhit, or Arabic English Bilingual Visual Dictionary under “other” options in the questionnaire. It might be due to respondents’ preconceived ideas that Qamus Al Muhit was an Arabic-Arabic dictionary. At the same time, the latter was “not so popular” as indicated by one of the interviewees. It is worth noting that the criterion of a dictionary authority is not at all a simple one, but a discussion of the complexity of that issue is beyond the scope of this research.

PTTT comments on Online Translation Software and Online Dictionaries

Figure 1 presents information about PTTT’s general attitudes regarding CAT tools. Respondents were given four options and asked to choose one.

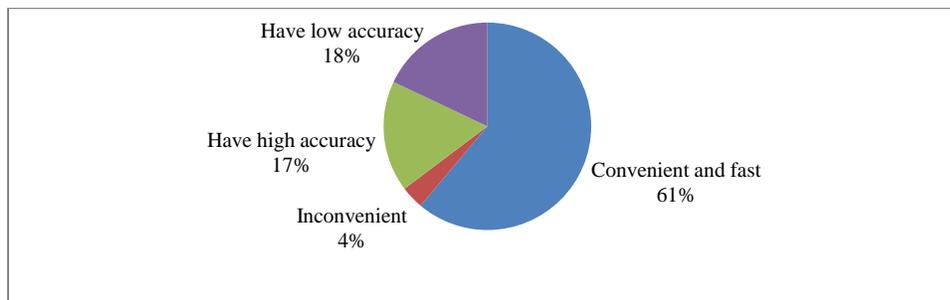


Figure 1. PTTT comments on online translation software and online dictionaries

While nearly 40% of the respondents focused on issues of accuracy, 61% privileged speed and convenience. Those focusing on accuracy were about evenly divided between the ones who considered CAT tools highly accurate (17%) and those who felt that they have a low degree of accuracy (18%). Finally, a small percentage (4%) reported finding them inconvenient to use.

Most Frequently Used Search Engine

When PTTT were asked which three search engines they used most frequently, Google was by far the top choice (61.82%) in contrast to Yahoo (17.37%), Bing (10.1%), and Ask (9%). In the OTHER option, respondents mentioned Proz.com and Wikipedia.

Table 7. Most frequently used internet search engines

Answer	Responses	%
Google	306	62%
Yahoo	86	17%
Bing	50	10%
Ask	44	9%
Other	9	2%
	495	

One interviewee, a freelance translator in his twenties with three years of experience, commented, “I think Google is the best of all search engines although it may include a right or wrong translation. If one knows how to use Google, he will benefit from it since it is a treasure of information.” The translator seems to be saying that despite occasional problems in translations, Google is still a great resource— and that the translator has to be able to figure out when Google is or isn’t to be trusted. This comment can mean that PTTT likely use Google frequently, but they have not received enough training in effectively using search engines, including Google. It was interesting to find that Google Translate was not mentioned frequently

by respondents. Savoy and Dolamic (2009) likely accounted for the reasons behind translators not using Google Translate (or not acknowledging using it) when they wrote:

First, a word’s semantic coverage may differ from one language to the other. Second, Google is case sensitive and thus it distinguishes between upper-case and lowercase. Third, when idioms or other compound terms are written with a hyphen, Google and other automatic translation tools tend to produce a word-by- word translation” (p. 9)

Considerations for Choosing Among Options in Internet Search Results and the Most Important Consideration

Respondents were asked two related questions about choosing among options when Internet search results yielded more than one possibility, Table 8. As shown in columns two and three, when respondents were permitted to list an unlimited number of options, the top-ranked response was “judge by the authoritativeness of the webpage” (26%). The second and third most chosen responses were “the frequency and collocation of the translation” (21%) and “judge by the frequency of the translation” (18%). Thus, as reported, the frequency of use is a primary criterion in PTTT decisions about which word to use since 39% of the choices include the consideration of frequency.

