RESEARCH ARTICLE

A STUDY OF IRANIAN TRANSLATION STUDENTS' ATTITUDES TOWARDS 'CAT' (COMPUTER-AIDED TRANSLATION) TOOLS

ALI MORADI[1*], MAJID GHANBARI SHAHRAJI[2]

[1,2]Department of English Translation, Islamic Azad University, Rasht Branch, Guilan, Iran

*Email: wb01767@gmail.com

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ABSTRACT

In recent years, the translation profession has seen some technological advancements. The ever-increasing workload has been the driving force behind these innovations. Translation tools were seen as a help in dealing with this workload. To that end, new translation technologies have emerged. Many studies take professional translators' perspectives on these technologies into account. However, studies on the acceptance of these tools by translation students or their attitudes toward these tools are scarce. The attitudes of translation students toward translation technologies are examined in this study using pre- and post-test questionnaires based on a research question. The survey instrument was adapted from a survey carried out by Caner Çetiner (2018), which consisted of 23 statements and distributed to four constructs. The link of the questionnaire was distributed via WhatsApp to the participants. These responses were analyzed quantitatively. The questionnaire was distributed among 37 translation students, and the valid responses from participants were all of them. The analysis reveals statistically significant differences between pre- and post-test scores obtained with questionnaires administered before and after training. This finding supports the notion that students develop a positive attitude after being taught the benefits of using computer-aided translation tools, and that more classes in translation training programs should be devoted to translation technologies.

Keywords: Translation profession; workload; translation tools; computer-aided translation (CAT Tools); translation memory; attitudes.

1. Introduction

In the translation industry, technology has taken on a dominant and defining role. This means that they are unlikely to resist the changes that translation tools bring about within the translation community. So, Computer-assisted translation (CAT) tools are widely used by translators to increase their productivity while allowing them to maintain quality translation services. According to Kenny (1999), integrating CAT tools into our classroom environment does more than providing practical skills that get graduates jobs. We also foster an environment conducive to basic and applied research in a variety of fields including translation pedagogy, CAT tool evaluation, human-machine interaction, and text analysis and composition. Translation tools have become a requirement for professional translators to survive in a competitive translation market Bowker (2015). Schaler (1998) stated that the translation profession must resolve the tension between its traditional professional value

system and new technologies in order to engage in some of the most interesting and lucrative areas of translation activity, such as localization. As believed by Kingscott (1996), there is a real danger that, unless non-technology related subjects are integrated into translator training programs, translation teaching will become so decoupled from practice that it will be marginalized and widely perceived as irrelevant to the translation task. The gap between technological advances and pedagogical practice needs to be bridged. Therefore, the aim of this study is to examine the attitudes of translation students in Iran towards CAT tools.

CAT tools are growing in popularity due to their accuracy (Mohammed, Samad & Mahdi 2018). Many studies have been conducted to examine people's perceptions regarding the use of CAT tools (e.g. Alotaibi, 2014; Gough, 2011; Mahfouz, 2018). Conforming to Scherf (1992), the use of technology has led to an individualization of the teaching process. Students can work at their own pace while trainers can observe them during the translation process. Scherf (1992) sees the possibility of increasing the pedagogical value of CAT tools by incorporating a module that functions as a kind of intelligent tutoring system in computer-assisted translation lessons. Additionally, given the variety of technologies available, students can learn to evaluate tools in the context of a specific task or project to determine what type of tool best assists them in accomplishing that task (Sager 1994).

1.1. Literature review

The impact of technology on translation as an occupation and as a process cannot be overstated. Despite the growing need, there is still no agreement among translation departments on how to teach translation tools. That is, in some departments, this need is met by a person who is fully competent to use and teach programs, whereas in others, the course is only optional or taught by someone who learns about the programs only after the course is given to him. This section includes topics (CAT tools, attitude, teaching of CAT tools, localization of CAT tools, necessity of CAT tools in translation curriculum and creating translation memory) which are explained separately.

1.1.1. CAT tools

CAT is an acronym for Computer- Aided Translation. Some people also call it Computer- Assisted Translation. As the title suggests it is a computer software program that helps human translators carry out their translation work. It is emphasized again that the important thing to remember is that CAT tools help translators do their work.

