

# The Students' Attitudes Towards Machine Translation: A Case Study Of The Applied College- Khamis Musheit- King Khalid University-KSA

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## Abstract

*This research paper aims to figure out the advantages and disadvantages of the use of MT by the students at the Applied College in Khamis Musheit- King Khalid University – KSA, in several disciplines such as applied accounting, applied e-marketing, applied management, applied information systems, tourist projects management and web applications development. The medium of instruction in most of these courses is English, and as it is known, the level of most of the students is generally low in English, so they resort to MT. Although, it can help them to some extent, but they also encounter many difficulties in understanding the texts and terminologies related to their respective courses. A questionnaire was developed and distributed among a sample of 200 male and female students at the Applied College to perceive their attitudes towards MT and the obstacles they meet. The aim of this study is to make the students enlightened with the shortcomings of MT, be equipped with the necessary tools to avoid inconsistency, and maintain accuracy of the translation. Also, the aim is that the Applied College graduates should be competent and highly efficient in their respective disciplines in line with quality standards and in compliance with the Kingdom's Vision 2030, which underscored the importance of preparing qualified graduates to meet the needs of the job market. It is hoped that the findings of this study will address the problems encountered by the students with respect to the use of MT. There is also a detailed discussion of the study, and recommendations are presented based on the results.*

**Keywords:** *Machine Translation Applied College majors qualified graduates King Khalid University.*

## 1. Introduction

Machine translation is defined as the process of using artificial intelligence to automatically translate a text from one language to another without human involvement. It is a sub-field of computational linguistics which applicates computer science to t<sup>h</sup>e analysis of written and spoken language. As an automated activity, MT is the process by which computer software is used to translate a text from one language into another (Hutchin,1992). Although it remains an arguable issue, MT has gained momentum both inside and outside classrooms. Ever since MT started to become the norm, it has always been a matter of debate and evaluation. Today, MT is widely used by EFL students and everyday users alike. Apparently, MT is considered a worthwhile subject for researchers, commercial developers, and users. Despite the growing number of students using MT, not much is known about its effect as a pedagogical tool in EFL classrooms. A variety of online MT resources are now available for L2 learners such as Translate online, Foreign Word, Web Trance, Prompt and Google Translate (GT). Apart from being available and accessible,

students resort to MT, especially inside classrooms, because they need to absorb the meanings of terms, understand the concept of texts, and foster the flow of the lessons.

### **1.1 Statement of the Problem:**

It is widely known that the level of most of the students is below average according to various reasons. Most of them come from secondary school with a low level of English. One of the reasons for that, they are prejudiced against English. Also, they are examination-oriented, and they do not take English seriously. Additionally, their exposure to English is extremely limited and the environment around them is not conducive for acquiring the language. Besides, they are also shy to participate in the speaking skill for fear that they may commit mistakes and be ridiculed by their classmates. Consequently, they lack adequate vocabulary, have a low command of grammar, and struggle in the reading and writing skills. When they join the applied college, the medium of instruction in most disciplines is English. So, they resort to MT to cope with their studies. They encounter a lot of difficulties while using MT in terms of understanding the appropriate terms and comprehending the texts. The focus of this paper is to work out the optimum ways to solve their problem in using MT and recommend the best techniques to avoid its disadvantages.

### **1.2 Research Questions:**

The study aims to address the following questions:

1. What are the students' attitudes towards the use of MT?
2. What are the reasons behind the students' use of MT?
3. To what extent do students get benefit from MT?
4. What are the problems the students encounter while using MT?
5. Are the students aware of the imperfections of MT?

### **1.3 Research Hypothesis**

1. To explore the advantages and disadvantages of using MT by the students at the Applied College.
2. To find out the proper methods for getting benefit of MT as a pedagogical tool in learning and avoid its drawbacks.