Table.8 *Considerations for choosing among options in internet search results (1) and the most important consideration (2)*

Answer	Consideration for choosing (1)	%	Most important consideration(2)	%
Judge by the authoritativeness of the website	178	26%	113	37%
Judge by the frequency and collocation of the translation in corpora	145	21%	76	25%
Judge by the frequency of the translation	128	18%	50	16%
Check whether the translator is acknowledged	95	14%	35	11%
Key in the different options for a second search	85	12%	22	7%
Judge by the country domain of the website	57	8%	8	3%
Select randomly	8	1%	4	1%
	696	100 %	308	100%

When the interviewees were asked how they verified the authoritativeness of the webpage or website, their answers were not specific. One interviewee, a licensed translator in her fifties, indicated that the authoritativeness came from the reputation of the webpage, which they learned about from their friends or teachers or that they tested.

Another interviewee, a recent graduate in her late twenties, volunteered that a website is authoritative if “it is the official site of the country.” A third interviewee, a freelance translator and English language teacher in his late twenties, indicated “it is related to authority of law.” A licensed translator who had no formal training in translation but who has been practicing for 15 years said that authoritativeness is based on whether a site is “the accepted website by courts.” Such responses fall far short of what translation trainers might expect. Website authority describes the trustworthiness of the information offered by websites, but, as previously noted, determining precisely what counts as trustworthiness in this case or how it is to be determined is far from a transparent task.

As demonstrated in columns three and five, in Table 8, when respondents selected the single most important criterion to consider when choosing among alternative translation options when an Internet search resulted in multiple possibilities, the order of the rankings did not shift, but the percentages did. The authoritativeness of the website was chosen by 113 (37%) of the respondents, although, as noted above, there seemed to be little agreement about what authoritativeness might mean or how it might be established or evaluated. The percentage of respondents valuing the frequency and collocation of the translation in corpora rose to 25%. The other options fell in relative importance.

Perceived Characteristics of CAT Tools

Table 9. *Perceived characteristics of internet search engines*

Answer	Responses	%
Convenient and fast	232	37%
Large amount of information	182	29%
Search results are of mixed quality	134	22%
Following closely real life	76	12%

When PTTT were asked about the perceived characteristics of internet search engines and given the option of choosing more than one response, the most selected response was “Convenient and fast” (37%) followed by the “Large amount of information available” (29%). These reactions indicate that PTTT appreciate Internet search engines for speed, convenience, and comprehensiveness. At the same time, 134 (22%) of the respondents noted that search results were of mixed quality, signaling an awareness of the “anarchic nature of the web” (Xu and Wang 201, p.64). As for the fourth option, which is related to keeping up-to-date with what is happening

in real life, this response was chosen only 76 times (12%). This range of reactions demonstrates that PTTT are aware of both the advantages and disadvantages of Internet search engines.

Table10. *Necessary considerations for using online resources*

Answer	Responses	%
Learn necessary search techniques	237	34%
Become familiar with the advantages and disadvantages of all kinds of online resources	187	26%
Accept translation offered on the internet critically	140	20%
Know the latest online resources	138	20%
	702	

PTTT were also asked about the necessary considerations for the appropriate use of Internet translation resources, and, again, they were permitted to select more than one response. The most frequently occurring response was learning the necessary search techniques (34%), followed by the necessity of becoming familiar with the advantages and disadvantages of all kinds of online resources (26%). Two additional responses, representing 20% of the total each, were accepting critically translations found on Internet tools and knowing the latest online resources.

The Necessity of Having an Online Course on CAT tools

Table11. *Necessity of incorporating CAT tools into translation curricula*

Answer	Respondents	%
Absolutely necessary	262	85%
Non-essential	42	14%
Absolutely unnecessary	4	1%
	308	

A final issue queried was whether translation curricula should incorporate training in CAT tools. Perhaps not surprisingly, 85% of the respondents said that the inclusion of such training was absolutely necessary. At the same time, 14% stated that it was not essential, while 1%—4 respondents—chose the response “absolutely not necessary.” That 85% of PTTT see such training as crucial is a very positive indication of how PTTT think about translation and its practice in the contemporary world.