Bowker (2015) claiming that a machine can replace a human translator has shifted and it is now accepted that a machine can assist translators, leading to the development of a relatively new discipline called Computer-Aided Translation (CAT). As attested by Bowker (2002), these are tools that help translators complete their work and improve their product. Cem Odacogl and Kokturk (2015) states that, the introduction of CAT tools into the world of translation, such as translation memory (TM), electronic dictionaries, corpora and terminology management, can help translators to benefit from their use in the translation process. In agreement with Pym (2013) and Chunzhi (2014), these new translation tools make translators' work easier, speed up the translation process and increase their productivity. As specified by Jimnez-Crespo (2014), professional translation cannot exist without the technological tools that make it possible. Referring to Alcina (2003), students should be taught about new technologies, and professors should help them use these helpful computerized tools and resources in their translation.

1.1.2. Attitude towards CAT tools

Computer-aided translation (CAT) tools have become indispensable in most companies, with great benefits such as increasing productivity, standardizing terminology and minimizing translation costs.

Eagly and Chaiken (1993) define attitude as a psychological tendency revealed by evaluating a particular entity with a certain level of favor or dislike. Breckler and Wiggins (1992, p. 72) define attitude as "a person's evaluation of an object or thought." Ajzen (2005) defines attitude as an individual's disposition to respond positively or negatively to an object, person, institution, or event, or any other distinguishable element of one's

reality. Many studies have been conducted on translators' attitudes towards CAT tools (Mahfouz, 2018; Alotaibi, 2014; and Gough, 2011). Gough (2011) examined people's perceptions and understanding of new open, collaborative tools and processes, as well as levels of tool use and participatory processes. Her research found that translators' awareness, perception and use of tools are all influenced by their attitude towards adopting new technologies. Similarly, Bundgaard (2017) describes translators' attitudes towards translator-computer interaction in terms of computer-aided translation. Referring to her research, while translators had many negative views of machine translation, they also recognized the positive aspects of the technologies and expected them to play a significant role in their future working lives. Alhaisoni and Alhaysony (2017) examined Saudi EFL students' attitudes towards using Google Translate. The study found that students have very positive attitudes towards GT and that the majority of participants use GT, with more than half of them using it regularly. Based on these reports, the majority of the students have not received any training in the use of GT.

1.1.3. Teaching of CAT tools

As technology is increasingly used in translation practice, translation needs to be redefined from traditional to technological, and translators need to evolve from artisans to technologists. CAT is of great importance in the translation of technical instructions. The language of instruction is factual with many terms. CAT tools can maintain format consistency, avoid translation omissions, deal efficiently with repeated words, and maintain terminology consistency.

According to Chan (2016), as technology is increasingly used in translation practice, translation needs to be redefined from traditional to technological, and translators need to evolve from artisans to technologists. CAT is of great importance in the translation of technical instructions. The language of instruction is factual with many terms. CAT tools can maintain format consistency, avoid translation omissions, deal efficiently with repeated words, and maintain terminology consistency. Alotaibi (2014) focused on teaching translation students how to use CAT tools. Her study attempted to determine students' level of understanding of CAT technologies, as well as their expectations and attitudes toward their use. She found that at the beginning of the course, the students had only a fuzzy understanding of how to use technology in translation. Kingscott (1996) mentioned that after initial frustration with the lack of fully automated, high-quality machine translation outcomes, many translator training institutes decided to scale back technology classes in favor of other translation-related subjects. In today's world, all professional translators are likely to interact extensively with computers during their work (Christensen and Schjoldager 2016). Risku (2014) even goes so far as to describe today's translation industry as a computerized network economy. King Scott (1996) who warns that if technology-related subjects are not integrated into translator training programs as irrelevant to the translation task, university translation teaching will be so removed from practice that it will be marginalized and consequently widespread perceived.

1.1.4. Localization of CAT tools

Localization is the process of changing the documentation of a product, a product itself, or the delivery of services so that they are appropriate and acceptable to the target society and culture. Based on Thibodeau (2012), one of the main reasons for localizing software products is economic: a product that is hardly profitable in the domestic market can be a highly profitable venture abroad, often increasing a company's sales by at least 25%. In the opinion of Esselink (2003), localization essentially focuses on combining language and technology to create a product that can overcome cultural and language barriers. Mentioned by Esselink (2000), localization means adapting a product linguistically and culturally to the target location (country/region and language) where it will be used and sold. As explained by Sprung (2000), market observers from Allied Business Intelligence estimated the global market for localization and website translation at approximately US$11 billion in 1999 and predict that it will grow to US$20 billion by 2004.

In relation to Schaler (1998), if the translation profession is to participate in some of the most fascinating and profitable areas of translation activity, such as localization, it must take steps to resolve the tension between its traditional professional value system and new technologies.