### **1.4 The Significance of the Study**

This study can contribute to providing important data about the use of MT, student stances towards it, and its impact on their academic performance and learning process. It can also help in further future studies in this regard. So, practically, the study results would be a plus in providing some guiding principles for students, faculty members, institutions, and the newly established applied college.

### **1.5 Research Motives**

The researcher hopes that the findings of this study can assist the students in their use of MT, make them aware of its flaws and provide them with the necessary tools to use it properly. It is also hoped that the paper would contribute to the college achievement and boost the learning process. Furthermore, students' involvement in research would promote their critical thinking and problem-solving skills. Additionally, it can help them in building self-confidence, consolidate their understanding of their courses and expand their ideas.

## **2. Relevant Literature**

Arabic machine translation has been subject to description and evaluation (Chalabi 2001 Farghaly and Senellat 2003). The later suggests that human-aided translation (HAMT) is the best method. He criticizes (MT) as being inefficient. Artificial Intelligence is still not devoid of problems associated with the processing of a language, leave alone the complexities and complications of typical translation. Google developed a neural network in late 2016 to add to its translation systems (Pring-Mill, 2018). Still, there remain umpteen

issues with its translation, those related to the social and syntactic features of the language. As a result of the analysis and review of studies on MT systems and GT, it was found that most of the studies have examined and evaluated GT through experimental design (Ganjalkhani, 2014; Karnal & Pereira, 2015), however, very few studies have focused on student perceptions of GT through a survey (Jolley & Maimone, 2015). As for researchers, they need to apply their theories to find out the differences that might be made by the machines. Hampshire and Salvia (2010) studied the quality of free online machine translators (FOMTs) including GT. They developed a ranking system and then ranked ten free online machine translators. They concluded that, GT was the most popular MT system among users. (Alhaisoni, 2017) came with the conclusion that, the students use GT frequently for learning vocabulary, writing, reading and translation, respectively. It is somewhat surprising that students report using GT tools more frequently on writing assignments than on translation assignments.

MT, which is also referred as 'Online Translator' (OT), goes back to the middle of the twentieth century (Akbari, 2014; Poibeau, 2017). It is a branch of "computational linguistics that investigates the use of software to translate a text or speech from one language to another" (Al-Tuwayrish, 2016). "The majority of EFL students use MT because it is easier than a dictionary, s", (Clifford et al., 2013). "It is used to translate lexical items or check up their meanings in vocabulary learning activities, (Chandra & Yuyan, 2018). Using MT as a translation tool applies to diverse language combinations. Several studies researched this function of MT from the perspective of Arabic-speaking English learners, (Abu-Al-Sha'r & AbuSeileek, 2013; (AlQahtani, 2015). (Kumar, 2012; Medvedev, 2016), remarked that using MT among Arabic-speaking ESL learners, especially in Gulf countries, is prevalent in vocabulary activities as these learners use MT to translate new vocabulary and understand their meaning in the target language. Other researchers highlighted MT's value in providing convenient and instant support to EFL learners in vocabulary learning activities (AL-Tuwayrish, 2016; Lee, 2019), especially in the classroom context where both instructors and learners are mindful of the time constraints. Additionally, MT has other positive aspects for being free of charge and providing translation services in different languages. MT software has recently been updated to provide additional functions. The following quote explains these advantages:

It has a free access. The users only need to open its website in a browser or download the app in their gadget to use it. It is also instant, in a quick click, the users could get the translation result. It also provides a variety of languages. By using GT application in students' smartphones, they save time, especially when they try to understand some English texts, (Chandra & Yuyan, 2018). (Kumar, 2012), attempted to study the use of MT systems including GT among the students of business and IT. The purpose of the study was to examine the use and dependence on MT tools by Arab college students. The study result revealed that, all students use MT systems, and the application of GT was dominant. The study also revealed that, MT provides students with academic and scientific terms for writing assignments.