Discussion

The survey and interviews, on which this article is based, set out to investigate several related questions regarding the reported attitudes and practices of Palestinian translators and translation trainees (PTTT) concerning CAT (Computer-Aided Translation) tools.

The first set of issues involved the CAT tools PTTT report currently using, the sources of information about them, and the ways they use them. Not surprisingly, PTTT reported the use of online electronic dictionaries, translation software, and Internet search engines. In contrast, far

fewer reported any use of translation memory systems or terminology management systems. These low levels of reported use likely indicate the complexity of these systems (Zerfass 2002) and a lack of awareness (and training) as well as a general belief that such technology for the Arabic language is not sufficiently developed (Al Ajami 2004; Alotaibi 2017; Al-Tamimi 2015). For the sources used, PTTT reported that they learned about these from the Internet, from teachers of translation, and fellow students or friends.

Concerning how they use the tools, respondents stated that the tools they initially used when faced with a translation problem were electronic dictionaries, whether online or offline, translation software, and internet search engines. Among the responses, however, nearly 10% listed consulting a teacher whose first language is Arabic, which may indicate the status accorded to teachers as authority figures in Palestine and the Arab world generally. Likewise, nearly 5% listed consulting a print dictionary, which may reflect a reverence for standard print sources like dictionaries in many cultures, including Arab culture, as well as training.

Both the reported reliance on consulting teachers and using print dictionaries indicate the need for trainers to continuously update themselves about new advances of translation technology to help translation trainees for their future careers. Bai and Ertmer (2008, as cited in Al-Tamimi, 2015) indicate that, “to facilitate teacher’s positive attitudes in integrating technology in their teaching, they need to be exposed to technology being used in a pedagogically sound manner throughout their teacher education program” (p.46). Al-Tamimi (2015) states, “traditional translation teaching is far from suitable for the current translation teaching” (p.48). Al-Tamimi (2015) also explains why it is imperative to make a shift from traditional teaching to teaching translation with technology since the latter is machine-centered, is unlimited, is practical, and saves time and effort. Or, as Odacoglu and Kokturk (2015) frames the issue: “it is now time to leave traditional models [of teaching] or at least to integrate them into the technology” (p.1093).

The second set of issues focused on the specific dictionaries—online, offline, or print—and search engines that PTTT reported using. In terms of preferred dictionaries, the tools associated with Merriam Webster products were the most frequently used, according to survey results, with Google language tools and Oxford Online Dictionary more or less tying for second place. Al-Maany and Arab Dict Box, were the two most frequently chosen tools whose designs were based on particular aspects of the Arabic language.

As for search engines, Google (67%) was overwhelmingly the top choice. When asked about the criteria used to choose among options when search engines offered more than one candidate translation or the most crucial criterion to favor, respondents showed a clear preference for the authoritativeness of the source. However, they had little specific to say about what made sources authoritative. This challenge—evaluating the relative value or authority of online references and resources—is, of course, a significant issue facing all disciplines and professions today and indeed represents a possible avenue for future research in this field.

The third and fourth sets of issues focused on teachers of translation and the translation

curriculum. About the attitudes of teachers of translation toward CAT tools, 81% of the respondents saw teachers as conveying what might be termed a guarded attitude: such tools are potentially useful, but care must be taken in their use—the reasonable sort of message translation professionals, in general, would hope to be conveyed to generations of trainees in translation. This view was shared by Kornacki (2017) in his abstract, and he indicates “that over-reliance on CAT tools may lead to duplicating the errors committed by other translators,” particularly given the fact that technology will continue to play an increasingly important role in the work of translators.

As one of the interviewees quoted above indicated, it is the responsibility of the translator to decide among alternatives, even those presented by what might be considered reliable technological tools.

