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Investigating the Latest Technologies in the Translation Industry and their Impact on EFL Learning

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Dedication

Words can't express how grateful I am for the positive influence, the best moments during this year . This work is genuinely dedicated to

My mother and father, thanks a bunch for your endless support not just as parents, but as my greatest allies. Youhelp make every challenge easier to face.

To my lovely and amazing sisters: Assma, Alaa, Abir, Fatiha , Bouchra, Fatima, Iness , Nouha. And my little bothers Ahmed Amine and Abd El Wahab.

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To all university principals, teachers, students and classmates.

May Allah the Almighty bless you!

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Dedication

Do the best and pray ,Allah will take care of the rest .

In the name of Allah the most Gracious, most Merciful, All the praise is due to him alone ,the sustainer of the world ,first and foremost ,I would express my gratitude to Allah for giving me faith ,strength and capacity to fulfill this work.

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Abstract

Distinctive and unexpected changes have emerged since the interaction of technology with translation and communication processes, playing a significant, effective, and clear role in teaching English as a foreign language. The purpose of this study is to understand these latest technologies and their role in translation and communication, as well as discovering the most significant updates that have occurred in these fields since technology entered the scene. Additionally, the study aims to determine whether English language learners rely on modern translation technology and how they achieve this, leading to an idea about the most used tools by them, and highlighting their importance during the learning process and cultural exchange. A questionnaire was conducted to reach their opinions on incorporating artificial intelligence and advanced translation tools during the learning process, and their views on their benefits. The questionnaire's results were positive, with them appreciating their use and integration, hoping to achieve higher levels of education. Therefore, it can be concluded through the presented research that using modern and advanced translation tools will improve, facilitate, and serve the learning of English as a foreign language.

Key words: latest technologies ,translation ,Artificial intelligence, EFL learning, translation industry

List of acronyms

AI: Artificial intelligence.

ALPAC: Automatic Language Processing Advisory Committee.

AR: Augmented reality.

CAT: Computer-aided Translation.

CALL: Computer-assisted language learning.

DOS: Disk Operating Systems

EFL: Learning English as foreign language.

GRU: Gated Recurrent Unit.

GT: Google Translation.

HAL: Hyper Article en Ligne.

IC: Intercultural competence.

ICT: Internet computer technology.

IDLE: Informal digital learning of English.

IOT: Internet of things.

LSTM: Long Short-Term Memory.

MLA: Machine learning algorithms.

MT: Machine Translation.

NLP: Natural language processing.

NMT: Neural Machine Translation.

OS: Operating System.

PCK: Pedagogical knowledge.

RBMT: Rule-Based Machine Translation.

RNN: Recurrent Neural Network.

SMT: Statistical Machine Translation.

TCK: Technological knowledge.

TPACK: Technological pedagogical content of knowledge.

TPK: Technological pedagogical knowledge.

TMS: Translation Memory System.

VR: Virtual reality.

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General introduction

The need for a wide range of translation by various end-user groups and the importance of effective cross -cultural communication is expanding as the world gets more closely interconnected. Overcoming language hurdles is one of the common challenges we encounter. Still, the integration of technology in the translation sector has become a norm on translation practice due to the advances in the computer science as well as the related disciplines. It is widely used by translation companies, international corporations, professional translators, and occasional users for multilingual information meaning. This technology has globalized translation, also it drastically transformed the way we process, acquire, and translate languages bringing tools with highly levels of developments such as machine translation and Artificial intelligence.

The translation industry has been profoundly affected by artificial intelligence and machine translation, which has resulted in a change in the responsibilities and skill sets of human translators. The era of AI for MT begun, with AI, especially through neural network technology, revolutionizing translation efficiency. As AI translation advances and more professionals rely on it for translations, questions have been raised concerning the proper balance between machine and human translation. Although there has been progress, there are still difficulties in comprehending text semantics and syntactic structures for precise translations. However, deep learning-based methods such as neural networks and attention processes appear to hold potential for improving translation quality. Furthermore, there's an increasing need to investigate MT's cooperative potential as a collaborator rather than a substitute for human translators.

Besides, translation technologies significantly impact EFL learning, influencing both translators and learners. They have reshaped training methods, raising questions about tools, knowledge, and timing. Implementing translation strategies fosters learner autonomy, encouraging collaborative work. Neural Machine Translation is popular for improving vocabulary, but questions remain about vocabulary retention post-use. Technology in EFL learning enhances vocabulary, writing skills, and provides opportunities for collaborative learning and autonomy, reflecting the evolving landscape of language education.,

The current study elicits the following questions:

1. Main question:

How do emerging technologies influence the translation industry and how do they impact EFL learning?

2. Sub-questions:

What are the latest technologies? And how they impact EFL learning?

How those technologies have integrated in EFL learning ?

What is the relationship between translation technologies and EFL learning?

The Hypothesises of this study are put as follows :

The technologies in translation industry refer to the innovative tools those are revolutionizing the translation sector , elevating its serves to unprecedented levels of high accuracy , fluency , and usability . AI ,MT ,and their devices have totally transformed the communication world, translation , and interpretation breaking down linguistic barriers.

Additionally , latest technologies have both positive and negative influence in translation services .

Next , translation technology increases the comprehension of EFL learners . the utility of digital translation instrument help in understanding complex texts or speech more easily in a short time , as well as offering opportunities for practicing English language skills through tasks and assignments , it also aid in language acquisition , proficiency , and cultural understanding .

Furthermore , the relationship between EFL and translation technology can be described as a strong relation of enhancement , EFL learners depend on those technologies in various aspects of language acquisition . And in more effective and easier way they aid learners in comprehending in addition to engaging with English language .

Finally , digital translation methods evolve language acquisition by facilitating comprehension , and engagement with target languages through practices and exercises .

The main motive why we decide to write about this topic was the fact that we as EFL learners depend on translation technologies , so we decided to investigate the latest technologies in the translation field and know about its impact on the translation services, also find out the translation engines people use these days , then investigate the key role of media translation in both , the learning process of English as a foreign language in addition to context learning and knowledge. Furthermore examining the cognitive impact of the latest technologies in EFL learning have taken a part in our research.

In attempt to answer the previous questions , the study is divided into two main theoretical chapters : the first chapter dealt with the evolution of translation technologies as well as the impact of digital revolution on translation , and the emergence , role , application , and

significance of machine translation .additionally it provide examples of successful implementations of translation technologies . while the second chapter discuses AI use in language and commutation ,its fundamental role in translation and EFL learning , it explains how AI has revolutionized translation services and its impact on the future of both translation and EFL learning , its benefits and drawbacks , also this part focuses on highlighting the relationship between translation technologies and EFL learning , usage , practices, advantages ,and disadvantages of those technologies , attitudes of learners and teachers toward them , and the importance of culture in translation .

The practical part was mentioned to investigate learners ‘s perception towards the utilization of translation technologies in EFL learning , and to examine the impact of those tool on learning process .the questionnaire spread among third year English language student , it aims to collect data on how translation technologies help student , as well as the tool and the situation they rely on them , not only as a method to aid them on their learning process , but also as a discipline that demand their attention and linguistic opportunities .

Chapter one:

An Overview on Translation Industry and Technologies

Introduction

The upward trajectory of globalization is fueled by cross-border communication in a variety of fields, such as investment and trade. It began as an economic process and spread to all aspects of human activity. Such process leads directly to global engagement and integration among people who are looking for appropriate ways to connect. Because technology is advancing swiftly, it is necessary to have global perspectives to keep up with the forces that are pushing humanity. This affects society's physical, cultural, political, intellectual, educational, and environmental well-being. On these grounds, translation studies and technologies have witnessed a significant shift due to the rapid advances in computer sciences and related disciplines, including computational linguistics and terminology studies, to meet the needs of efficient communication. Translation technology has become a norm in translation practice, an important part of translation studies, and a major trend in the industry. It has globalized translation, transforming the way we process, teach, and study translation, and has brought fundamental changes to all aspects of the contemporary field of translation. Additionally, those translation technologies are a crucial interdisciplinary sector, requiring academic attention to remain in line with globalization and the increasing prevalence of globalized knowledge, requiring professional improvements.

1.1.Evolution of translation technologies

Translation technologies have been developed quickly, especially computer-aided translation, because of advances in computer science, the emergence of computational linguistics, and terminology studies. It's widely acknowledged that computer-aided translation emerged as a result of machine translation's limitation in the 1960s. There are five distinct stages in the 57 -year history of computer-aided translation, starting in 1967 until now. The first phase,

from 1967 to 1983, is the germination phase; the second phase, which spans 1984 to 1993, is characterized by consistent expansion, and the three years from 1993 to 2003 constitute a period of significant growth . The time frame spanning from 2004 to 2013 is a period of world-wide development. We now live in the age of neural machine translation, which makes use of artificial neural networks to increase the fluency and accuracy of translations. These networks can recognize intricate linguistic patterns because they have been trained on enormous volumes of data. We may anticipate more advancement in translation efficiency and quality as technology develops.

1.1.1. A Period of Germination

The development of translation technology has a close relationship with the significantly increasing demand for translation services in recent years. The first idea of MT can be dated back to 1903 when Couturat and Leau put forward the term “ein mechanisches Uebersetzen”,and the first scholars to propose using computers to translate natural languages were Warren Weaver and Andrew D ,after that in 1952 at the Massachusetts institute of technology the first conference on machine translation was held ,beside to a journal for machine translation appeared in 1954, and by 1965 , 18 countries were involved in research studies on machine translation .in 1964 the US government established the Automatic Language Processing Advisory Committee (ALPAC) to investigate the machine translation , this committee recommended the termination of machine translation because there was no immediate or predictable prospect of useful machine translation .the committee decide to support improved human translation with appropriate machine aids .this ed to the emergence of translation memory as a part of computer aided translation which emerged with Alan K. Melby incorporating it into a tool called ‘’repetitions processing ‘’in 1978.

Arthern and Alan K .Melby were the first who proposed the concept of translation memory in the late of 1970 ,at Brigham young university developing ALPS .Although ,this system made previously translated segments, it had limitations because of the number of sentences , researchers began collecting and storing translation samples, but with the immaturity and high cost of computer algorithms ,translation technology to significantly impact translation practice and the translation industry .

1.1.2. A period of steady Growth

The first computer –aided translation companies where in Germany and Switezerland they providing manual technical editing and translation with information technology and automation. Later developed software products for information management and translation memory ,in 1988 IBM's Eiichiro Sumita and Yutka Tsutsumi released the ETOC tool which is an electronic dictionary that contains the solution for translating phrases or sentences . The system had the features of translation memory, after that a program called TED was developed by Trados company which became later the first Translator's workbench editor ,in 1990 ,STAR AG released Transit 1.0,a 32 –bit DOS version ,which helps CAT system .

In 1992, computer –aided translation achieves a great advances in translation software made in the USA, Germany ,and Russia , such as in the USA two companies specializing in the production of translation software have been established : international and ATA software technology Ltd. These two companies developed machine translation products, hybrid machine translation and interpreting systems ,and online translation engines . These developments have contributed to the growth of CAT in various countries .

1.1.3. A period of rapid growth

In this period about twenty system were developed, including better –know systems such as Déjà vu , WordFisher , Eurolang Optimizer(Brace 1994), computer –aided translation system combined translation memory technology with example –based translation, Déjà vu was one of this system that developed by ARTIL in Spain , it faced problem because of MS-DOS ,Déjà vu was a professional translation tool for Microsoft word for windows .

A lot of functions were developed and integrated during this period ,for instance Trados translator's workbench 2 introduced T Align ,while IBM's translation developed logic based machine translation ,and Eurolong Optimizer introduced project management in 1994.Computer –aided translation systems were run in DOS or OS /2 systems and the it handle various document formats including HTML, Microsoft Power Point ,Excel ,word

1.1.4. A Period of Global development

One of the most systems used in recent years is the Translation Memory System (TMS). The TMS is a computer-aided translation tool "designed to increase translation productivity by automating the linguistic transfer from source to target text" (Austermuhl, 2001).And according to Liang Sanyun (2004) ,there is a different between MT and TMS ,MT were designed to replace human translation while TMS is designed for translators to improve accuracy and quality , also the early 2000s saw the rise of neural machine translation (NMT) and the demand for high –quality translation in various industries.

Computer –aided translation has experienced rapid growth with over 100 systems developed in various countries, including Hungary, Japan, Poland, and the United Kingdom. This growth shows the potential of translation technology to continue for many years to come ,information

theory was also applied to translation studies ,helping translators recognize the function of concepts like information load ,implicit and explicit information .

Statistical machine translation (SMT) has now become the dominant framework of MT research; there are now very few researchers continuing with exclusively rule-based methods. The main reasons are: the availability of large, monolingual and bilingual corpora, the open-source availability of software for performing basic SMT processes (alignment, filtering, reordering) the availability of widely accepted metrics for evaluating systems (BLEU, and successors). Statistical methods do not require researchers to know the languages involved in systems (or, at least, to have in depth knowledge) and do not demand complex large-scale acquisition of rules and lexical data. While SMT approaches dominate, there are still many aspects of MT for which rule-based approaches have continuing relevance, e.g. syntactic analysis to improve reordering of sentences between typologically different languages (e.g. English and Japanese), the treatment of morphologically rich languages (such as Russian, Finnish and agglutinative languages).

MT usage is increasing in multiple application such as patents, TV subtitles from global companies and translation services, professional translators are using MT and translation memories like Google translate also the quality are improving.

1.1.5. The new age of translation technology

This period has been characterized by neural machine translation (NMT), and the emergence of artificial intelligence (AI),in 2013 Nal Kalchbrenner and Phil Blonsum proposed the idea of encoding ,NMT has been widely use in natural language processing ,(NMT) frameworks follow an Encoder-Decoder architecture ,this led to a new sub-field of (NMT) for code generation with wide application. NMT had made a significant shift from the previous

approaches like Rule-Based Machine translation (RBMT)and statistical Machine translation (SMT), NMT has become a fundamental technologies pillar, it uses neural networks to learn complex and contextual patterns in language, and it's also enhance the quality and accuracy of translation .

Neural network models are distinct from phrase –based systems because neural network takes into account the whole input sentence at each step when translating the output sentence, the RNN ,GRU,and LSTM are the basic units used in the decoder and encoder . NMT technology can be applied to any language pair including languages that are brand new or understood by few ,it also dependent on the training data used to train the neural network as it learns to mimic the data it has trained with .