MT has had a lengthy history since it first emerged in the 1950s. Despite its long history, its value as a pedagogical tool had been limited until recently due to its limited accuracy, (Briggs, 2018). Since 2000, with advancement in information technology (IT), MT technology also improved rapidly. Giant IT companies, including Google and Yahoo, have launched different types of MT based on various algorithms. Among them, there are three types, which are: SMT, Rule-Based MT (RBMT), and hybrid MT (HMT), they have widely tested and used (Bowker & Ciro, 2019; Koehn, 2020). Statistical Machine Translation (SMT) is based on a large corpus of bilingual text in the source language and the target language and determines the correspondence between the corpora based on a statistical model. SMT has been known to be effective for basic translations, but because it does not take the context into consideration, it produces various errors. Meanwhile, RBMT heavily depends on lexicons and language rules. It requires constant updates to achieve accuracy. Although SMT functions better with western languages, RBMT works better with Asian or minority languages, (Grove & Mundt, 2015). HMT, a blended type of SMT and RBMT,

improved the efficiency of MT, but it still produces various types of errors in output. Other studies have found pedagogical benefits of MT in the metacognitive domain; it fosters linguistic awareness and autonomous learning strategies (Kliffer, 2005, Nino,2008). Moreover, studies have often presented inconsistent suggestions regarding MT use in classrooms. For example, although Garcia (2010) and Nino (2008) claimed that MT benefits beginning-level students. Lee (2020) argued that it is not appropriate for them. the use of MT for academic purposes is now omnipresent. Besides, merely prohibiting MT has been found to be ineffective for FL learning (ALhaisoni,2017). L2 learners have always employed translation to learn new vocabulary or explore their meaning in the target language (Alroe & Reinders,2015). Before the emergence of technology-enabled translation software, students and academics used to resort to traditional dictionaries, monolingual or bilingual, but nowadays, almost everyone seems to have turned to the following sources: search engines, Online Translators (Ots), Online dictionaries for multiple purposes related to teaching or learning vocabulary, (O'Neil,2019). Research has revealed that, one of the practical uses of technology is to simplify vocabulary acquisition (Shrum & Glisan, 2010). Nevertheless, this task does not go unchallenged, given several impediments L2 learners encounter when using MT to check the vocabulary meaning in context.

Despite the positive aspects associated with the use of MT in terms of promptness and other learner-support features, such immediacy has also a negative side, (Medvedev, 2016). MT has several limitations that cannot be overlooked from a pedagogical and academic perspective, (O' Neil, 2019). Certainly, MT has a handy tool to be used in the EFL classroom, but it has defects in understanding the use of vocabulary in context as it may yield inaccurate results. The source of the challenge is not only in using MT to check the meaning of vocabulary. Instead, it is in the learners' overdependence on their native language to understand new vocabulary in the target language. Chapelle (2003) observed that "in English language teaching the common wisdom seemed to suggest that learners should develop their strategies for figuring out the meaning or guessing the right word rather than relying on the first language" (p. 48). AlQahtani (2015) noted that, regardless of the instructors' techniques in teaching vocabulary, they need to provide examples of vocabulary used in rich and multiple contexts, which MT may fail to offer.

### **3. Commentary on Previous Studies**

What distinguishes this study from previous studies is that it focuses on how the students use MT in several disciplines in an applied college, how it can help them acquire the required academic skills and how they use it through Blackboard. Also, the study focuses on the advantages of MT in terms of maintaining accuracy, terminology consistency and doing error-free assignments. Besides, it examines its disadvantages regarding distorted meanings and inappropriate texts. Furthermore, the students are encouraged to seek advice from their instructors to clear any doubts concerning the ambiguity of MT.

### **4. Population and Sampling:**

It was not feasible to conduct the study on the whole population of the college due to time and effort factors. So, practically a sample of 200 participants from the male and female sections was chosen. The total number of the students exceeds 1500. This sample represented the general characteristics of the population interest. Though the students targeted belong to different levels, but there was no discrepancy in their responses because most of them are likely to use MT for the same reasons. The purpose was to find out the students' different opinions in different levels and in several applied disciplines.