Concerning the need for training about CAT tools to be included in the translation curriculum, the overwhelming majority of respondents—85%—reported that such instruction is absolutely necessary. In contrast, 14% said it was not essential, and 1% stated it was not necessary at all. Zhou and Gao (2016) shared the same view by indicating that translators in the age of technology, “needed to know the basic structure and function of a computer system, and be acquainted with the latest international information about development and research” (p.854). What students need is to learn how to use technology appropriately, and this instruction needs to be spread throughout all their courses. Thus, Zhou and Gao (2016) indicate “universities should build professional CAT classrooms as soon as possible, and the classrooms should be opened for students even during spare time. Enough exercise time and combination of theoretical and practical knowledge is useful” (p.856). Moreover, in the case of Palestine and the broader Arab world, refresher courses should be offered by the Arab Translators Society to in-service translators to assist them.

Comparing the results of this study with those of Xu and Wang (2011), both Palestinian translators and translation trainees and Chinese trainees shared similar views about awareness, authoritativeness, criteria for authoritativeness, and convenience and speed, while they differed in use of printed tools, teachers’ comments, critically accept offered translation on internet, and necessity of incorporating CAT tools into Translation Curricula. To be more specific, they differed concerning four topics. In terms of printed tools, 4.7% of PTTT reported using print sources, while 17.1% of the Chinese trainees had reported using them. With regards to teachers’ comments, 81% of the PTTT stated that they found them somehow useful, while 40% of the Chinese trainees had. In terms of accepting a translation option offered on the Internet critically, 20% of the PTTT agreed, but 39.1% of the Chinese trainees, a more significant percentage, had. Finally, as for the necessity of incorporating CAT tools into translation curricula, 85% of the PTTT saw this as a necessity, while only 48% of the Chinese trainees had.

As a first effort to understand how PTTT view CAT, this study is limited although the survey was supplemented by interviews. The study focused on only two of the Palestinian universities that offer courses in translation studies. Although the sample size was reasonably large, it is not clear how representative the respondents were concerning all translators or

translation trainees in Palestine. Because of the lack of research on these issues in institutions across the Arab world, it is impossible to say with any certainty how Palestine might compare with other countries of the Arab world.

This research relies on report data, and the relationship between report and behavioral data is never apparent. Thus, opportunities for future research are many. Indeed, studies of how PTTT, in fact, use CAT would offer valuable insights that could inform pedagogy in significant ways locally while revealing some of the complex links between reported beliefs and actual practices. Studies focusing on the attitudes and practices of different generations of translators would likewise be helpful, given the speed with which translation technology continues to develop and the increased familiarity of younger people with a range of technologies and their willingness to exploit technologies in new ways.

Of particular interest would be research investigating the extent to which attitudes about the inadequacy of Arabic-language translation resources are borne out in reality. The quality of many resources such as Google Translate, for example, over the past few years has increased dramatically. While the translations of extended texts produced by such applications are still far from acceptable, recent progress has been impressive. As that progress continues, it will be interesting to see whether attitudes reflect the continually improving quality of resources, or whether they remain locked in the past. Parallel situations likely occur in many linguistic contexts around the world. As noted above, a finely grained analysis of how PTTT—and by extension, translators and translation trainees anywhere—determine what makes an online source “authoritative” in theory and practice would represent an essential contribution to our growing understanding of technology in translation.

Conclusion

CAT tools are both a tool and a resource; as a tool, they are beneficial to facilitate the technical side of translation. As a resource, CAT tools cannot completely replace humans; they supply different choices and alternatives. However, it is up to the translator in the final analysis to choose the appropriate translation equivalent. Translation as a science and a profession is in constant need of development and advancement.

Given the current social, economic, and technological context, Palestinian translators have to use online translation software in order to complete translation projects more quickly and efficiently and to survive economically while increasing translation consistency and quality.

In light of the many roles that translators play in Palestine—from facilitating international trade to enabling interactions with government officials in a complicated political situation to making knowledge available to those who would otherwise not have access to it, it behooves them to take advantage of all available technologies in doing their job and to ensure that the next generations of translators are even better equipped to do so. Otherwise, they will not be able to help their society to develop socially, politically, educationally, and economically. The same is, of course, valid for translators everywhere.

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