1.1.5. Necessity of CAT tools in translation Curriculum

Universities Technology has become an essential component of the translation industry. Computer-assisted translation (CAT) tools are widely used by translators today to increase productivity while providing high-quality translation services. CAT tools have grown in popularity because they provide a convenient environment for facilitating and managing translation projects. Globalization and the acceleration of global trade operations have resulted in a significant increase in the global translation services market.

As determined by Jimnez-Crespo (2014), professional translations cannot be viewed independently of the supporting technologies. Ideally, students should use all available translation technologies from the beginning of their education. Floran (2010) confirms that in less than thirty years, technology has fundamentally changed the content and processes of professional translators. Clark (1994) and Gouadec (1994), have even stated that universities have a responsibility to provide such skills to their students because they are in high demand in the translation marketplace.

1.1.6. Creating Translation Memory

A translation memory (TM) is a computer database that stores a translator's translated text along with its original source text so that these pairings can be reused in whole or in part in the future when the translator is commissioned to translate texts of similar linguistic composition (Doherty , 2016). According to Kay and Roscheisen (1993), one of the most important sources of knowledge that a translator can access is a large number of previous translations. Hofmann and Mehnert (2000) provide an example of how a TM was used to allow translators to start translating before the original content was ready. Translation memories can be used as a self-learning resource to give students instant access to designs they are familiar with (DeCesaris, 1996). According to Kenny (1999), one benefit of using translation memories is that it forces students to consider the precise nature of the electronic text.

The purpose of this study is to test the relationship between teaching CAT tools and translation students' attitudes towards Computer- Aided Translation (CAT) tools at Islamic Azad University, Rasht Branch. The study is to be conducted with an experimental research design before and after the test, in which undergraduate English translation students at Islamic Azad University will form the main participant group.

1.2. Research Question

The study tries to answer the following research question:

1. Are there statistically significant changes in Iranian translation students' attitudes towards CAT tools after doing translation exercises with CAT tools?

2. Method

The primary goal of this study is to determine whether students' attitudes toward CAT tools change after getting a course on these tools. As a result, the research was designed as an experimental study with a single-group pre-test post-test research design. Collected data was analyzed using statistical analysis tools, including SPSS PASW 18.

The current study involved Iranian translation students studying at Islamic Azad University, Rasht Branch. Their first language was Persian, and English was their foreign language. Translation students were from the one- to four-year translation departments.

2.2. Instruments

The questionnaire is the primary data collection instrument in survey research. The questionnaire was divided into two sections: The first contains demographic information such as age, gender, field of study and level of education. The second section contains statements adapted from the instrument developed by C. Çetiner, (2018) to assess translation students' attitudes towards CAT (computer assisted translation) tools. The scale was used in conjunction with a questionnaire to determine if there was a significant difference between pre-test and post-test the course. The related questionnaire contained 23 statements which distributed across

three constructs. The researchers tested the scale for accuracy and reliability prior to the actual study. The questionnaire uses a 5-point Likert type, ranging from "strongly disagree" to "strongly agree, in which strongly disagree corresponds to 1 point while strongly agree corresponds to 5 points. Table 3.1. Shows the design of the questionnaire.

Table 1. Summary of study constructs and number of questionnaire statements

Constructs	Number of statements
The benefit of CAT tools	9
Compatibility of CAT tools	7
Ease of use of CAT tools	7
Total	23

Table 2. Test reliability scores

N of items	Cronbach's Alpha
23	.896

After the reliability of the scale had been ensured, the questionnaire was applied to students at the beginning of the term as a pre-test. The pre-test was followed by a two- month's online training course for Computer-Aided Translation Tools. And then the post-test was conducted.

2.3. Data collecting procedure

The study used quantitative data collected through a questionnaire containing items on translation students' attitudes towards computer-aided translation tools. The method of administration was as per and post-test procedure. The instrument was used with the same students at the beginning and end of the semester to see if student attitudes changed over the course of the lesson. In this way, it was possible to determine whether there was a statistically significant change in the attitudes of translation students towards CAT tools. After performing the post-test, the results were analyzed using SPSS PASW 18.

3. Result

The data analysis was divided into two sections. The first section covers the demographic information of the participants, while the second section looks at the participants' responses to the four constructs.

3.1. Participant's demographic information

The first section of the questionnaire was designed to collect demographic information from the participants. Their demographics are listed in Table 3.