The integration of artificial intelligence has totally transformed the way we live, communicate, and how we perceive the world. In 1950, Allan Turing published "Computer Machinery and Intelligence", which proposed a test of machine intelligence known as the Imitation game. Next, in 1952 Arthur Samuel who was a computer scientist evolved a program to play checkers which is the beginning to ever learning the game independently. Later on, 1955, a workshop at Dartmouth on AI held by John MC Carthy on "Artificial intelligence" which is the first application of the word how it comes into popular usage (Tableau, n.d).

Artificial intelligence is the simulation of human intelligence processes by technology, particularly computers. It has specific applications such as expert systems, natural language processing, speech recognition, and machine vision. Besides, its powered systems take in enormous amounts of labelled training data, analyze it for correlations and patterns, and also utilize them to forecast future stales. In addition, new and improved generative AI techniques can produce realistic text, images, and media.

AI plays a fundamental role in changing how we live, work, play, and interconnect in society through its ability to perform tasks much better than humans such as analyzing a large number of documents properly and quickly. This fast-expanding population of generative AI tools is important in various fields such as translation and education (Laskowski & Tucci, n.d).

1.2. The contribution of MT in translation, localization, and communication

Within the translation and localization sector, MT has grown in importance as a quickly developing technology. Even though MT has been around for a while, current developments in AI and NLP have greatly enhanced its capabilities, making it an invaluable resource for companies and organizations looking to grow internationally. Generally speaking, there are a few MT advantages that could appear fascinating, among these are:

a) - Quicker response: Times text can be translated considerably much faster by machine than by a human translator. This is especially helpful for assignments that have a tight deadline or when translating a lot of texts fast.

b) Lower expenses: MT can be substantially less expensive than conventional human translation as it doesn't require a human translator to complete the translation. For companies and organizations this might result in significant cost savings.

c) Enhanced precision and reliability: In some situations, machine translation can be more reliable and accurate than human translation, particularly when translating technical or repetitions information. Additionally, it might lessen the possibility of mistakes or inconsistencies when several human translators collaborate on a project.

d) Increased scalability: While human translation may be constrained by the availability of competent translators, modern machine translation may readily scale up to accommodate massive volumes of text. For businesses with a lot of translation requirements, machine translation becomes a viable option because of this. (Smith, 2023).

Furthermore, MT is crucial communication development in 21st century, allowing companies to stay ahead of the competitions by translating multilingual contents, using professional services. Latam ways, the leader in machine translation post -editing services in Latin America offers different levels to cater to client requirements and content types. In addition, quality translations are essential for continuous improvement and evolution, as companies adapt to globalization and client needs. Besides, effective communication between companies and their customers is facilitated by high- quality translation that is tailored to a particular audience. Higher contents volumes could be handled without compromising quality thanks to MT in their post. (Latam ways, 2020).

1.3. The impact of digital revolution

According to Freeman and Louca (2001, as cited in Berge, 2008, p. 215), the digital revolution brings high-speed and high-capacity computing, real-time and interactive systems, information and communication technology, and the possibility of an intelligent world. This intelligent world would have knowledge-based and pervasive code that is decentralized, ubiquitous, and transparent. These technologies are transforming a distributed, heterogeneous, and very complex world. They allow for immense flexibility and interaction, and the old distinction between producers and users of computing may disappear as users are enabled to be co-producers of computing services and applications. But new ones may also arise on the basis

of different applications, mainly made possible by the new qualities and functionality of digital technology. This is the true potential of the emerging, pervasive digital environment, the “digital age”. According to the Cambridge English Dictionary, it is the time “when most information is in the Digital form” It is characterized by the fact that the use of digital technology is Prevalent in all walks of life, and the spread of ICT’s has radically changed the Way we work, live, spend our free time, or communicate. Their impact is felt in very different areas of professional activity such as Translation.

The digital revolution was initiated by the invention of computers as well as internet , and it is currently being advanced throughout a variety of systems like AI innovations, big data analysis , 3D printing , in addition to augmented ad virtual reality. the digital revolution has a clear effect on the field of translation. This technology, for instance, has made machine translation tools an essential part of the translation process. The development of new information and communication technologies has changed translation activities at all levels of communication, breaking language barriers and promoting cultural exchange.

1.3.1 . in global communication

There are about 6,909 living languages worldwide with a linguistic variation between regions, the needs for communication lead to use translation, and with the globalized world , technology has revolutionized language translation, providing new possibilities and opportunities for communication between distinct languages, communication linked to globalization, according to Anthony Giddens, defines globalization as the intensification of social relations on a global scale, connecting separate localities across time and space, local transformation is also a part of globalization, expanding social connections beyond traditional boundaries.

The development of the internet network has a strong influence on the changes in communication, and the human needs for convenience drive to a great revolution in communication which is facilitated by the creation of sophisticated tools and technologies. Technology has changed the global communication by making it easy, fast, and more accuracy for people to connect one other from over the world, in this digital revolution we live it now useful communication between distinct languages become more necessary than any time before. According to Stephen Doherty; translation technology has increased productivity and quality in translation, supported international communication and demonstrate the growing need for innovative technology to the age -old problem of the language barriers.

There are many advantages of using computer aided -translation (CAT) to translate text from one language to another. We mentioned that Translation technology offers speed and efficiency through advanced algorithms, reducing time and maintaining accuracy, enabling faster completion of translations compared to manual methods, it also enables seamless communication across various languages, because globalized world needs multilingual communication. Further CAT tools enhance translation quality through multiple rounds of checks and translation memory feature, ensuring consistency and accuracy in content compared to traditional methods. And one of the useful benefits is that translation technology offers global accessibility, allowing anyone with internet access to use it, facilitating global communication between individuals and organization. otherwise there are obstacles face when using translation technology and its effects the communication process and the main one is that translation technology faces challenges in maintaining accuracy due to machine learning and artificial intelligence inability to fully understand human language nuances, leading to mistranslations, misinterpretations, and

confusion in communication .Language involves cultural context and idiomatic expressions, but translation technology's algorithms may not always understand these subtleties, leading to errors.

1.3.2. in breaking language barriers

One of the most important benefits of digital revolution is its capacity to improve global communication ,and reach a larger audience and enhance language, by translating content into different languages using machine translation, according to Barclay " there is such an element of culture connected to language that I still I think that language skills, Will be important . language barriers accures when two person speak two different languages and try to communicate the issues they find it may create a misunderstanding , the increasing demands of global business, travel and cross –border collaboration drive the need for real –time translation solutions, language barriers have long impeded effective communication ,whether in international business , academic research ,or connecting with individuals from diverse cultural backgrounds .today ,where content proliferates across various platforms like websites, social media .technology 's proliferation enables instant exchange across continents necessitating content accessibility in multiple languages.

The ability to communicate effectively with potential clients and partners in their native languages can be make-or – break factors for business success, according to a report by grand view research, the global language services markets is expected to reach 72.2billion by 2027, with AI playing a significant role role in this growth .Moreover, AI driven translation tools contribute to deeper understanding of diverse cultures not only bridging the gap between different languages. A survey conducted by the European commission showed that 62% of respondents believed that knowing other languages can improve cultural understanding

,technologies like ChatGPT and GPT-4 are helping people from different regions to appreciate each other's language.

1.3.3. In promoting cultural exchange

Translation technology has revolutionized the field of language services. Translation technology has evolved from simple beginnings of paper dictionaries to the complex AI, MT and their tools today, reflecting broader language industry trends and the ever – increasing demands for fast, accurate, and accessible translations. The use of multilingual dictionaries as well as the expertise of human translators distinguished the early days of translation. The method was time–consuming also strongly depended on the translator's expertise of both the source and target language. As the world became more interconnected, the need for faster and more effective translation solutions became clear. ("The evolution of translation technology from dictionaries to AI",2024).

Additionally, the role of digital in external cultural contacts is unexplored. The digital revolution allows for cultural co-creation and distribution to have a greater impact in a rapidly changing environment. Cultural diversity and heritage can be preserved digitally through global platforms, archives, public libraries and museums.

Machine translation technology has revolutionized the translation industry, enhancing efficiency and scalability. However, translators still need to choose effective tools due to the complexity of the job. Language doctors emphasize the importance of human touch and linguistic expertise in capturing message essence (Bella,2024). In addition, translation is critical for globalization since it facilitates cross- cultural contact and cooperation. It is critical for facilitating the flow of ideas, services, etc. The fundamental impact of translation media in cultural exchange includes:

a) Connect with global audience: one of the most obvious advantages of media translation is the opportunity to reach a larger audience and increase global media consumption. By translating content into numerous languages, media procedures can engage with people from various geographies and linguistic backgrounds. This increased reach is especially beneficial for news, organizations, entertainment, enterprises, and corporations trying to grow into international marketplaces.

b) Cultural adaptation and localization require adapting content to the target audience's cultural conversions, values, and preferences. This guarantees that communications are not only comprehended, but also relevant to the local culture. Cultural relevance has tremendous impact on the marketing campaigns.

c) Promote inclusivity: Effective technological translation tools eliminate language barriers to obtaining information and entertainment. It promotes diversity and ensures that everyone, regardless of language skill can interact with information. This is especially crucial in various multicultural communities.

d) Economic growth and market expansion: Translation tools services can have significant impact on enterprises. It opens the door to worldwide markets allowing business to reach a larger customer base. Companies can increase sales and revenue by localizing marketing materials as well as products information.

e) Creative collaboration translation: promotes creative collaboration and expands media coverage on a worldwide scale. It's nations to work together, share ideas, and reach a larger audience.

f) Bridge linguistic and cultural gaps: translation is a useful tool for bridging linguistic and cultural differences. Media localization lowers misconceptions and disputes caused by misinterpretation. It promotes peace and trust among nations and communities.

g) Reducing the digital divide: in today's digital age, media translation ensures access and interaction with online materials, fostering cultural assimilation through social media and e-commerce platforms.

h) Legal and regulatory compliance: many sectors rely on translation to ensure legal and regulatory compliance. This includes translating contracts, legal documents, safety information, and product labels to make sure that enterprises and organizations comply with local laws also standards.

I) Accessible information and services: translation services are critical for making public services and information available to everyone. Translation is used by government organizations, healthcare providers, in addition to non- profile groups to guarantee that services and data are accessible to users of other languages, hence fostering social fairness.

J) Strengthening international relations: effective communication is the foundation for international diplomacy and relations. Governments and multinational groups rely on media translation to communicate with global audiences. It promotes understanding, cooperation, and diplomacy, which contributes to peaceful coexistence and everywhere collaboration. (Glover,2023).

To conclude, the positive effects of media translation are multiple, including improved communication, cultural interchange, expanded commercial opportunities, and more global –

knowledge. In a world where cultural variety is cherished and interconnection is the norm, media translation is crucial in encouraging inclusivity, cultural appreciation, and a shared global experience. As technology and translation services progress, we can expect media translation to have a greater influence in the future (Neilly et al, 2018).

1.4. The emergence of machine translation

Machine translation relies on computer algorithms to translate text from one language to another. MT application back to the late 1940s with the emergence and progress of computer Science. However, the quick development of many applications, MT stills a challenging relevant problem to address. After over sixty years of research and advancement over the time periods of progress and stagnation, we are finally at a stage where the adaptation of existing MT technology is a real possibility. This a consequence from a numerous of factors, contains the scientific progress from the early 1990s with statistical methods, the availability of large collections of multilingual data for training such methods (and the reduction of the cost of processing such collections),The existence of statistical systems and the proliferation of electronic systems as a result of the availability of key service providers, as Google and Microsoft, and the increase consumer demand for fast and cheap translations.(Lucia and yorick, 2016)

MT began alongside the development of computers themselves, as a new application for machines which had proved so very useful in solving mathematical problems. The first documented effort came from Warren Weaver in 1949, when he proposed ways of addressing translation problems such as ambiguity by using techniques from statistics, information theory, and cryptography (Hutchins 1986). Major projects began in the US, the then USSR, the UK, and France, in 1954 by researchers from IBM and Georgetown of a system that could translate forty-

nine Russian sentences into English with a restricted vocabulary (250 words) and a set of six grammar rules (Hutchins 2007).

Around the world, many research groups were established in the mid-1960s. After almost two decades of modest (yet significant) progress, given the pessimism from some researchers about further progress (Bar-Hillel 1960), in 1964 the US government wanted to re-evaluate the field. A various achievements made in recent years have been studied by a committee, estimating how far the field can go and what obstacles stand in the way of progress.. The outcome was the rather pessimistic ALPAC (Automatic Language Processing Advisory Committee) report stating that MT was slower, less accurate, and more expensive than human translation and that there was no 'immediate or predictable prospect of useful machine translation' (Pierce ET al. 1966).

Still in the 1970s, a number of innovative Interlingua approaches were proposed using different formalism as Interlingua, at lower or higher abstraction levels. The less ambitious transfer-based approaches appeared to be a better option once again. At Grenoble University a transfer system was implemented Methods inspired by artificial intelligence were proposed to improve MT quality. In order to improve the understanding of the text to be translated, it is necessary to use more accurate knowledge. This included the use of Yorick Wilks' preference semantics and semantic templates (Wilks 1973a, 1973b) and Roger Schank's conceptual dependency theory (Schank 1973), and resulted later in the development of expert systems and knowledge-based approaches to translation.

The Interest in machine translation was renewed a decade after the ALPAC report: to translate texts in very restricted domains or translate texts for gisting. Other commercial systems appeared and became operational. These included Systran, which had originally been proposed as a direct rule-based system in 1968, but was restructured as a transfer-based system in the late

1970s and extended from Russian–English translation to a wide range of languages. The first commercial, open-domain MT system was systran and it is still available today. METAL and Logos, along with Systran, were the three most successful general-purpose commercial systems, which could be customized by adapting their dictionaries. (Koehn et al. 2003)

Besides attracting significant commercial interest, research in transfer-based MT also restarted. More advanced systems like Ariane (Grenoble University) and SUZY (Saarbrücken University) used linguistic representations at different levels (dependency, phrase structure, logical, etc.) and a wide range of types of techniques (transformation rules, grammar ,phrase structure rules, etc.). Although they did not become operational systems, they have influenced a number of subsequent projects in the 1980s. One such project was Eurotra, a large EU project aimed at a multilingual transfer system for all EU languages. In a complex transportation model, there is lexical, syntactic, and semantic information that characterizes the approach. It strongly stimulated MT research across different countries in Europe. (Koehn et al. 2003)

The real emergence of empirical or corpus-based approaches for MT came with the proposal of statistical MT (SMT) in 1989. A seminal work by IBM Research proposed generative models (Brown et al. 1990) to translate words in one language to another based on statistics collected from parallel corpora with potential mutual translations. Initially based on word-to-word translation, the statistical models showed surprisingly good results given the resources used and the complete absence of linguistic information. This stimulated research in the field to advance word-based models further into phrase-based models (Koehn et al. 2003) and structural models (Chiang 2005) which can also contain linguistic knowledge.