The questionnaire, which was developed by the researcher, consisted of two dimensions and it was based on his prior knowledge and actual experience at the university. It covered a wide spectrum of statements pertained to the use of MT by the students. The statements were clear, succinct, comprehensive, and brief to make them easily comprehended by the students. They were also relevant to the problems they experience and the challenges they

face. The first dimension focused on the advantages of MT and included 12 statements. As for the second dimension, it cast light on the disadvantages of MT and included 10 statements. The aim of the questionnaire was to pursue students' opinions on how often and to what extent they use MT and to puzzle out the difficulties they encounter.

### 5. Methodology:

The method which is going to be adopted in this study is the questionnaire method, which will be distributed to a minimum of 200 male and female students, at the Applied College-Khamis Mushiet- King Khalid University, during the first semester of the academic year 2023-2024.

The statements were developed with a five-point Likert scale, which is used to determine the degree of approval of the study variables (i.e. the direction of opinion towards approval or disapproval),

Where the response range ranges from (1-5) and the values were given to the levels of approval as follows:

Always (5)      Usually (4)      Sometimes (3),      Rarely (2),      Never (1)

The five-point Likert scale has been transformed to represent relative weights to enable non-parametric statistics to be performed from arithmetic means and standard deviations as follows:

- From 1 (20%) to 1.79 (35.9%) = Never.
- From 1.8 (36%) to 2.59 (51.9%) = Rarely.
- From 2.6 (52%) to 3.39 (67.9%) = Sometimes.
- From 3.4 (68%) to 4.19 (83.9%) = Usually.
- From 4.2 (84%) to 5 (100%) = Always.

To determine the stability of the research tool, the researcher relied on the (Alpha Cronbach) equation. (Hair et al., 2010) indicated that if the value of the test according to this equation reaches (70%), it is considered acceptable. The results showed that the independent variable (Students' attitudes towards using MT) it obtained a score of (0.841), and the variable obtained a score of (0.795), and the general stability of the tool obtained a score of (0.839), and all values are higher than (70%), and this indicates the stability of the research tool.

**Table 1. Research tool stability.**

Axis	Number of Statements	Scale stability	Scale validity
Advantages of using MT	12	0.841	92%
Disadvantages of using MT	10	0.795	90%
<b>General stability of the questionnaire</b>	<b>22</b>	<b>0.839</b>	<b>93%</b>

**Source:** Prepared by the researcher based on SPSS results, 2023

### 6. Data analysis and hypothesis testing:

#### 6.1 Results of analysing the distribution of sample's individuals according to majors:

**Table 2 distribution of sample's individuals according to majors**

Major	Frequency	Percentage %
Applied accounting	68	%34
Applied Business Administration	70	%35
Applied Information Systems	30	%15
E-Marketing	32	%16
<b>Total</b>	<b>200</b>	<b>%100</b>

**Source:** Prepared by the researcher based on SPSS results, 2023.

## 6.2 Advantages of using MT

**Table 3 Percentages, arithmetic means and standard deviations of Participants' opinions regarding the Advantages of using MT**

Questions Related to Advantages	Never	Rarely	Sometimes	Usually	Always	Weighted mean	Std. Deviation	order	Trend
	N	N	N	N	N				
	%	%	%	%	%				
I use MT engines like Google Translate because I find difficulty in understanding my courses.	4	8	66	75	47	3.76	0.924	4	Usually
	2	4	33	37.5	23.5				
I use MT because it helps me to facilitate my learning	4	2	49	72	73	4.04	0.912	4	Usually
	2	1	24.5	36	36.5				
The use of MT enables me to absorb the terms related to my major and get the gist of the texts.	2	8	48	64	78	4.04	0.94	4	Usually
	1	4	24	32	39				
I tend to use MT because it is easier than traditional and online dictionaries	4	4	47	62	83	4.08	0.953	4	Usually
	2	2	23.5	31	41.5				
MT assists me in writing my tasks and	8	20	49	57	66	3.77	1.134	4	Usually
	4	10	24.5	28.5	33				