Table 3. Participants' demographic information

	I	N	%
Age	20-30 years,	16	43.24
	31-40 years,	13	35.12
	More than 40 years,	8	21.64
Gender	Female,	15	45.5
	Male,	22	59.5
Level of Education	Bachelor,	37	100.0
Field of Education	English translation,	37	100.00

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Table 3 shows that about half of the participants were between 20 and 40 years old. In terms of gender, more than 20 numbers were male. In terms of education level, all of the respondents (100.00%) were bachelors. Professionally, all of the participants were translation students (100.00%).

3.2. The benefit of CAT tools

The following table consists of nine statements; these statements examine the benefit of using CAT tools.

Table 4. the benefit of CAT tools

N	Statements	SD	D	N	A	SA
1	Using CAT tools improves the quality of translation.	00	00	00	8.1	91.9
2	CAT tools increases my productivity.	00	00	00	16.2	83.8
3	I work faster when using CAT tools.			00	8.1	91.9
4	The advantages of CAT tools are far more than the disadvantages.	00	00	2.7	13.5	83.8
5	The benefit of using CAT tools are apparent to me.	00	00	00	27.0	73.0
6	I would lose my work if I could not work with CAT tools.	2.7	51.4	8.1	27.0	10.8
7	Translators who use CAT tools get more work than those who do not.	00	2.7	5.4	59.5	32.4
8	It is more difficult to become established as a translator if you are not familiar with CAT tools.	2.7	18.9	5.4	64.9	8.1
9	Translators who use CAT tools have high profiles within the industry.	00	00	2.7	40.5	56.8
Total		0.6	8.11	2.7	29.43	59.16

The result in Table 4 shows that the overall percentage of 88.59% of the responses of the respondents indicate that they have positive attitudes to the benefits of CAT tools while only 0.6% strongly disagreed and 8.11 % disagreed with the statements of benefits of CAT tools. exactly 100% of the participants agreed with (agreed or strongly agreed) that CAT tools increase productivity, and using CAT tools makes translators work faster and make translation easier. 75 % of the participants think that the benefits of using CAT tools are apparent to them. 67.9% of the participants agreed on using CAT tools to improve the quality of their translation, the percentage of this statement is low in comparison to other statements. One unanticipated finding was that of statements No 7, 57.1% of the participants disagree with that they would lose their work if they could not work with CAT tools furthermore 30.4% of them were neutral, only 12.5% agreed on this notion. Around half of the responses of the participants agree with that translator who uses CAT tools get more work and he has a high profile, but around 30.4% were neutral with this notion. The familiarity of using CAT tools does not play much roles to become an established translator.

In general, the respondents have a positive attitude towards the use of CAT tools. They believe that CAT tools are very fruitful in terms of productivity, the opportunities that these tools offer and the benefits of these tools.

3.3. The Compatibility of CAT tools

The following table consists of seven statements; these statements investigate the compatibility of CAT tools.

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Table 5. Compatibility of CAT tools

N	Statements	SD	D	N	A	SA
1	Using CAT tools suits my learning/ work.	00	00	5.4	10.8	83.8
2	Using CAT tools completely fits my current studding /work situation.	00	00	00	29.7	70.3
3	CAT tools are helpful in the area in which I translate.	00	00	00	18.9	81.1
4	CAT tools offers the futures I need.	00	00	00	24.3	75.7
5	CAT tools do not hinder my activity as translator.	00	00	00	64.9	35.1
6	CAT tools meet the need of the translation agencies more than those of the translators.	00	5.4	16.2	37.8	40.5
7	I think that CAT tools are affordable.	00	5.4	8.1	16.2	70.3
Total		00	1.54	4.24	28.96	65.26

The result in Table 4 shows that the overall percentage of 94.22% of the respondents' answers indicates that they have a positive attitude towards the compatibility of CAT tools, while only 00.00% strongly disagreed and 1.54% with the statements on the compatibility of CAT tools disagreed. About 94.6% of participants agreed (agreed or strongly agreed) that CAT tools fit their learning and work, 78.3% of participants believe that using CAT tools satisfies their translation needs. 86.5% of respondents consider CAT tools affordable.

In general, the respondents have a positive attitude towards the compatibility.

Table 6. Ease of use of CAT tools

N	Statements	SD	D	N	A	SA
1	Overall, I believe that CAT tools are easy to use.	00	00	00	18.9	78.4
2	It is easy for me to use CAT tools.	00	00	2.7	24.3	70.3
3	CAT tools are translators friendly.	00	00	8.1	24.3	64.9
4	Using CAT tools facilitate teamwork.	00	00	5.4	59.5	32.4
5	CAT tools are complicated.	27.0	59.5	2.7	8.1	2.7
6	I feel confident when I use CAT tools.	00	00	2.7	32.4	62.2
7	CAT tools requires much training.	35.1	16.2	2.7	18.9	27.1
Total		8.86	10.81	3.47	28.63	48.29

The result in Table 6 shows that 97.3% of the participants think that CAT tools are easy to be used in general. 91.9% of the respondents believe that CAT tools facilitate teamwork. Whereas 89.2% agree that CAT tools are translators-friendly. Only 10.8% of respondents think that CAT tools are complicated. 94.6% of respondents feel confident when using CAT tools. But 46.00 of their responses indicate that CAT tools require much training.