SMT has been the most prominent approach to MT up to now and it appears that it will remain so for some time to come. For almost twenty years after the proposal of the initial word

based models, most of the developments in SMT remained in academia, through projects funded by government initiatives. As a consequence of some of these projects, a number of free, open-source MT and related tools have been released, including various toolkits for SMT such as Moses (Koehn et al. 2007), Joshua (Li et al. 2009), codec (Dyer et al. 2010), and phrasal (Green et al. 2014). Commercial interest in MT Statistics has increased in the last decade of time. Evidence of this interest is companies such as Language Weaver (acquired by SDL in 2010) and Asia Online, dedicated to developing customizable SMT systems.

1.5. The role of Machine Translation

Machine translation (MT) refers to fully automated software or automatically translation without human assistance, MT belong to "natural language processing" which is part of artificial intelligence. States that machine translation means automatic translation that provided as a computer program which is design to translate text from one language (source language) to another language (target language) without the help of human. Those statements show that machine translation is automatic software designed to translate a text from one language to another without any human intervention. (Kartikia, 2020)

Phrase-based statistical machine translation has emerged as the dominant paradigm in machine translation research. However, until now, most work in this field has been carried out on proprietary and in-house research systems. This lack of openness has created a high barrier to entry for researchers as many of the components required have had to be duplicated. This has also hindered effective comparisons of the different elements of the systems. (Koehn et al. 2003)

In recent years, the role of translation has grown exponentially as it has become an important tool in breaking down language barriers and enabling communication between all parts of the

world. Its role and impact can be seen in various areas of life, including business, education, medical care, and legal services. Here are some key points regarding the role of machine translation (Hatchin and all, 1992) (koehn,2009)

a) Accessibility and Globalization: MT makes information accessible to a global audience by translating content into multiple languages swiftly. This is crucial for businesses aiming to expand internationally and for governmental and non-governmental organizations looking to disseminate information widely.

b) Real-time Communication: Tools like Google Translate facilitate real-time communication between speakers of different languages, breaking down the primary barrier in international relations, travel, and multilingual conferences.

c) Professional Translation and Localization: While human translators are indispensable for high-stakes documents and nuanced literary works, MT serves as an aid in handling straightforward texts and providing a basic translation framework that human translators can refine. It is particularly useful in localization processes where content needs to be adapted culturally and linguistically to different regions.

d) Cost Efficiency: For many applications, especially in drafting initial translations or understanding foreign texts, MT can save significant time and resources compared to exclusively using human translators.

1.6. Application of machine translation on language processing

Machine translation (MT) is a domain of computational linguistics, MT works with large amounts of source and target languages that are compared and matched against each other by a machine translation engine. A more sophisticated method which is also a growing field used to

address the issue of recognition of multiple phrases is with statistical and neural technique. In this translation of text from one language to another, there is no human involvement and it is the machine which performs the process of conversion. There are three types of machine translation system-rules based, statistical and neural. Rule based is a conventional method which is a combination of language and grammar and the support of dictionaries.

Let's turn to another useful language-related task, that of making available to non English-speaking readers the vast amount of scientific information on the Web in English. Or translating for English speakers the hundreds of millions of Web pages written in other languages like Chinese. The goal of machine translation is to automatically Machine translation translate a document from one language to another. We introduce the algorithms and mathematical tools needed to understand how modern machine translation works. Machine translation is far from a solved problem; we cover the algorithms currently used in the field, as well as important component tasks.

a) Knowledge in Speech and Language Processing

What distinguishes language processing applications from other data processing systems is their use of knowledge of language. Consider the UNIX WC program, which counts the total number of bytes, words, and lines in a text file. When used to count bytes and lines, WC is an ordinary data processing application. However, when it is used to count the words in a file, it requires knowledge about what it means to be a word and thus becomes a language processing system. Of course, WC is an extremely simple system with an extremely limited and impoverished knowledge of language. Sophisticated conversational agents like HAL, machine translation systems, or robust question-answering systems require much broader and deeper knowledge of language. To get a feeling for the scope and kind of required knowledge, consider some of what HAL would need to know to engage in the dialogue that begins this chapter, or for a question-answering system to answer one of the questions above.

HAL must be able to recognize words from an audio signal and to generate an audio signal from a sequence of words. These tasks of speech recognition and speech synthesis require knowledge about phonetics and phonology: how words are pronounced in terms of sequences of sounds and how each of these sounds is realized acoustically. Note also that unlike Commander Data in "Star Trek", HAL is capable of producing contractions like I'm and can't. Producing and recognizing these and other variations of individual words (e.g., recognizing that doors is plural) requires knowledge about morphology, the way words break down into component parts that carry meanings like singular versus plural. Cultural knowledge to properly string together the words that constitute its response. For example, HAL must know that the following sequence of words will not make sense to Dave, despite the fact that it contains precisely the same set of words as the original.

Processing language with any of these models typically involves a search through space of states representing hypotheses about an input. In speech recognition, we search through a space of phone sequences for the correct word. In parsing, we search through a space of trees for the syntactic parse of an input sentence. In machine translation, we search through a space of translation hypotheses for the correct translation of a sentence into another language. (Blei et al., 2003)

Finally, near the end of this period, largely unsupervised statistical approaches began to receive renewed attention. Progress on statistical approaches to machine translation (Blei et al., 2003) demonstrated that effective applications could be constructed from systems trained on unannotated data alone. In addition, the widespread cost and difficulty of producing reliably annotated corpora became a limiting factor in the use of supervised approaches for many problems. This trend toward the use of unsupervised techniques will likely increase.

1.7. The significance of machine translation in modern world

The significant growth of non-English speaking audiences has led to a growing demand for tools that allow users to access information quickly in a globalized world. Faced with this scenario, the development of new tools and technologies is a key element. One of the most common tools used to overcome language barriers is machine translation, which is why many networks are increasingly offering machine translation services because human translators cannot be relied upon.In addition, MT systems can be integrated with other tools and resources such as Translation Memories databases which store already translated text for future use or multilingual terminology databases also known as glossaries in order to improve the efficacy of the translation process.(Irene; et all2021)

During the following ten years of the twentieth century, there were two main approaches regarding MT research. On the one hand, empirical approaches focused on statistical methods in order to discover grammatical and lexical regularities. On the other hand, theoretical approaches were based on linguistic research, which led to the beginnings of computational linguistics (Hutchins, 2007).

The significance of machine translation (MT) in the modern world spans various sectors, reflecting profound impacts on global communication, business, education, and access to information. As technology advances, MT tools such as Google Translate, DeepL, and Microsoft Translator have become integral in overcoming language barriers, fostering international collaboration, and promoting cultural exchange (James and Daniel, 2008). Here are key aspects that highlight the significance of MT:

- MT enables individuals and organizations to communicate effectively across different languages, making international collaboration more accessible. This has particular relevance in diplomacy, global news dissemination, and social media, where instant translation bridges the gap between languages. .(Irene; and all2021)

- Businesses leverage MT to reach a global audience by translating websites, product documentation, and marketing materials. This globalization strategy enhances customer engagement and opens up new markets.(Hutchins,and Somers;1992)

- While still a work in progress, MT contributes to the translation of books, films, and other media, making cultural products accessible to a global audience and promoting cultural diversity.(Koehn;2009)

In times of crisis, such as natural disasters or refugee emergencies, MT plays a crucial role in breaking language barriers among aid workers and affected populations, facilitating effective communication and relief efforts.(Doherty, and Stephen;2017)

1.8. Examples of successful implementation of translation technology (Google. Systran. Reverso)

Technology is designed to make life easier and simpler and the rapid development and evolution of technology has moved civilization to a more modern era, and experts are constantly improving and innovating automated tools in all aspects of life.

Translation machine is one of these breakthroughs in modern communication. According to GALA (2017), "Machine translation (MT) refers to fully automated software that can translate source content into target languages. Humans may use MT to help them render text and speech into another language, or the MT software may operate without human intervention. (Irfan ,2017), the are many search engines to machine translation, such as Google, Systran and Reverso

a) Google

Google Translate is one of the translation services that employed online resources to translate texts, speech, and document; it is compatible with computers, smartphone, and tablet system. Hampshire and salvia (2010) argue that GT is the most frequent and favorite system among its users, as becoming a popular translation tool for EFL learners. As of 2022, Google Translate supports 133 languages at various levels; it claimed over 500 million total users as of April 2016, with more than 100 billion words translated daily, after the company stated in May 2013 that it served over 200 million people daily. (Franz, 2006).

GT use a statistical models that determines the translation of words, during the translation process GT searches different documentation and previous human-translated to get the final results, GT shifts from sentence-based translation to Neural Machine translation, using Artificial intelligence in which it mimics the human cognitive function (Russel&Norvig,2010). GNMT takes the whole text and context into account to find the most relevant translation and, then, rearranges and adjusts the text to make it resemble human-made with proper grammar and vocabulary (Wu et al., 2016).

In 2017, Google Translate was used during a court hearing when court officials at Teesside Magistrates' Court failed to book an interpreter for the Chinese defendant. At the end of September 2022, Google Translate was discontinued in mainland China, which Google said was due to "low usage". (Wiggers, Kyle, 2022)

GT helps learners promote their reading and writing skills because it's simple, GT provide students with broad understanding of text in reading comprehension. However it is ineffective in delivering grammatical answers (Herlina et al .2019)

b) Systran

Systran, founded by Dr. Peter Toma in 1968, is one of the oldest machine translation companies. SYSTRAN has done extensive work for the United States Department of Defense and the European Commission. (Bruno, 1998)

Systran provided the technology for Yahoo! Babel Fish until May 30, 2012, among others. It was used by Google's language tools until 2007. SYSTRAN is used by the Dashboard Translation widget in macOS.

Historically, SYSTRAN systems used rule-based machine translation (RbMT) technology. With the release of SYSTRAN Server 7 in 2010, SYSTRAN implemented a hybrid rule-based/statistical machine translation (SMT) technology which was the first of its kind in the marketplace. As of 2008, the company had 59 employees of whom 26 are computational experts and 15 computational linguists. The number of employees decreased from 70 in 2006 to 59 in 2008. . (Grunwald, David, 2011)

c) Reverso

Reverso is a portal of linguistic tools, including translation into a variety of language combinations including French, Spanish, German, Russian , Portuguese, Chinese ,Arabic, Hebrew, and Japanese (Segun 2014,p.215).which you may use directly from computer or a mobile application.

Reverso has been active since 1998, with the aim of providing online translation and linguistic tools to corporate and mass markets**.** (Harcourt, Pierre, 2010), in 2013 it released Reverso Context, a bilingual dictionary tool based on big data and machine learning algorithms. In 2016 Reverso acquired Fleex, a service for learning English via subtitled movies. Based on content from Netflix, Fleex has expanded to also include video content from YouTube, TED Talks, and custom video files. (Hughes, Matthew, 2017)

In 2018 it released a new mobile app, which combines translations and learning activities. Reverso's suite of online linguistic services has over 96 million users, and comprises various types of language web apps and tools for translation and language learning, its tools support many languages. Since its founding Reverso has provided machine translation tools for automated translation of texts in various languages, including neural machine translation.

Reverso allows users to search for translations in context because it combines big data from a wide range of languages. These texts are sourced mainly from films, books, and governmental documents, allowing users to see idiomatic usages of translations as well as synonyms and voice output. Furthermore the Reverso context app includes language learning techniques such flashcards based on words that appear in sample sentences, for the aim integrating Reverso context abilities into web browsing. Reverso had also browser extension for Firefox and Chrome

On the Reverso website, users may develop collaborative bilingual dictionaries between various language pairs via crowd sourcing, permitting users to add new entries and express feedback... It also has tools for conjugation of verbs in various languages, spell checking tools, and written multilingual grammar guides for language learners.

Reverso Documents service translates documents and websites while preserving their layout. (Dillet, Romain, 2020).

All in all, we can state that the emergence of translation technologies has changed the world totally, it has revolutionized the recourse to translation through facilitating communication, cultural exchange, and corporate expansion. It has removed language obstacles, enabling business to localize their products and services, expanding their customer base. Additionally, these technologies have improved academic resources as well as materials, promoting global collaboration and access to bilingual instructional materials. Those translation technologies act as a game-changer to remove communication and cultural barriers. On the other hand, machine translation has come a long way since its inception to become an essential tool in our increasingly interconnected world. The future probably holds additional perspectives as we expect better results provided by machines, with smarter algorithms, broader language coverage, and better integration into our daily lives. However, we must be wary of the possibility of biases

and mistakes to seep into automated translations. Human inspection and post-editing are still required to maintain the greatest level of communication.

Chapter two:

Exploring the Role of Artificial Intelligence in Translation and EFL Learning .

Introduction

In a world more interconnected by the day, where effective communication is crucial, the advent of artificial intelligence and its function and popularity is constantly soaring, promising an unprecedented paradigm to shift in the society, business, translation, and education are conducted. It is a fast-moving science that continues to make significant studies, captivating the interest of consumers, researchers, learners, and educators, in addition to businesses alike. And because of its many uses, AI technology is becoming more and more prominant in today's society. Furthermore, applying AI technologies in translation sectors has transformed the translation industry by offering several innovative ideas. In the field of education, especially EFL learning, it was an outstanding and important instance of advancement and creativity. By analyzing students' strengths and shortcomings, AI-powered systems have the ability to customize classes to increase efficiency and engagement in language learning. The possibilities for using AI in EFL instruction are numerous, ranging from chat bots for conversation practice to language learning apps with AI tutors. Premium This cutting-edge combination of AI and linguistic knowledge closes the language gaps, breaking barriers in addition to promoting respect for and awareness of various cultures. These endless prospects presented by AI in both translation fields and EFL learning open up a world of perpetual possibilities where language is no longer a barrier but rather an essential means of understanding and communication.

2.1. An overview of AI use in language industry and multilingual

The need for efficient language barrier communication has never been greater in a world where communication is becoming more integrated.(Sachin,2024) , that's why information and digital technologies have emerged and significantly impacted society and communication, with

statistical and neural systems forming the foundation of high-tech solutions in various domains including language , the use of these technologies in translation has become increasingly prominent in language transfer processes , particularly in translation and interpreting .(Saina,2021).