assignments.									
The use of MT aids me to score well and do better in my courses	8	10	39	69	74	3.96	1.062	4	Usually
	4	5	19.5	34.5	37				
I prefer to use MT because of its easiness and speed	4	6	45	68	77	4.04	0.955	4	Usually
	2	3	22.5	34	38.5				
MT is also accessible, available, and free of charge.	4	8	35	50	103	4.2	0.997	4	Usually
	2	4	17.5	25	51.5				
MT, along with proper instruction, impact positively on my academic performance	6	4	65	58	67	3.88	1.000	4	Usually
	3	2	32.5	29	33.5				
As a pedagogical tool, MT can enhance my learning and helps me achieve my course goals.	4	8	51	74	63	3.92	0.953	4	Usually
	2	4	25.5	37	31.5				
Sometimes, I resort to my instructors to clear doubts about the	24	35	55	60	26	3.14	1.209	3	Sometimes
	12	17.5	27.5	30	13				

inaccuracy of MT									
MT can boost my skills regarding my applied subjects	4	6	60	66	64	3.9	0.956	4	Usually
	2	3	30	33	32				

**Source:** Prepared by the researcher based on SPSS results, 2023.

- It has been noticed from table 3 that the arithmetic means of participants' opinions regarding the advantages of using MT was higher than the hypothetical mean (3) and ranged between a maximum of (4.2) and a minimum of (3.14). The trend of all the statements came in usually, except one statement which came with sometimes. So, it can be seen all the statements confirm the idea of the advantages of MT. This result verifies the hypothesis number one, which was meant to explore the advantages and disadvantages of using MT by the students at the Applied College. The statements indicated the students' strong tendency towards the use of MT and to express their opinions in this aspect.

### 6.3 Disadvantages of using MT

**Table 4 Percentages, arithmetic means, and standard deviations of Participants' opinions regarding the Disadvantages of using MT.**

Questions Related to Disadvantages	Never	Rarely	Sometimes	Usually	Always	Weighted mean	Std. Deviation	order	Trend
	N	N	N	N	N				
	%	%	%	%	%				
Machine Translation cannot relate words to context	18	20	53	66	43	3.48	1.194	3	Sometimes
	9	10	26.5	33	21.5				
MT cannot replicate style and tone.	12	17	49	79	43	3.62	1.096	4	Usually
	6	8.5	24.5	39.5	21.5				
Sometimes, MT gives me a distorted meaning because of word-to-word translation.	12	23	59	48	58	3.59	1.19	4	Usually
	6	11.5	29.5	24	29				
MT lacks accuracy and reliability	12	14	55	69	50	3.65	1.11	4	Usually
	6	7	27.5	34.5	25				



The use of MT affects my thinking ability	19	34	46	52	49	3.39	1.283	3	Sometimes
	9.5	17	23	26	24.5				
I occasionally get confused because of words with several meanings.	8	14	54	62	62	3.78	1.085	4	Usually
	4	7	27	31	31				
I encounter some difficulty in identifying a term and finding the right equivalent	8	16	73	56	47	3.59	1.057	4	Usually
	4	8	36.5	28	23.5				
I must be careful when I get a translated text because the structure of sentences in English is different.	10	2	46	56	86	4.03	1.075	4	Usually
	5	1	23	28	43				
MT needs human intervention most of the time to maintain accuracy.	10	16	49	78	47	3.68	1.074	4	Usually
	5	8	24.5	39	23.5				
MT fails to translate the text in the appropriate context	10	14	58	59	59	3.72	1.114	4	Usually
	5	7	29	29.5	29.5				

**Source:** Prepared by the researcher based on SPSS results, 2023

- It has been observed from table 4 that the arithmetic means of participants' opinions regarding the disadvantages of using MT was higher than the hypothetical mean (3) and ranged between a maximum of (4.03) and a minimum of (3.39). The trend of (8) statements came in usually, (2) statement which came with sometimes. So, it can be seen most the statements confirm the idea of the disadvantages of MT. This result verifies the hypothesis number two, which was intended to find out the proper methods for getting benefit of MT as a pedagogical tool in learning and

avoid its drawbacks. The students' responses provide feedback which is in line with the core of the study.