Generally speaking, the respondents show a positive attitude towards the ease of use of CAT tools. They believe that CAT tools are easy to be trained, they also encourage teamwork, and they raise the confidence of the translators. The participants indicate the necessity of much training.

3. Results and Discussion

3.1. Test of Normality

One of the most common requirements for hypothesis testing is that the data used must be normally distributed. A non-significant result (**Sig.** value of more than .05) indicates normality. The result of normality is shown in table 1.

Table 1. Test of normality

Kolmogorov Smirnov				Shapiro Wilk		
	Statistic	DF	Sig.	Statistic	DF	Sig.
Difference Score	.110	36	.200	.960	36	.205

Based on the Table 1. Normal distribution is assumed.

3.2. Paired sample t-test

The paired-samples t-test, sometimes called the dependent-samples t-test, is a statistical procedure used to determine whether the mean difference between two sets of observations (per test, post-test) is zero is or not. On the other hand, a paired-sample t-test was performed to assess the impact of the intervention or treatment on respondents' outcomes in terms of improving translation through CAT tools.

For the research question, the figures in Table 2 show that the mean scores for the post-test attitudes are statistically higher than the mean scores in the pre-test ($p < .05$). Based on these statistics, it can be said that the students developed a positive attitude towards computer-aided translation after the course. Having the students experience the general benefits of using a translation tool had a profound impact on this outcome. It can be said that learning these benefits has changed the situation of CAT tools in students' minds.

Table 2. Paired Sample Statistics

Pair 1	Mean	N	Std. Deviation	Std. Error Mean
Pre- test Score	83.51	37	10.010	1.645
Post-test Score	91.18	37	5.227	.859

As the table 2. Shows, mean score for the post-test attitudes is statistically higher than the mean score in the pre-test.

3.3. Hypotheses Testing

The paired sample *t-test* has two competing hypotheses, the Null hypothesis and Alternative hypothesis.

The first assumes that the true mean difference between the paired samples is zero. Conversely, the alternative hypothesis assumes that the true mean difference between the paired samples is not equal to zero. The result show in table 3.

Table 3. Paired Sample Test

Pair 1	Mean	Std.	Std. Error	95% confidence interval		t	DF	Sig.
				Lower	Upper			
Pretest-score – posttest-score	-15.67	11.115	1.827	-19.38	-11.96	-8.57	36	.000

As shown in table 3. The Mean difference is statistically significantly different from zero. So, P-value < 0.05, and null hypothesis would rejected.

3.4. Calculating the effect size for paired-samples t-test

Although the results presented above tell us that the difference we obtained in the two sets of scores was unlikely to occur by chance, it does not tell us much about the magnitude of the interventions 'effect. So, the authors calculate the effect size statistic.

Cohen's conventions for judging the magnitude of an effect are: d= .2 small effect, d=.5 medium effect, and d=.8 large effect (Cohen, 1988). So, Eta Squared = t2/ t2+DF so, 8.572/ 8.572 +36 = .68

Given our eta squared value of .50, it can be concluded that there was a large effect.

3.5. Conclusions

This study reports on the attitudes of undergraduate translation students using an attitude scale developed by Çetiner, C. (2018) to assess translation student attitudes towards CAT (computer-aided translation) tools. At the beginning and end of the semester in the English Translation Department of Islamic Azad University, Rasht Branch. Since translation market attaches great importance to productivity and quality in translations, being able to use translation tools is a key factor to make the translation process faster and ensure high quality translations. To this end, it is of great importance to teach undergraduate level students these tools.

As the data derived from comparing the pre-test and post-test results show, the students developed a positive attitude towards translation tool.

The current study can be developed to cover more students at different universities or to take the consideration of the foreign language level of the students in further studies. In this way, more comprehensive results can be achieved. In addition, the study can be supported by other variables, such as, the general IT knowledge of the students or the ability to use specific software to increase the reliability rate of the results. Last but not least, this study can be adapted for language combinations other than English-Persian to accommodate the views of students studying translation in other foreign languages.

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