Language is a vital aspect of globalization, connecting people from different cultures and fostering inclusivity, and the presence of multilingual communication fosters diversity, fostering personal growth, tolerance, and empathy, it is also crucial in business and professional settings, as it allows companies to reach a wider audience and tap into new markets. However, language barriers can lead to missed opportunities and conflicts. In addition, bilingualism and multilingualism improves cognitive abilities, creativity, and neuroprotection as well as cognitive decline, it also promotes a sense of belonging and identity, as it is deeply intertwined with culture.

Effective communication is essential for business, education, organizations, and individuals to succeed in today's globalized world. Language obstacles, however, frequently obstruct smooth communication and reduce the likelihood of cooperation and understanding. Overcoming these obstacles requires multilingual communication and thanks to the developments in artificial intelligence, translation is now more available than ever, and AI translation has significantly improved communication across language barriers, the evolution of AI translation has evolved from rule-based systems to statistical models and now neural networks, these systems have led to better understand and translate languages, enhancing their accuracy and fluency.

The history of AI translation dates back to the 1950s, with early attempts relying on rule-based models dominate the field, using deep learning techniques like recurrent and transformer networks to capture the nuances of the language and deliver more contextually accurate

translations, it can also handle multiple languages, enabling real -time multilingual communication, it can be applied to speech recognition, enabling translation from spoken language into written texts.

The growth of AI translation has altered cross -linguistic communication for business and individuals, providing numerous advantages in multilingual communication including:

- Artificial intelligence translation systems provide immediate translation of emails, documents, and chats, optimizing businesses workflows. This enables business to break into new markets by successfully localizing their products and services (strengthening interaction in business).
- Inspiring cross-cultural interaction, by enhancing communication in one's native tongue on networks like social media and educational resources. Artificial intelligence translation facilitates understanding among cultures by removing language barriers; this promotes multiple interactions and the interchange of ideas, building a more inclusive global community.
- AI translation currently has significant effects on a variety of distinctive industries, like healthcare and education.

AI has the potential to become an essential device for consumers and companies alike, considering the increasingly important role of multilingual communication. AI has enormous possibilities to break down linguistic barriers, we can think of an era when language might no longer be a burden to worldwide cooperation understands and achievement as technological advances occurs. (Tomorrow bio, 2023).

2.2. The role of Artificial Intelligence in translation

The need for translation services has evolved as worldwide connectivity has expanded, translation changed completely as an outcome of technological advances in AI and ML. ("The role of artificial intelligence and machine learning in translation", 2024).

Translation and interpretation are additionally two disciplines where AI holds considerable potential for shifting language comprehension and interaction through the emergence of sophisticated algorithms for Ml and NLP techniques. ("The role of artificial intelligence in translation and interpretation ", 2023).

AI is a property that allows computers or robots to carry out intelligence -related tasks such as reasoning, estimation, and experience-based learning. It has a lot of applications in translation. (Copeland ,2024). It includes:

a) Neural Machine Translation: Or NMT, which is considered as the major advance in MT. Compared to previous approaches that divided texts into smaller chunks, neural network translation produces translations with a higher degree of fluency and cohesion, using neural network designs as well as creating more natural seamless translation.

b) Contextual analysis and language understanding: AI advances translation systems by allowing them better understand language and context, which increases translation accuracy with the use of highly sophisticated techniques as sentiment analysis and NLP, these AI -powered translation systems process the capacity to accurately convey even the smallest aspects of a sentence's meaning and tone. It consequently results in translations that are almost exactly intended.

c) Multimodal translation: Translation systems have passed a long way in managing multiple input modes, such as text, speech, images, and gestures, mainly because of the achievements in AI and ML. Due to this; they are able to provide translations that are more precise and comprehensive, fulfilling requirements of the multimedia. This method serves the variety of communication needs of our multimedia driven society, through integrating several communication modalities to offer reliable and extensive translations. AI systems are capable of analyzing user preferences, tasks, and interactions to offer adapted translation services that take into account each users' preferences and degree of language competency. This substantially enhances communication, making it easier to use and more efficient.

d) Increased productivity: by automating repetitive processes like formatting spell checking, and terminology research, AI and ML systems assist human translators more time to focus on crucial tasks like language enhancement and cultural awareness. Consequently, efficiency and production are increased.

e) Quality assurance: Strong quality assurance tools offered by AI -powered translation systems aid human translators detect errors, inconsistencies, and ambiguities in translation. These resources guarantee accurate and consistent translation through providing quick feedback and recommendations.

f) Options and specialization: Without entirely replacing human translators, AI and ML technologies permit translators to specialize and broaden their skill set through specialization in post -editing, designing machine translation, and creating new technologies, translators can take benefit of these opportunities provided by AI technology.

g) Collaboration and knowledge exchange: AI powered translation platforms provide stronger collaboration and knowledge sharing among translators by facilitating the process of exchanging resources such as translation memories and terminology databases. This cooperative strategy establishes a culture of knowledge exchange for continuous enhancement within the translation community.

h) Ethical and cultural consideration: While AI and ML offer an exclusive translation accuracy and productivity, they additionally bring up notable ethical and cultural issues. Unlike AI systems that could subconsciously perpetuate biases, translators with a strong awareness of cultural nuances and context are essential to make sure translations are highly specific, appropriate, and unbiased. ("The role of artificial intelligence in translation and interpretation ", 2023).

2.2.1. How AI is revolutionizing translation services

The manner in which we engage with technology has been entirely changed by AI, and now its influencing interpersonal communication, translation and simultaneous interpretation are two disciplines in which artificial intelligence is making significant advances.

With the growth of globalization, it is now more crucial than ever to communicate in multiple languages, for instance real -time communication between individuals worldwide has become easier with the advent of AI -powered translation and interpretation networks, through the analysis of huge amount of data and learning patterns, AI has revolutionized multilingual interpretation and translation mentioning:

- AI has been making waves in a variety of industries. Language barrier – breaking is being revolutionized by AI -powered methods, which enable higher levels of accuracy and effectiveness cross – language communication. Translation and interpretation have been taking many hours of careful labor and human knowledge. But with the help of AI, sophisticated computer algorithms and machine learning models that can process and comprehend several languages at previously unheard-of speeds have been developed – this reduces translation time while also enhancing translation reliability and consistency.
- AI has revolutionized translation and interpretation due to its ability to handle enormous volumes of data analyzes texts in multiple languages. Even with complex data, it can translate the word correctly and appropriately for the context. As time goes by, AI -powered tools can develop and get better, becoming more specific and realistic- sounding. Improved simultaneous interpretation is now possible through the use of real- time speech recognition algorithms as well as machine translation that deliver simultaneous services with little to no latency. This has transformed global conferences and commercial algorithms, decreasing the possibility of miscommunication. AI -powered translation systems provide reasonable alternatives that lower labor costs and increase the availability of translation services. However, as interpreters and translators offer context and cultural awareness, human expertise is still essential.
- To comprehend linguistic patterns and structures, NMT employs deep learning expressions properly and continues to get smarter. Additionally, NMT systems increase fluency, resulting in translation that seems more natural to native speakers. NMT is an effective tool for removing language barriers as well as fostering successful international

communication because of its AI -powered self -learning. Enormous advancements in multilingual communication are expected as NMT develops further.

To sum up, language barriers in the globalized world have been changed by AI -powered translation and interpreting technologies. They give inclusivity, cost-effectiveness, speed, accuracy, and constant enhancement.

AI technologies minimize waiting times and delays by immediately translating huge amounts of texts or speech, they generate reliable and contextually relevant translations as they have been learnt on data.

They can manage several tasks and facilitate inclusion by facilitating easy communication and comprehension among people with diverse linguistic origins. (El Gazar, 2024).

2.2.2. Impact of AI on the future of translation

AI translation has perspective future. (Carrier, 2023). The swift progress in AI translation technology is creating new possibilities for overcoming linguistic obstacles. (Tomorrow bio,2023).

Further update in AI and ML has the potential to greatly improve translation capabilities in future including:

a) Improving accuracy and smoothness: As AI algorithms advance, translations will continue to grow stronger and more proficient at interpreting linguistic and cultural variations through data – driven optimization and continues education, eventually approaching human – like competency levels.

b) Personalization and flexibility: Translation systems driven by AI will soon be able to adapt to the desires of users and to domain-specific requirements. To learn how to fit translations to specific demands, situations, and communication styles, they will offer individualized training and feedback systems.

c) Integration with emerging technologies: AI -driven translation will easily integrate with modern technologies such as AR (augmented reality), VR (virtual reality), and IOT (Internet of things) to further improvements in a range context of multilingual communication, from immersive experiences to intelligent devices. Translation will easily fit into regular conversations and become a part of our daily existence.

d) Ethical and regulatory framework: To guarantee ethical consumption of AI, ethical norms and regulatory frameworks must be established as technology gets increasingly involved in translation. ("The role of artificial intelligence and machine learning in translation ", 2024).

e) Translation consistency: It may be enhanced in the future by AI translation technologies potential to learn from and conform to the writing styles of specific authors. (Carrier, 2023).

2.2.3. Future perspectives and advancements in AI for translation

Advancements in AI are closely related to the future of translation technology, as demonstrated by applications for MT and business automation, AI will probably continue to transform translation related -activities easier, O' Thomas (2017) expands on this idea by imagining a transhumant as well as biotech era in which software and computers carry out translation. (Olhan, 2020).

Due to machine learning, translation systems are already significantly more advanced than they were even few decades ago, as AI develops, translation technology will only become more powerful, and over the span of time that follows there should be even more features, integrations, and capabilities accessible. It is expected to see a more from computer -assisted human translation to human -assisted computer translation in the future since experts agreed on the idea that the best translation outcomes are expected to result from combining human intelligence and AI -powered machine translation.

Additionally, while human translators apply final creative updates that fit particular audiences needs that AI- generated translations are correct and fluid. ("Translation technology. Past, present, and future", n.d).

Furthermore, the combination of NLP and ML with other AI applications holds promise for smooth multilingual communication, while advances in these areas also aim to enhance the accuracy and fluency of AI translation. (Tomorrow bio, 2023).

AI can expedite and improve the translation process, but it is unable to rival human translator's accuracy and contextual requirements.

Although MT has outperformed most linguistic conventions and standards, it is difficult to deal with the arbitrary aspects of language and writing. ("Is AI technology the future of translation industry. Team pepper", 2022).

2.2.4. Challenges and risks of using AI in translation.

AI has impacted the translation field in both positive and negative ways, AI using has challenges and risks in translation including:

a) No human judgment: Similarly, when utilizing an AI translator, human judgment is not involved, which means that anything adequate, insulting, or inaccurately interpreted will surely get lost in translation? When it comes to translation, it is essential to ensure that human judgment exists since only human editors and translators can effectively convey the intended meaning through the content.

b) Data risk: The potential risk to data that comes with applying AI translations using an AI platform will immediately set sensitive or confidential data at danger if users try to translate it. In an era where cybercrime is on the rise, users have to make sure that they are not leaving their data accessible for being misused or disclosed, they can rest sure that their sensitive data will be handled securely when they work with a reputable organization. It is important to translate sensitive data safely, because data breaches are becoming more frequent and can be expansive in many ways. ("The dangers of using AI translation -Global Gurus", 2023).

c) Localization issues: Translations are mostly used to localize the brands so they may easily join other cultures. There are issues with brand localization when using AI machine translation techniques, considering that AI technologies are not culturally sensitive, MT techniques may not be able to produce in-context translation for particular areas. In this case, AI systems might translate content similarly for the US and UK markets, completely disregarding social context and other subtleties. Therefore, users are unable to target distinct regions' residents independently. By using AI techniques, users are only translating their brand into different languages rather than localizing it. (Bashir,2023)

d) Algorithmic bias: A major issue with AI technology is algorithmic bias, which is the result of social environments and instruction. Gender bias is widely prevalent in AI translation; Google

uses both genders when appropriate, although this adds complexity to the process. Additional types of biases include bias in human translators and algorithmic bias towards length, which might result in shorter translations.

e) Lack of accuracy: Data science has assisted greatly from AI technology largely as a result of swifter computers. Increased word accuracy in AI language translation has resulted from this, and it is expected that this will be sufficiently reliable for professional use. However, people communicate with context suggest meaning, use tone and articulation, draw comparisons, use metaphors, and add linguistic elements like humor and irony, which present challenges for AI translation technology. Since AI is unable to identify such features, if algorithms are able to effectively translate spoken words into written language, then the greater barriers facing AI translation technology will be addressed. (Pisarvo, 2020).

2.3. The role of AI in EFL learning

Although languages are linked together, being multilingual is not only beneficial but frequently required, since technology is now an essential component of all learning processes rather than just a tool, language learning techniques are changing, giving rise to revolutionary strategies that leverage AI.

It's impossible to ignore technology, despite the inflexible persistence of traditional language learning techniques, obviously, this is not meant that AI will replace every role or position held by humans since it has the ability to automate and improve many tasks . More emphasis is being placed on utilizing it to enhance conventional procedures.

Traditional learning methods such as textbooks, which can be perceived as bring and generic, may not cater to individual learning paces, leading to slower progress and lower

retention rates, either technological advancement such as interactive apps, online lessons, and automated translators have improved accessibility, making language learning more engaging.

Language acquisition has changed as result of the personalized and efficient AI- tools. (Zucchet, 2023). There are such technologies relevant to language learning and acquisition including:

a) Natural language processing: The goal of the AI discipline known as NLP is to enable computers to comprehend, interpret, and produce human language. It entails the developing of models and algorithms which help computers to decode and comprehend natural language data, including speech and text. NLP approaches help computers do tasks like sentiment analysis, text summarization, chat bots, language production and interpretation by enabling them to extract meaning, sentiment, context, and relationships from textual input. NLP is essential to many applications, driving improvements in language – related technology and facilitating more efficient human-machine communication.

b) Machine learning algorithms: Without explicit programming, computers can recognize patterns, rules and relationships in data thanks to ML algorithms. Based on input data, these algorithms use statistical strategies to find patterns and provide predictions or recommendations.As they are exposed to new data, they continue to improve their performance by learning from their experiences. Among the different kinds of algorithms are:

c) Supervised learning: Using input-output pairs as basis for categorization and prediction, algorithms learn from label data.

d) Unsupervised learning: Unlabeled algorithms find structures or patterns.

e) Reinforcement learning: Algorithms pick up new skills through interaction with their surroundings and feedback in the form of incentives or rewards for certain behaviors.