### **7. Study Discussion and Analysis:**

The study addressed a very common area related to students' learning, which deserves to be focused on thoroughly and discuss its pros and cons with the aim of helping the students and improving the learning process. To recognize the omnipresence of MT in learning, the study findings revealed that, most of the students tend to use it to facilitate their studying, enhance understanding of their respective courses, and reinforce their knowledge of the required terminologies. Following the questionnaire, five of the respondents were requested to give an idea about the problems while using MT. The excerpts came as follows: a student majoring in applied accounting said that MT sometimes changes the terminologies and the context of the sentence. Another student who studies applied information systems mentioned that it is difficult to execute codes and algorithms through MT. A third one who belongs to e-marketing department added that, sometimes he gets a distorted meaning of a text. A fourth respondent whose discipline is applied management indicated that, sometimes he cannot find the right equivalent of a word. The fifth responder, who specializes in tourist projects spoke of the internet disconnection while using MT during classes. When they were asked whether they visit their instructors to clear doubts about MT, all of them answered negatively. The aim of this palpable contact with the respondents, was to encourage the students, get appropriate information from them, enrich the study, and strengthen its results.

In consequence, it can be inferred that the first question of the study: What are the students' attitudes towards the use of MT?

The study extensively explored the pros and cons of MT, got the students' responses in 12 statements for the advantages and 10 statements for the disadvantages. To examine the core of the problem, the learners' involvement in the research would ascertain the optimum ways for the betterment of the learning process. The students' responses indicate that their attitudes towards MT are positive.

Regarding the second study question: What are the reasons behind the students' use of MT? The answer for this question has been thoroughly explained by the researcher. The reasons for that are due to the students' low level in English and extremely limited vocabulary.

Concerning the third question: To what extent do students get benefit from MT? The learners' responses pointed out that they get benefit from it, but to a certain extent.

Respecting the fourth research question: What are the problems the students encounter while using MT? The learners' responses for this question are acceptable and useful and are in line with the core of the study. Also, the researcher mentioned in a lengthy account the hurdles the students meet while using MT and suggesting appropriate solutions.

Relating to the fifth question: Are the students aware of the imperfections of MT? According to the students' opinions, they are not aware of the drawbacks of MT. They need to be enlightened, instructed, and guided to know its negatives and find the best pedagogical ways to solve them.

### **8. Study Findings**

The study came with the following findings:

1. The use of MT is indispensable for most of the students due to their low level in English, lack of adequate vocabulary and limited language skills.

2. Many students encounter difficulties while using MT in terms of accuracy, context, and correct meanings of words.
3. The easiness, availability and being free of charge are facilitative factors for students to use MT.
4. Most of the students do not consult their instructors to remove confusion regarding the imprecision of MT.
5. Most of the students face problems in recognizing the terms and finding the right equivalent.

## **9. Conclusion and Recommendations**

The study aimed at investigating the use of Mt by the students, to elucidate its positives and negatives. It was deduced from the students' responses that most of them depend on it to facilitate learning. The drawbacks which result from MT can mislead the students and land them in trouble if they are not properly tackled.