Personalized and adaptive learning strategies are becoming more and more necessary as the demand of language proficiency rises, and with providing customized experiences, AI and MLA are revolutionizing learner's unique learning style, adapt the way content is delivered, and tailor activities to their strengths and limitations.

The combination of technology and language acquisition appears to be not only natural but also necessary in this changing environment.

To conclude, AI has potential role in learning languages especially learning English as foreign language, fostering higher order thinking skills and educational challenges, but educators must show learners that AI is a tool and not a replacement for their own critical thinking and creativity. (Zucchet, 2023).

2.3.1. Benefits of using AI in EFL learning

The concept behind AI technology is the development of computers with human-like intelligence that are able to process, evaluate, and apply data to enhance their performance over time. **(Stewart et al., 2020).**

AI has the potential to enhance several aspects of modern life, where AI -powered platforms and apps are typically utilized in education to give learners personalized learning experiences and immediate feedback. (Lukin et al., 2016).

Due to the major benefits of AI, they are learning efficiently and independently. (Rukiati et al., n.d). AI -assisted language learning has grown in popularity as a result of its various benefits mentioning:

a) Personalization and flexible education: Everybody learns individually, AI makes it possible to create individualized learning programs for each learner.

For example, a language learning platform driven by AI may change the level of complexity of an activity according to the learner's strengths and areas of proficiency to maximize every user's learning experience; it customizes activities, makes material recommendations, and modifies instructional approaches.

b) Real -time evaluation and remarks: Learners get immediate feedback on their vocabulary, grammar, and pronunciation through the use of AI. For Instance, speech recognition AI is used by language learning apps to evaluate language learning apps to evaluate spoken language and offer real -time corrections or recommendations, promoting continuous growth.

c) Engagement and gasification: AI makes language learning more immersive, entertaining, and engaging through incorporating gasification components. In this regard, applications include elements of games, such challenges, prizes, and quizzes, maintain interest of users in language practice.

d) Overcoming typical obstacles in language learning: It solves issues like speech phobia. Chat bots provide an impartial setting where learners can confidently enhance their conversational abilities. Furthermore, linguistic barriers are broken by AI -powered translation technologies that improve comprehension.

e) AI powered platforms services: AI platforms serve different types of learning with an extensive variety of resources, such as interactive exercises and articles. To fit learners' preferences, these materials offer a range of difficulty and cover a wide range of topics.

- AI Makes it possible to establish learning communities where students can interact, exchange experiences, and works collectively to create a social encouraging atmosphere for language learning. (Zucchet, 2023).

AI – driven language learning has the potential to benefit EFL learning by creating personalized experiences, guiding learners, and providing data -driven insights.

As AI evolves, its impact on language instruction will grow, revolutionizing EFL learning. (Misha, 2023).

2.3.2. The future of AI in EFL learning

The way we educate and learn has been reshaped throughout AI. AI continues to bring an exciting future for EFL learning with its potential to personalize it, automate administrative charges provide advanced educational content and many other features.

To make sure that education keeps going to be an agent of opportunity and progress in an era of changes and innovations, it is important that ethical issues be addressed, for this reason innovation in AI is paving the way for the future of education, since it remains a source of opportunity and developments in a world that is always changing, society as whole must accept this evolution and cooperate. It is clear that AI has benefits, and this additionally holds evident in the field of education. Nonetheless, governments, particularly those in USA, have made

comments regarding the requirements that educational institutions have to meet in order to deploy AI.

The mentioned policies prioritize privacy and flexibility to safeguard student's rights and ensure them to access to these technologies, including:

a) Data privacy: It is very important; recommendations guarantee that students' private data is handled securely and hidden from unintentional access.

b) Fairness and bias: Rules are designed to reduce bias in educational AI algorithms. It's critical to guarantee that AI treats all learners equally and does not discriminate against any of them.

c) Transparency: It's important to be honest when using AI in the learning environment. Learners and educators need to be aware of the applications of AI and how they enhance the learning process.

d) Legitimate and training: The laws also emphasize the necessity of providing educators and learners with AI ethical training. This entails being aware of its constraints and appropriate uses.

e) Constant examination: In order to ensure the efficacy and morality of AI tools utilized in earning, the regulations need constant evaluation of these technologies. The purpose of all these future rules from government agencies is to protect the right of learners and give them a higher level of education. ("Future of Education: How AI is transforming learning", 2023).

2.3.3. Future perspectives and advancements in AI for EFL learning

It's amazing to see where AI is headed in language learning, because the world is expecting exciting travel as technologies advance faster than ever including:

a) Expectations of the development of AI in language instruction: According to predictions, AI powered platforms will get even more customized, updating data during seconds in order to reflect users' unique preferences and learning methods.

Additionally, the fashion of AI and NLP will improve language translation, allowing for more precise and nuanced interpretations across a range of language, thus reducing or avoiding cases like these.

b) Incorporating new technology: language learning will go through anevolutionary change caused by the application of modern technology including AR and VR. Integrated language environments will be created through AR and VR, providing language learners with realistic real – world experiences, through stimulated situations that mimic real-world interactions, travel, and cultural experiences. Linguistic and cultural awareness can be expanded in ways that have never been achieved before.

c) Possible effects on international language instruction standards: global language learning norms and practices are projected to be significantly impacted by the development of AI in language acquisition.

- The developments could result in more widely available and standardized examinations of language competency, utilizing AI -powered instruments to examine language abilities thoroughly, as well, an increasingly inclusive and broadened global

language learning environment may result from involvements of AI in lowering access to language learning materials. (Zucchet, 2023).

d) NLP advances: It's expected that advances in natural language processing will continue to improve AI systems' ability to comprehend, interpret, and produce human language. Aiding in comprehending the nuances of human feelings.

More sophisticated language learning programs with contextual awareness and detailed feedback will arise. ("Impact of AI on language learning ", 2023).

2.3.4. Challenges and risks of using AI in EFL learning

There are certain challenges and risks that face using AI in learning in general, and EFL learning in special which includes:

a) Absence of interpersonal communication: since the ability of AI to simulate real -world human contact, it might not be able to fully understand the many communication cues and cultural distinctions that are involved in the difficult language acquisition process,

The immersive experience might therefore be restricted.

AI can now only help in limited language conditions since there is no advanced to an extent where it can conduct natural spoken conversations.

It's not evolved enough now, but it will undoubtedly emerge over time.

AI -powered conversation simulators are shown by the coming experimental tools.

b) Over- reliance and plagiarism: Over dependence on AI -based tools can hinder learners from developing their critical thinking and self -reliance abilities.

A purely technological approach might hinder creativity and the capacity to respond to real – world linguistics.

c) Ethics and privacy: platforms for language learning driven by AI acquire a lot of user data.

But a lot of users are concerned about errors in security, data privacy, and illegal utilization of their personal data.

AI requires more data to work efficiently as it is included into platforms over time.

Thus, in order to assure that user data is securely insulated from any data breaches, sophisticated privacy systems must be set down and updated.

As AI becomes increasingly integrated into daily life, nations are enacting laws to insure ethical and safe use, while regulations must adapt to keep up with advancements. ("The impact of AI on language learning", 2023).

2.4. Theoretical framework for understanding the relationship between translation technologies and EFL learning

An effective theoretical framework, which includes principles across various fields of translation research and language acquisition, is needed to comprehend the association between translation technology and EFL instruction.

It makes it easier to examine in detail the manner in which technology affects language learning achievements, results, and practices. This theoretical framework principally looks at the dynamic interactions that occur between learning settings, characteristics of learners, learners, instructional strategies, and translation.

Educators as well as researchers can learn more about the complex dynamics affecting the employment of translation technologies in EFL learning contexts by utilizing a variety of theoretical points.

2.4.1. The TPACK framework

The technological pedagogical content framework describes how teachers understand and deal with educational technologies and PCK interact with one another to produce effective learning using technology, it builds on Schulman's (1987,1986) description of PCK , since there are similar concepts have been covered by other writers even if with different labeling schemes.

The idea behind TPACK as it is presented , it has changed over time and through numbers of publications ; Koehler ,(2006) and Mishra,(2008) provide the most thorough explanation of the framework , The three primary domains of educators' knowledge in these approach are technology , pedagogy , and content , the relationships between and among these bodies of knowledge, those are expressed by PCK (pedagogical content knowledge) , TCK (technological content knowledge) , TPK (technological pedagogical knowledge), and TPACK are equally significant to the model .

TPACK combines technology, content, pedagogy, and learning contexts all with dynamic interact and interplay role while use it, and one factor has to change in order to offset another factor's change. As a result, a dynamic equilibrium must be constantly established, maintained, and restored among all components influenced by a variety of events for education to be successful.

The goal of the TPACK framework is to comprehend how educators' knowledge, mental processes, acquisition, and practices relate to one another in dynamic learning settings, thus, it

focuses on how to integrate contexts, technology, pedagogy, materials, and methods in the learning environment.

This strategy supports investigation in professional development, training, and interplay between pedagogy, content, and technology. (J. Koehler & Mishra, n.d).

2.4.2. Informal digital learning of English framework

English language educators are encouraging learners from a verity of cultures to have a second language and to be willing to communicate in it, computer assisted language learning can improve intercultural competency, in both academic and non-academic settings, the change from traditional learning settings to online versions has affected the way EFL learners approach their learning, and the educators interest in informal digital learning of English is growing.

Research on language learning instruction outside of learning environment, including extramural English, IDLE, autonomous language learning with technology, has increased rapidly as a result of recent developments in mass media and technology.

Four characteristics of learning outside of the learning environment have been identified by these studies: formality, locus of control, pedagogy, and location, within the EFL com self - directed English learning activities (also known as IDLEs) are becoming more and more common, within the EFL community. Nonetheless, it is imperative that instructors of EFL researchers give learners activities in digital contexts direction or structure.

A brand and inclusive notion, intercultural competence refers to the ability to connect effectively with people from different linguistic and cultural backgrounds, diverse fields and research paradigms have given it various meanings.

In recent years , researchers have determined what constitutes IC , concentrating on a development of continuum that goes from ethnocentrism to ethno relativity , In addition to intercultural competence , motivation , and understanding are essential The most important IC framework is a multi- dimensional on that incorporates critical cultures awareness , openness and curiosity , attitudes , interpretation and interpersonal abilities , knowledge of oneself and others , as well as discovery and interaction skills . Scholars have determined that understanding IC and individuals' capacity to navigate, learn, and acquire. (Rezai ,2023).

IDLE has been studied in great detail, producing a wealth of information, a great deal of data, and important findings. Even though a lot of research has concentrated on individual traits, it has ignored the larger surrounding elements that affect IDLE actions; these elements include the Meso-system such as family, friends, teachers, learners, and others. (Goo & lee , 2023).

2.4.3. Computer – assisted language learning system framework

The study of computer applications in language instructions and learning is known as computer -assisted language learning, or CALL, it includes a range of technological applications, such as online distance learning, virtual learning environments, and drill as well as practice programs.

With the evolution of classical CAI, CALL now offers mobile – assisted language learning, interactive white boards, corpora, and computer – mediated conversation, it was once a subset of CAI, but because it’s emphasis on the needs of the learner, it gained popularity.

CALL prioritizes interactive and personalized learning with materials those are oriented around learn , also its design take into account the concepts of language methodology and language pedagogy , which are drawn from theories of learning and second language acquisition ,

increasingly , blended learning – a mix of learning contexts and CALL is being utilized. ("Computer-assisted language learning," n.d).

2.5. The relationship between translation technologies and EFL learning

Translation technologies are popular among EFL learners as well as translators in the digital age, start using portable dictionaries and more sophisticated translation tools, like Google Translate, some inexperienced learners typically use those translation tools to complete their tasks without checking translations. This may occur as a result of their lack of background knowledge, which makes it difficult to assess the outcome of the translation.

Thus, it will be preferable if the student has a solid understanding of the fundamentals of English and has thought about how to assess the accuracy of translation technologies. In contrast, human-added MT could be the best option for carrying out translation tasks successfully and efficiently. Particularly with regard to time management.

The use of translation technologies has a big influence on EFL instruction. It has been demonstrated that incorporating computer-aided translation (CAT) tools into translation classrooms enhances learners' performance and translation quality. In addition, learners can again gain expertise in relevant fields like text analysis, machine interaction, and translation methodologies, in addition to improving their professional and practical abilities in the translation sector.

Furthermore, it has been discovered that using translation tool programs can help EFL learners with their writing skills and cut down on time-consuming chores. However, when incorporating technology into language learning, it's critical to take these effects into account. The use of translation technologies can affect EFL learners in both positive and negative ways.

In general, there is an integration and enhancement link, or relationship, between translation technologies and EFL learning, offering learners useful tools and resources to advance their language proficiency.

2.6. Practices of using translation technologies in EFL learning

AI reshapes the learning contexts, and learning English as foreign language is one of them, it technological tools can be applied in several ways including:

a) AI -powered personalized learning: personalization is one the most important contributions in AI for EFL learning.

AI can modify content to each learner's unique style and speed, using adaptive learning algorithms.

English language learning is more efficient, effective, and enjoyable with this personalized approach.

b) Apps for learning language and chat bots: Chat bots and apps for language learning driven by AI are growing in popularity. With their continuously language assistance, learners can practice their English whenever they want. This apps offer immediate feedback and direction in the same ways as virtual language tutor.

c) Evaluation and recommendations for language: AI has the power to access learners' grammar, pronunciation, and language skills in addition to saving time, this automated evaluation maintains consistency also objectivity in evaluation.

d) Formation and translation of languages: AI is exceptionally precise at translating languages and creating texts. It's a useful tool for language learners and educators, assisting in the improvement of removing barriers related to language. (AI practical uses in EFL learning: A Game- Changer in language Education, 2023).

2.7. Benefits of using translation technologies in EFL learning

The use of digital technologies has an essential impact, and play significant role in enhancing learning English as foreign language. To begin with, the utilization of translation technologies develops linguistic knowledge, learners have to acquire data related based to language facilitated by using digital tools in order to enhance foreign language skills. Applications and platforms that use games can assist both educators and learners in putting best practices like interleaving in addition to a feedback into practice , these platforms have the potential of adapting to the various skill levels of learners while providing individualized practice , reinforcement , and evaluation according to each person's requirements , also game – based learning has been shown to rise comprehension , reduce anxiety , increase motivation , and encourage interaction among learners , regardless to age or native language.

Resource technology including grammar checks , translators , online dictionaries , and contextual information are mostly applied in EFL settings , besides , digital technologies increases the range of available reading texts and facilitates comprehension.

For independent language acquisition to continue throughout life, reading in a foreign language is essential, learners can advance from close reading or attentive reading to creating meaning for the entire text for a longer variety of texts as they advance.

Digital technologies can help people become more proficient readers of foreign languages , easy access to an extensive selection of reading material using the internet allows learners to read more deeply also engaging tools those are at higher levels , they could expedite collaboration , as social platforms , can also have a favorable effect on reading comprehension.

Furthermore, AI -powered Technologies are opening up new possibilities for the improvement communication abilities in language learning, and with the use of text – based generative AI, educators can create a variety of text formats for their learners, exposing them to a greater selection of appropriate extension exercises.

In communication language instruction, learners receive support in becoming proficient in spoken language in addition to speaking chances in foreign language. Fluency, intelligibility, self correction, and spoken creation and interaction are all included in speaking competency; learners improve their spoken language skills can be promoted by video conferencing, including encouraging learners to communicate with one another.

Through the utilization of video conferencing, educators can encourage learners to communicate with one another give them more opportunity to practice speaking and create a sense of community among their peers, enhancing functional, sociolinguistics, grammatical, and strategic communication competences, utilizing virtual language exchanges can offer actual and international interactions in the target language. AI applications can offer low – stakes debate partners, motivating learners to gain practical negotiation skills. (“The use of digital technologies to enhance foreign language learning”, OCED ,2024).

2.8. Drawbacks of using translation technologies in EFL learning

Utilizing translation technologies in EFL contexts has several drawbacks, automated machine translation is getting better, although it still cannot translate text perfectly, and it's accuracy is primarily dependent on the required language pair .For instance, because there is an enormous amount of data available to train machine learning models, translation success rates for the most widely applied languages – English relatively high.

However, because there is an absence of training data, fewer commonly used, also Languages and language combinations might have lower success rates. Additionally, the inability of automated machine translations to accurately capture idiomatic expressions and sophisticated language usage – as used by humans in their writings along with speech – is another drawback; these problems might therefore give the translation an artificial and awkward sound.

AI is promising topic were algorithms use neural networks to understand how humans behave and use language, it might translate texts more accurately, but complete automation is still ways off as it gains experience.

While costly and time – consuming, computer -aided technology has the potential to improve and become less expensive with increased adoption. ("Introduction to translation technology, Digital – gov, n.d).

2.9. Educators attitudes toward translation technologies

The appearance of Internet and computer technology has led to considerable evolution in the use of computers in EFL contexts. The way in which educators view the extent to which technology is integrated into curricula. Teachers may be resistant to introducing technology if

they believe that computers do not meet their demands, especially when we talk about language acquisition process.

As computers become more commonplace, it is crucial to make certain that every student has an impartial and equal education. Learners' opinions of the utility of computers in EFL learning settings and their future use of computers are influenced by teachers' attitudes toward computers and how they adapt to new technology. Gaining insight into the attitudes of educators on computer use can be very helpful in integrating and accepting technology into the settings.

Attitudes, which are impacted by a number of variables including experience, training, computer anxiety, and knowledge, are an essential component of educational interactions and instructional decisions. The taut of attitudes and their motivational components are two aspects that can impact them. Attitudes are learned tendency to regularly respond either positively or negatively to a particular them item, response preparedness and the attitudes' primary motivator are their two essential elements. Dynamic as well as directive acts are the two active behaviors that make up attitudes; they are not the passive outcomes of past experiences.

Teacher's attitudes are positively impacted by computer technology training since it has a big influence on how they accept using technology in the EFL settings. Educators' use of technology and their opinion about both their own and their learners' motivation are greatly influenced by their individual theories of teaching as well as the technological proficiency. Nonetheless, a study discovered that the most significant factor influencing teachers' usage of ICT was their opinions about what and how they should teach it. Even with computer knowledge, teachers should be given the chance to learn about recently emerging technology, because overall perceptions regarding computer use are very positive. In general, the way educators interact with learners and make instructional decisions is greatly influenced by

their attitudes those are also crucial when analyzing the results of integrating technology into EFL learning contexts.

Additionally, studies have indicated that the success of professional development programs often depends on the attitudes that educators have toward integrating technology. Teachers who appreciate technology integration adapt their pedagogy to more effectively use technological methods. Teachers' views toward using technology have been found to be positively impacted by elements like software accessibility, instructor desire to use software , interactive learning environments , and a strong dedication to teaching , but negative attitudes limit it's usage in learning and acquiring. And in order to help enhancement of the language skills, teachers frequently have to be aware that their students require more input and output exercises, also their perceptions about the related educational challenges must be favorable in order to successfully shift traditional instructional approaches. Technology is more comfortable for and often used in the learning environments by educators who have a positive mindset about it.

Enhancing computer integration and preventing teachers' opposition to computer use require the development of good perceptions about ICT among teachers. Finally, attitudes of educators toward the use of technology are crucial. For the successful integration of computers in EFL learning contexts. Approximately 20% of educators believe they are adequately equipped to incorporate technology into their lessons, according to research published in 2001 by international society for technology and education. Many educators are uncertain about the benefits that computers have brought to the learning process, expressing anything from exhilaration to destruct, antagonism, and terror. While some educators clearly oppose the use of instructional technology, others demonstrate little interest on it.

Teachers can facilitate and modify their educational practices to maximize learning through the effective use of technology. The interpretations that educators give to developments like technology integration are also shaped by their attitudes and feelings. The perspectives of educators about computer technology are correlated with their skill and attitudes. Many of them lack the expertise and experience necessary to integrate computers into their lessons, which makes them unconfined.

The lack of confidence and expertise among teachers in using technology is a significant barrier to successful technology adoption. Research indicates that nearly half of teachers never utilize computer software in instructional activities, and that help teachers not use computers for learning reasons outside of the classroom. Pre- service teachers frequently feel unqualified to use computers and the internet for educational purposes. (Gilakjani & Leong ,2012).

To conclude, teachers are aware of how incorporating technology into English language learning can improve learner's acquisition of the language, break down financial and geographic obstacles, and advance education. On the other hand, issues include poor technical assistance and training. Age, gender, education level, prior ICT training, and teaching experience have no noticeable effects on views.

2.10. Learners attitudes toward translation technologies

Different learners interact with translation systems in different ways, depending on their background and experience, research highlights the significance of technology in translation education, with an impact on translation quality determined by learners' perceptions of technology. The use of CAT tools and MT systems in learning settings improves learners' performance and translation abilities while preparing them for the demands of the employees, the

goal of translation technology modules is to give students a broad range of skills by stressing problem solving, collaboration and real – world applications over reliance on particular tools. In order to create a learning environment that connects human knowledge with technical breakthroughs educators must integrate technology tools into how they instruct as it continues to transform the translation landscape.

Additionally, when we talk about the ways in which learners feel about translation technologies differ according to their experiences, training, and perspectives. Research indicates that students' opinions and attitudes toward translation technology are usually favorable. Yet there are reservations regarding the appropriate applications of MT.

Furthermore, even if learners use MT to learn languages, they encounter difficulties since teachers don't provide them with consistent directions and assistance. It has been observed that students' perceptions influence their choice of translation technology, and, in turn, the quality of translations. Students' attitudes toward translation technologies have been demonstrated to be positively impacted by training programs that highlight advantages of using computer aided

2.11.The importance of culture in translation

Because culture affects how words and phrases are understood and translated, it is important to consider culture when translating. The target viewers' perception of the interpretation is influenced by the culture of origin in addition to western cultures. It is essential to comprehend the values, customs, and expectations of a particular culture in order to interpret content from that culture accurately.

When working on international projects or projects involving distinct cultures, it is very beneficial to have a cultural specialist on staff as they may assist in understanding various

cultural differences of certain place. Finding the appropriate translation that takes the cultural contexts in consideration is the difficult part.

Moreover, comprehending the original culture is crucial for precise translations, as it prevents misunderstanding or incorrect applications of words, phrases, and sentences. Peer-reviewed works in cultural anthropology can be used to research the source culture. Business relationships across cultural boundaries are crucial in today's digitally connected and worldwide society, and a translation agency that is dedicated in accuracy in crucial to getting the world across. (Pacheco, 2022).

2.11.1. The use of translation technologies in cross-cultural consideration

As noted by Nizhneva Ksenkfonotova (2021), the adaptable qualities of AI have led several academics globally to acknowledge that it is an essential digital instrument. Particularly, ML techniques are being used successfully in a number of fields, including transportation, science, education, and language translation. It has been shown that certain sectors are advantageous for using AI technologies. In the field of cross-cultural communication, the application of AI technology has created new opportunities for communication between people with different cultural backgrounds.

There is research by Losbichler and Lehner (2021) that is similar to this one. After conducting through analysis of forty – two academic articles, the researchers came to the conclusion that AI has the potential to improve cross-cultural Communication through enhancing translation accuracy, removing linguistic barriers and encouraging a deeper understanding of cultural differences. However, the previously cited study has highlighted the need for more research initiatives targeted; it is addressing the issue of cultural biases in AI systems. Besides, it

emphasized how important it is to maintain interpersonal interaction to promote improved understanding of cultural disparities and strengthen intercultural collaboration. Still, the authors made clear how important it is to address cultural biases in AI algorithms also develop AI technologies that are more sensitive to cultural idiosyncrasies.

While there are several advantages to using AI technology in cross -cultural communication, researchers like Wang (2022), Xiao et al. (2022), and Song et al. (2022), have found some limitations that prevent AI from becoming a useful tool for translating between cultures. The authors also point out that throughout the translation process; machines are unable to take into account elements like cultural peculiarities and vernacular idioms. But MT can lead to misunderstandings or breakdowns in communication, because it lacks cultural sensitivity and conventional idioms. The study carried out by Alejandro and Ouriachi (2022), supports this claim.

The study proposed that while AI can increase the precision and rapidity of translation, human agents' involvement in the process is still necessary. To be more specific, utilization of human translators is essential to interpret and convey cultural subtitles and provide precise communication. (Khasawneh ,2023).

Consequently, it is clear that new technologies, namely Artificial intelligence hve totally changed how humans communicate and use languages, revolutionizing various fields of translation and English as a foreign language. AI has transformed language conversion, making it faster and easier, more accurate, and more accessible than before. AI-driven programs, such as NMT, have completely transformed the speed and precision of language interactions, offering unprecedented accuracy and scalability. In addition to removing language barriers, these technologies promote international communication and cooperation among many communities as well as cultures.

Besides, AI is essential to EFL interaction since it provides and offers individualized learning experiences based on students' needs and skill levels in the learning process. With immediate feedback, interactive exercises, and access to a multitude of language materials and approaches, AI enables learners to improve their language proficiency and their own speed through clear and automated tutoring systems in addition to language learning apps.

Chapter Three :

Methodology and Questionnaires' Analysis

Introduction

The third chapter is devoted to an explanation of the research methodology and design, focusing on data collection and analysis of students" questionnaire. It also descriptions of the case study selected for the investigation concerning the impact of the latest translation technologies on EFL learning , This chapter is designed to collect data about students' use of translation technologies as material and resource tool for their English language learning, This chapter aims at providing an answer to the previous research questions and hypotheses .

3.3. Methodology

Research is a methodological approach to collect and analyse data; and any research design is a step to move on to the practical work of a given investigation, The present

research is based on a quantitative method approach ,questionnaire for students in order to gather reliable data to process sufficient knowledge and understanding on this topic ,as well as to gain a lot of valuable information and figure out the true picture of investigating the latest technologies in the translation industry and their impact on EFL learning .

3.4. Student's questionnaire

The questionnaire is the most common tool used for collecting data ,our questionnaire contains (18) questions about students' perception of translation technologies and how it influences the enhancement of English learning .Moreover, data collection for this questionnaire type comprises close –ended answers with Yes and No to some questions require justification and open –ended questions that give the respondents the opportunity to answer freely .

3.5. Sampling

The questionnaire is chosen for investigating the opinions of third year students of English department at the university Ibn Khaldoun Tiaret ,with regard to their background on translation technologies and their Impact for that ,for that (50) participants are selected for the various third year to answer questions about the same topic of this research .

3.6. Data Analysis and Interpretation

This section is for analyzing the data yielded from questionnaire, the data gathered were carefully analyzed and interpreted, and the purpose of this section was to answer the question and to verify the hypotheses.

3.7. Learners survey analysis

Table 01: learner's age.

Option	Number	Percentage
From 18 to 20	16	32.00%
From 21 to 25	28	56.00%
Over 26	6	12.00%

Based on the table below ,it can be found that (32%) of the learners age goes between (18-20) years old in the number of (16) learners .Moreover (56%)of the learners age goes between (21-25) years old in the number of (28) learners ,and (6) of them in the age (over 26) indicates (12%)

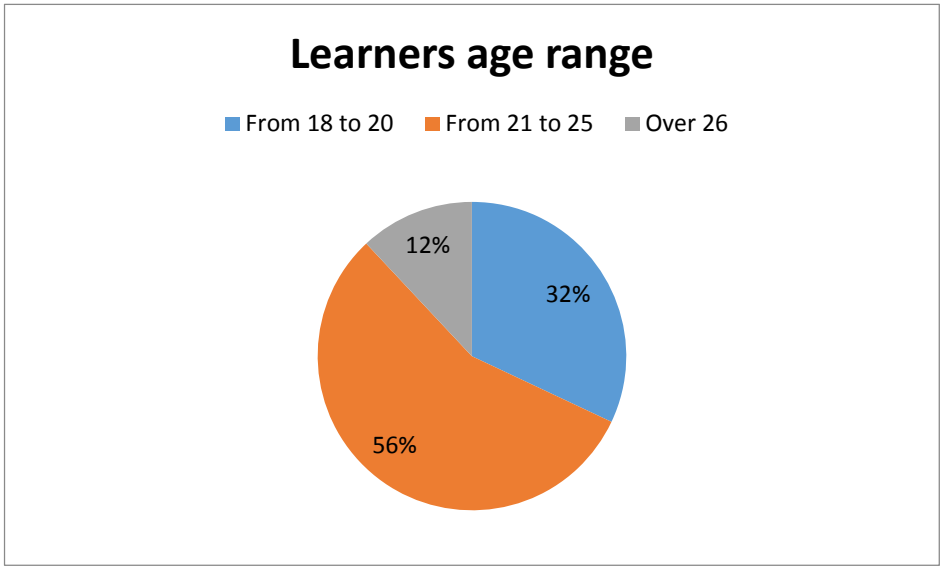

Figure 01: pie chart of learner's age

Table 02: Learners Gender

Option	Number	Percentage
Male	16	32.00%
Female	34	68.00%

The table and the pie chart above are about learners gender ,the results are noticeable that (16) learners Male in the average of (32%) and (34) Female in the average of (68%) are in responded to our survey.

the following pie chart expresses the percentage of male and female (learners gender).