### **Considering the results and findings, the researcher came with the following recommendations:**

1. The concerned bodies should include ESP courses along with the Intensive English Language Program because ESP courses are tailored to address the learner's needs, provide students with the language aligned to their specific disciplines and help them with the essential vocabulary and key terminologies, the thing which will impact positively on the students' performance and learning outcomes.
2. The faculty members must exert efforts to enlighten the students about the imperfections of MT, highlight the constrains, and adapt strategies that can guide them in dealing with this dilemma.
3. The students should be urged to resort to their instructors during their office hours to clear any doubt concerning MT and get supplementary advice.
4. Human intervention in MT is vital to ensure the quality of translation, avoid errors and maintain absolute accuracy.
5. Proofreading and post-editing are essential tools in MT when it comes to writing assignments because it will ensure that there will be no lingering mistakes in terms of morphology, semantic organization, and overall clarity of the tasks.
6. The learners should be advised to use online dictionaries, specially specialised ones, not only for their easy and free access, but also because they provide useful vocabulary, correct audio pronunciation and valuable information beyond easy definitions.
7. The faculty members should encourage the students to visit useful and relevant learning websites with the aim of providing them with more updated knowledge on their majors, acquiring more vocabulary and broadening their horizons.
8. Blackboard and online assignments and tests should be taken seriously by the learners because they keep them updated with their courses, enhance engagement and motivation, and help them yield numerous benefits of collaborative learning.
9. The problems of internet disconnection should be solved, apart from the fact that students use MT extensively, but also because it gives them access to online assignments and course material, improves time management, and enhances technical skills.
10. Faculty members should stimulate the students to grasp terminologies by regular reviewing, associating terms with real-life examples, and applying them in down-to-earth scenarios to bolster their thinking and solidify their understanding.