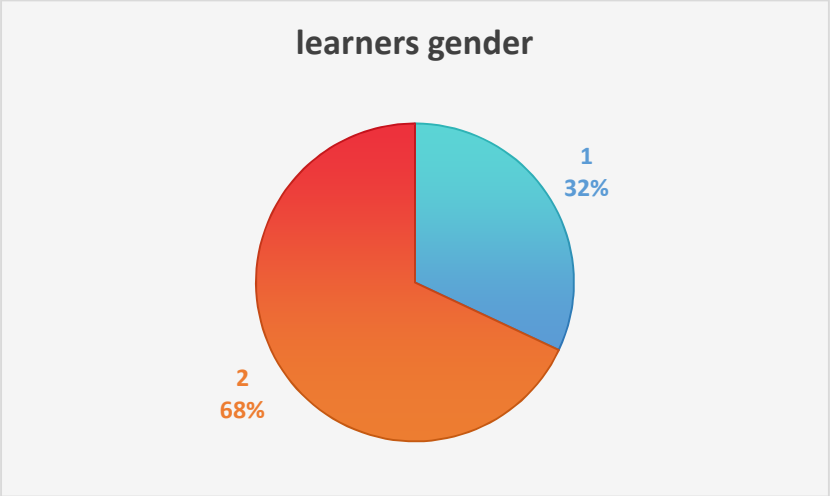

Figure 02: pie chart represents the percentage of learner's gender

Question 03: Do you use translation programs when learning the English language ?

The question was designed to quantify the number of learners who use translation programs.

Choice	Number	percentage
Yes	47	94%
No	3	6%

Table 03: The use of translation a during learning the English language .

This table is shown that the majority of participants (94%) in a number of (47) use translation programs ,while (6%) of them do not have use of it in a number of (3) learners .

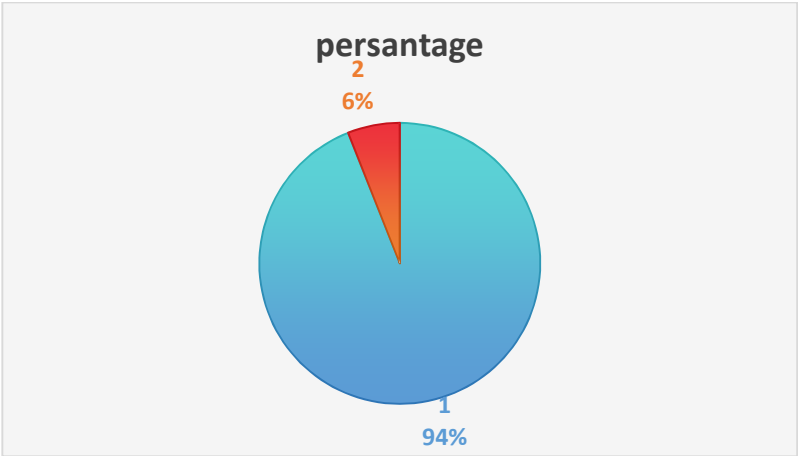

Figure 03: Pie chart represents the percentage of using translation programs by learners

Question 04: What are the translation programs or apps do you use mostly ?

The question requires learners to state what programs they use in translation as an EFL learners.

CHOICE	NUMBER	PERCENTAGE
Google translate	37.00	74.00%
Chat GPT	5.00	10.00%
Copy.ai	0.00	0.00%
Microsoft bing translator	6	12.00%
Deepl	2.00	4.00%

Table 04: The most spread translation programs

The table above is about what learners use mostly when translate language as it is mentioned the programs are (Google translate, Chat GPT, Microsoft Bing translator, Deepl).

In the number of (37) learners use Google translate on average of (74%) which is the most usable program by learners, in the number of (5) learners use the artificial intelligence (Chat GPT) with a percentage of (10%).However, no one uses the program copy .AI, also (12%) are using Microsoft bing translator in a number of (6), finally (2) participant uses Deepl on average of (4%).

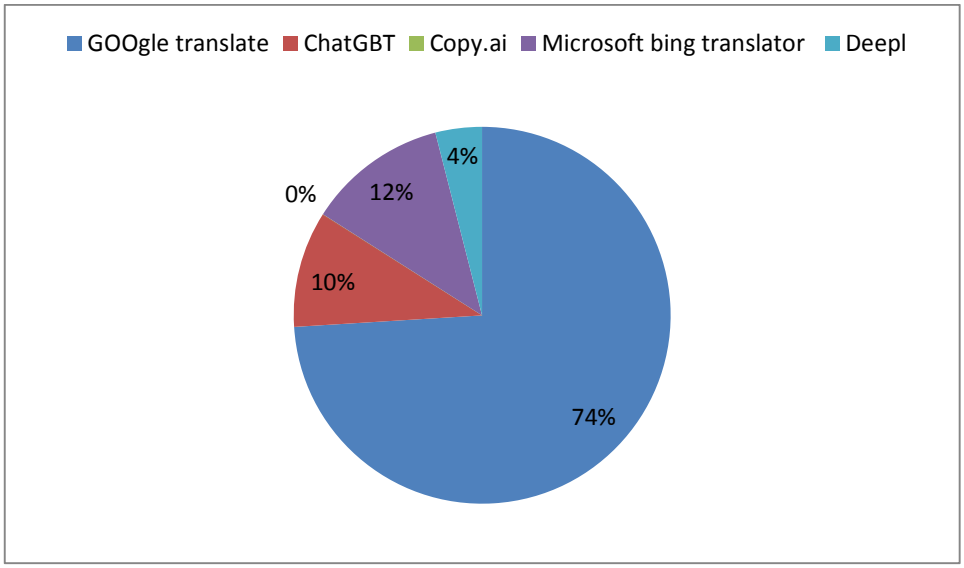

Figure 04: Pie chart on the most common programs used by learners.

Question 05: In what situations do you rely on translation technologies for EFL learning ?

The purpose of asking this question is solely to know why learners use translation technologies.

choice	number	percentage
understanding written text	24	48.00%
writing paragraphs	13.00	26.00%
improving your oral skills	11	22.00%
others	2	4.00%

Table 05:the reason of using translation technologies .

According to the result in this table and as what has been mentioned before (48%) rely on understanding written text, (20%) in a number of (13) use it for writing paragraphs, moreover (22%) of participant use it for improving their oral skills, (2) other learners have different opinion they use it to collect new vocabulary.

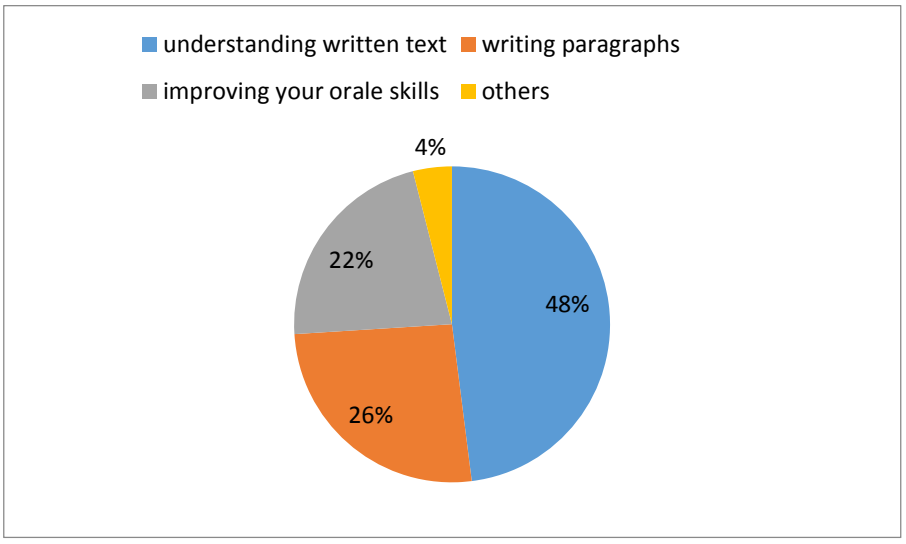

Figure 05: pie chart represents the percentage of reason of the use .

Question 06: What do you think about translation in terms of learning English as a foreign language .

This question aims to explore what learners think about translation.

Choice	number	percentage
Helps	47	94.00%
Hinders	3	6.00%
No impact	0	0.00%

Table 06: translation in the context of learning English as a foreign language

The table below shown that ,(94%) of the participant responded that translation technology, helps .However, (3) learners answered that it hinders with an average of

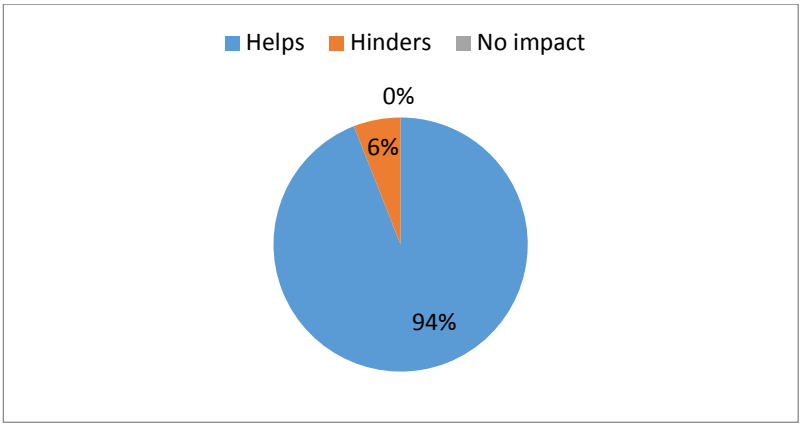

Figure 06: pie chart represent the percentage of learners opinion .

Question 07:How has the use of translation technologies influence your language learning process ?

This question aims to show the degree of translation technology influence in language learning process

CHOICE	NUMBER	PERSENTAGE
From beginner to intermediate	15	30.00%
In average to good	25	50.00%
From good to excellent	10	20.00%

Table 07: the degree of the effects of translation technology in language process.

As displayed above ,we find the percentage of (30%) in a number of (15) of those participant answered by (from beginner to intermediate), (50%) of respondents answered by (in

average to good) ,(20%) of them find that translation technology is in the degree(from good to excellent).

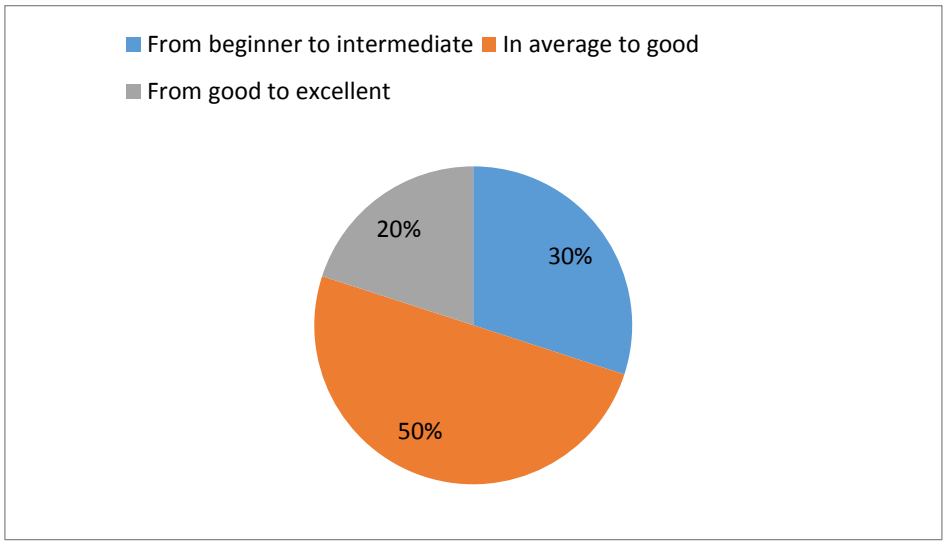

Figure o7: Pie chart represent the degree of translation technology influence.

Question 08: Dthat technologies influence your communication skills?

The purpose of this question has emphasized the impact of translation technology on communication skills .

choice	Number	percentage
Yes	37	74.00%
NO	13	26.00%

Table 08: The influence of translation technologies on communication skill.

The table above representing learners responses about if the translation technology influence their communication .(74%) representing (37) learners claimed (yes) ,and (26%) representing (13)learners answered by (No), the learners who responded by (yes)find that when they learn new vocabulary through translation they may use it in their communication with others when they find in a need for it ,some of them find that translation technologies enable them to translate quickly so they can communicate faster .

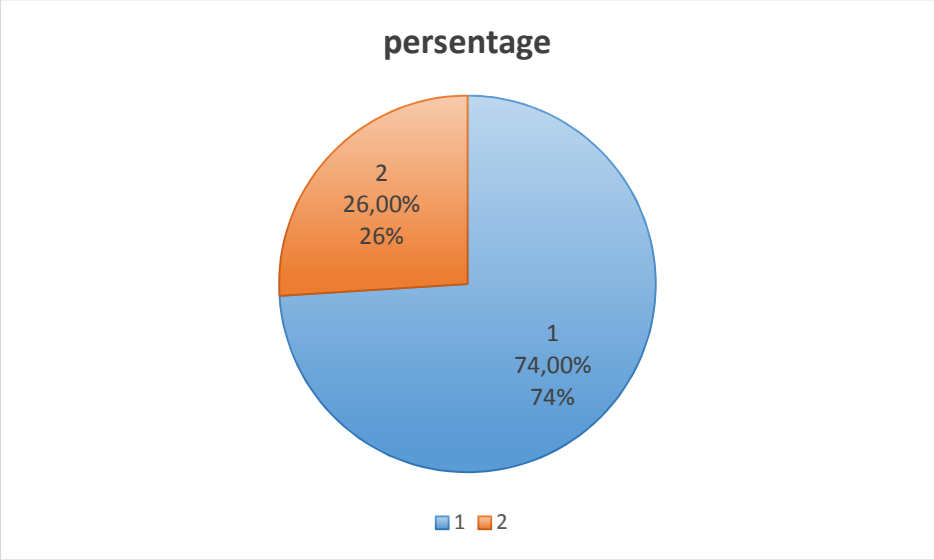

Figure 08: Pie chart shows the percentage of influence .