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## References

- Alhaisoni, (2017). An investigation of Saudi EFL university students' attitudes towards the use of Google Translate. *International Journal of English Language Education*, 5(1), 72-82
- Abu-Al-Sha'r, A. M. & Abuseileek, A. F. (2013). Advancement in productivity of Arabic into English machine translation systems from 2008 to 2013. *Educational Research and Reviews*, 8(9), 525- 538.
- Alroe, M. J. & Reinders, H. (2015). The role of translation in vocabulary acquisition: A replication study. *Eurasian Journal of Applied Linguistics*, 1(1), 39-58. DOI: 10.32601/ejal.460588
- Akbari, A. (2014). An overall perspective of machine translation with shortcomings. *International Journal of Education and Literacy Studies*, 2(1), 1-10. DOI: 10.7575/ajacine's.v.2n.1p.1
- Al-Tuwayrish, R. K. (2016). An evaluation of machine translation in the EFL Scenario in Saudi Arabia. *Advances in Language and Literary Studies*, 7(1), 5-10. Doi:10.7575/aiaa.a
- AlQahtani, M. (2015). The importance of vocabulary in language learning and how to be taught. *International Journal of Teaching and Education*, 3(3), 21-34. DOI: 10.20472/TE.2015.3.3.002
- Briggs, N. (2018). Neural Machine Translation Tools in the Language Learning Classroom: Students' Use, Perceptions, and Analyses. *JALT CALL Journal*, 14(1), 2-24
- Chandra, S. O. & Yuyun, I. (2018). The use of google translate in EFL essay writing. *LLT Journal*, 21(2), 228-238. DOI: 10.24071/lt.2018.210212
- Chalabi A (2001) Sakhr web-based Arabic/English MT engine. Downloaded from [www.elsnet.org/arabic2001/chalabi.pdf](http://www.elsnet.org/arabic2001/chalabi.pdf) on 25 Aug.
- Chapelle, C. A. (2003). *English language learning and technology: Lectures of applied linguistics in the age of information and communication technology*, Amsterdam: John Benjamins Publishing Company.
- Clifford, J., Merschel, L., & Joan, M. (2013). Surveying the landscape: What is the role of machine translation in language learning? *Revista D'Innovació Educativa*, 10, 108-121. DOI: 10.7203/attic.10.2228
- Farghaly A, Senellart J (2003) Intuitive coding of the Arabic lexicon. In: *Proceedings of the MT Summit IX, the association for machine translation in the Americas (AMTA'03)*
- Ganjalkhani, M. K. (2014). An Investigation of Google Translate Machine in Rendering English Sentence Structures into Persian. *Proceeding of the Global Conference on Language Practice & Information Technology (GLIT 2014) 9-10 June 2014 Kota Kinabalu, Sabah, Malaysia*
- Garcia, I. (2010). Is machine translation ready yet? *Target. International Journal of Translation Studies*, 22(1), 7-21.
- Groves, M., & Mundt, K. (2015). Friend or foe? Google Translate in Language for Academic Purposes. *English for Specific Purposes*, 37, 112-121
- Hair, J. F., Black, W.C., Babin, B. J. & Anderson, R. E. (2010). *Multivariate data analysis; a Global Perspective*", New Jersey: Prentice Hall.
- Hampshire, S., & Salvia, C. P. (2010). Translation and the internet: Evaluating the quality of free online machine translators. *Quaderns. Rev. trad.* 17, 197-209
- Hutchins WJ, Harold LS (1992) *An introduction to machine translation*. Academic Press, London
- House, J. (2001). Translation Quality Assessment: Linguistic Description versus Social Evaluation. *Meta*, 46(2), 243-257.
- House, J. (2015). *Translation quality assessment: past and present*. London and New York: Routledge
- Kliffer, M. (2005). An experiment in MT post-editing by a class of intermediate/advanced French majors. In *Proceedings EAMT 10th Annual Conference, Budapest*, 160-165.
- Koehn, P., Och, F. J., & Marcu, D. (2003). Statistical Phrase Based Translation. *Proceedings of the 2003 Human Language Technology Conference of the North American Chapter of the Association for Computational Linguistics*, 127-133. <https://aclanthology.org/N03>
- Kumar, A. (2012). Machine translation in Arabic-speaking ELT classrooms: applications and implications. *International Journal of Social Sciences and Humanity*, 2(6), 442-445. DOI: 10.7763/IJSSH.2012.V2.142
- Lee, S.-M. (2020). The impact of using machine translation on EFL students' writing, *Computer Assisted Language Learning*, 33(3), 157-175, DOI: 10.1080/09588221.2018.1553186
- Medvedev, G. (2016). Google translate in teaching English. *The Journal of Teaching English for Specific and Academic Purposes: Special Issue*, 4(1), 181-193
- Munday, J. (2001). *Introducing translation studies. Theories and applications*. London/New York:

- Newmark. Routledge. (1988). A textbook of Translation. London: Prentice Hall.
- . Niño, A. 2008. Evaluating the use of machine translation post-editing in the foreign language class. *Computer Assisted Language Learning*, 21(1): 29–49. <https://doi.org/10.1080/09588220701865482>
- Jolley, J. R., & Maimone, L. (2015). Free online machine translation: use and perceptions by Spanish students and instructors. *Learn Language, Explore Cultures, Transform Lives*. pp.
- O’Neill, E. M. (2019). Online translator, dictionary, and search engine use among L2 students. *CALL-EJ*, 20(1), 154-177. Retrieved from: [https://www.academia.edu/38360214/Online\\_Translator\\_Dictionary\\_And\\_Search\\_Engine\\_Use\\_Among\\_L2\\_Students](https://www.academia.edu/38360214/Online_Translator_Dictionary_And_Search_Engine_Use_Among_L2_Students)
- Poi beau, T. (2017). *Machine Translation*. Cambridge: Massachusetts Institute of Technology.
- Pring-Mill, David. 2018. Why hasn’t AI mastered language translation. Singularity Hub. Available at: <https://singularityhub.com/2018/03/04/whyhasnt-ai-mastered-language-translation/#sm.000000eb79kzgd29rv>.
- Shrum, J. & Glisan, E. (2010). *Teacher’s handbook: Contextualized language instruction* (4th ed.). Boston: Heinle Cengage Learning.