Question 09: According to you ,what language skills can be improved the most by using translation technologies ?

Concerning this question, learners tend to pick one skill that used to improve the most by translation technology

choice	number	percentage
Reading and vocabulary	29	58.00%
Grammar	3	6.00%
Speaking	4	8.00%
writing	14	28.00%
listening	0	0.00%

Table 09: The most improved skills by translation technology

The table above represents the result ,(58%) of respondent choice reading and vocabulary ,(28%) of learners state that translation technology helps them in writing ,also (6%) answered by grammar and (8%) by speaking .Although ,no one pick the listening skill .

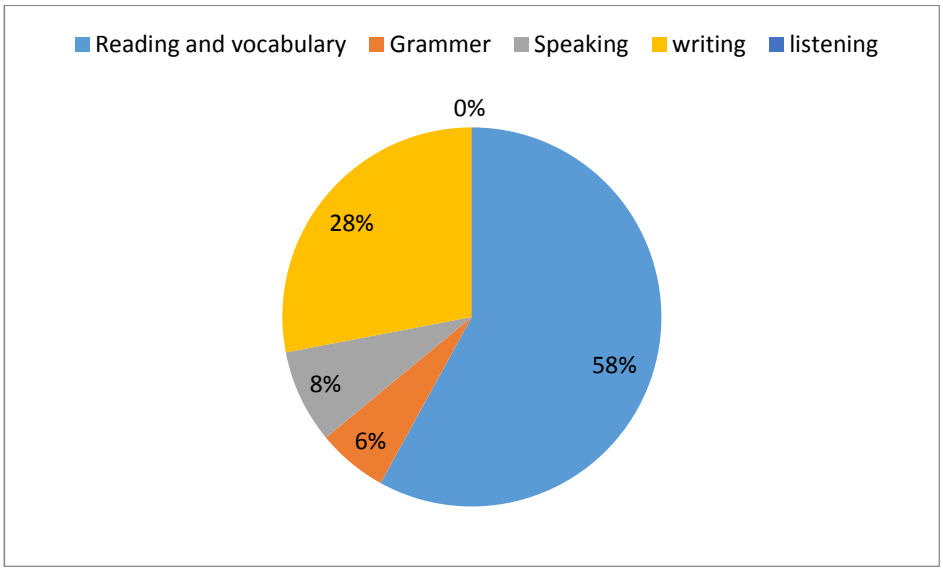

Figure 09: Pie chart represent the percentage of improvement for each skill.

Question 10: Do you encourage the use of translation technologies in learning English ?

The aims of this question is to discover if learners encourage the used translation technologies as an EFL learners .

Choice	Number	Percentage
Yes	40	80.00%
No	10	20.00%

Table 10: translation technologies in English language.

In this table , the majority of learners (80%) expressed support for encouraging the use of translation technologies in learning English , and they provided explanation for their support ,some of them see that the use of translation technologies helps the learners to decode any information for any word ,phrase ,text….ect., others encourage use it because it easy to use so they get and discover the meaning of new word and the context of using these words .another learners find that it is a fun and entertaining to study ,while (20%) disagreed with the idea because they think we are going to lose our critical thinking and the value of researching via books and dictionaries will reduce and that give a bad impact in the coming generation .

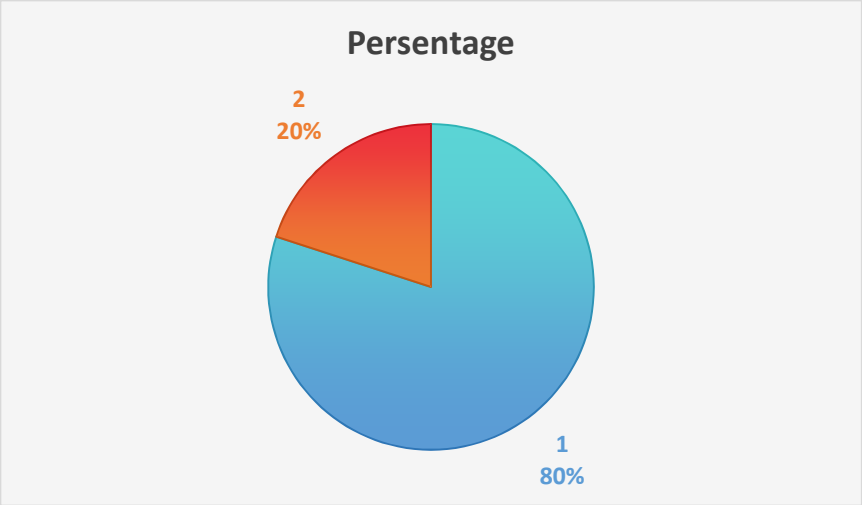

Figure 10: pie chart represent the percentage of the importance of translation technologies in EFL learning setting .

Question 11: According to you , in which way does technology affect the translation .

The aims of this question is to determine the effect of technology on translation.

choice	Number	Percentage
It enhance translation	44	88.00%
It detracts translation quality	6	12.00%

Table 11: Students' perspectives on technology and translation quality.

As shown above ,the majority of learners (88%) affirm that technology enhances translation quality ,by contrast (12%) believe it detracts translation .

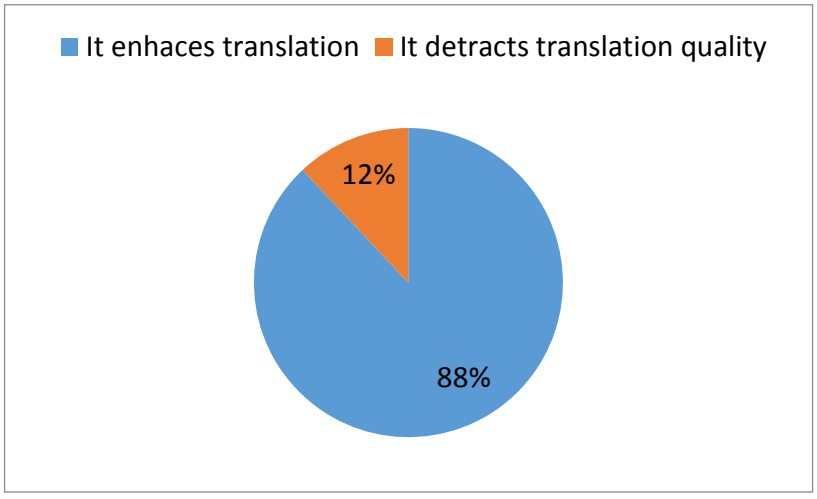

Figure 11: pie chart indicates the percentage of learners opinion about translation technology.

Question 12:what do you think about the role of artificial intelligence in translation ?

The question aims to explain the role of artificial intelligence on translation .

Choice	Number	Percentage
It develops translation	39	78.00%
It hinders translation	8	16.00%
No impact	3	6.00%

Table 12:learners' perspectives on AI in translation :enhancements and concerns

Based on the table data ,it is evident that a significant majority of learners (78%) clarify that AI develops translation , while (16%) express concerns about AI'S impact on translation quality so it hinders translation, (6%) of them think that it has no impact on translation .

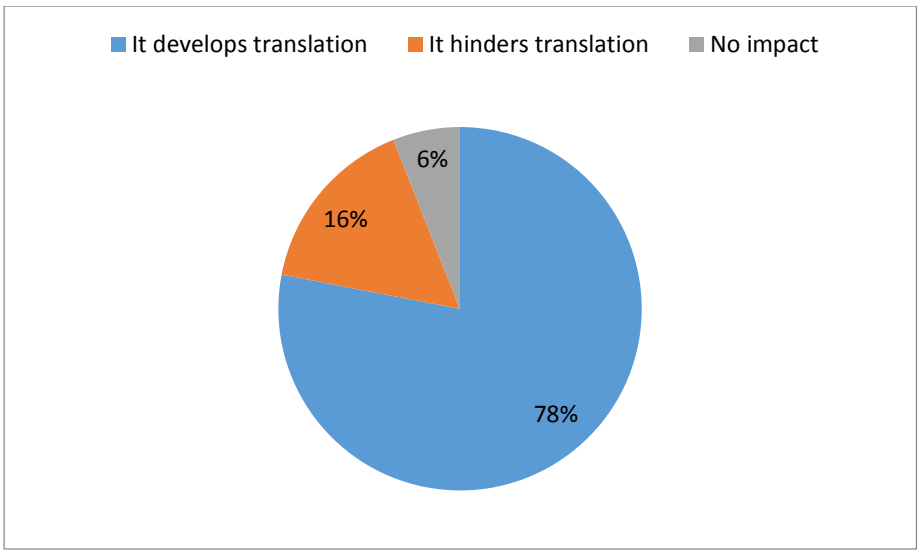

Figure 12: pie chart expresses the percentage of learners opinion about AI.

Question 13: Do you think that machine translation technologies will replace human translation in the future **?**

The purpose of this question was to know if learners rely on machine translation without human assistance , According to the participants' opinions about the question above, surveyed students agree that machine translation (MT) technologies will eventually replace human translators. Here Some example of their opinions:

" It is possible it has all kinds of translation and information , and everyone depends on it ."

"Machine translation technologies are really good and helpful. and already see machines replace human an many field and the translation could one of these fields."

Conversely, other respondents disagree with this notion, emphasizing that machines lack the ability to feel, think, and replicate human creativity and performance. Furthermore, students' express optimism about the future evolution of technology and its integration into daily life, including the use of MT. They believe that advancements in MT offer benefits such as speed, ease of use, and accuracy, which align with the evolving needs of society. Example

"*I do not think machine translation technologies will completely replace human translation .while machine translation has improved significantly ,there are still nuances, cultural references, and context that machine translation may struggle to understand accurately .human translators bring a level of expertise ,cultural understanding ,and creativity that machines can not replicate ."*

"I do not think so,simply for the reason that it is a machine ,it is just programmed to answer according to the knowledge in its system."

Question 14: do you think that translation technology important to all future professional translators ?

This question requires learners to state if translation technologies are important for future translators.

Choice	Number	percentage
Yes	28	56.00%
No	22	44.00%

Table 14:Essential translation technology:student perspectives .

The table above shown that (56%) of participants acknowledge the significance of translation technology for professional translators ,and they mentioned that it can help improve efficiency and accuracy in translating different languages ,also embracing translation technology allows translators to enhance their skills ,broaden their career opportunities ,and meet the demands of a rapidly changing global market .However ,(44%) of learners answered by (No).

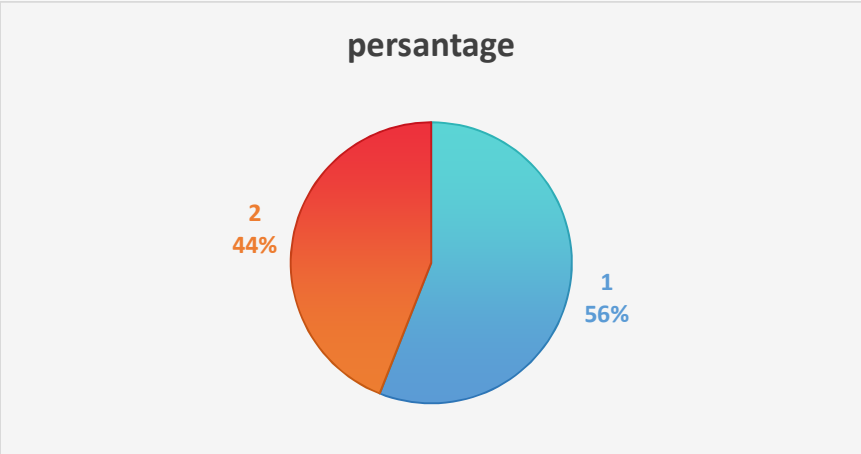

Figure 14: Pie chart conveys the percentage of agreement about the importance .

Question 15 : How important is accuracy in the translations you need?

The purpose of asking such a question is find out what learners think about the accuracy of machine translation.

Choice	Number	percentage
Crucial	11	22.00%
very important	18	36.00%
Important	18	36.00%
Less important	3	6.00%
Not critical	0	0.00%

Table 15: Perception of accuracy importance among participants

As it is shown in the table (22%) of participant think that accuracy is crucial ,(36%) of them affirm that its very important ,moreover (36%) see that its important , (6%) answered by less important in a number (3) .

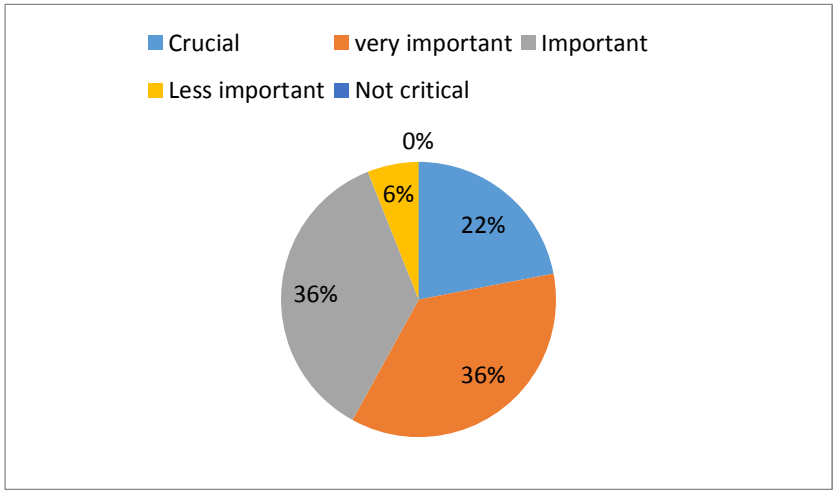

Figure15:pie chart on levels of accuracy in translation technologies.

Question 16: when considering translation tool, which feature is the most important to you?

This question aims to know what is the necessary features of translation technology.

Choice	Number	Percentage
Accuracy of translation	27	56.00%
Speed of translation	11	22.00%
Ease of use	9	18.00%
cost	3	6.00%

Table 16: learners' perspectives on translation features .

The table above indicates that the majority of learners accuracy of translation as the most important feature, followed by (22%) who prioritize translation speed, .Additionally ,(18%) of participant value ease of use , while only (3%) prioritize costly .

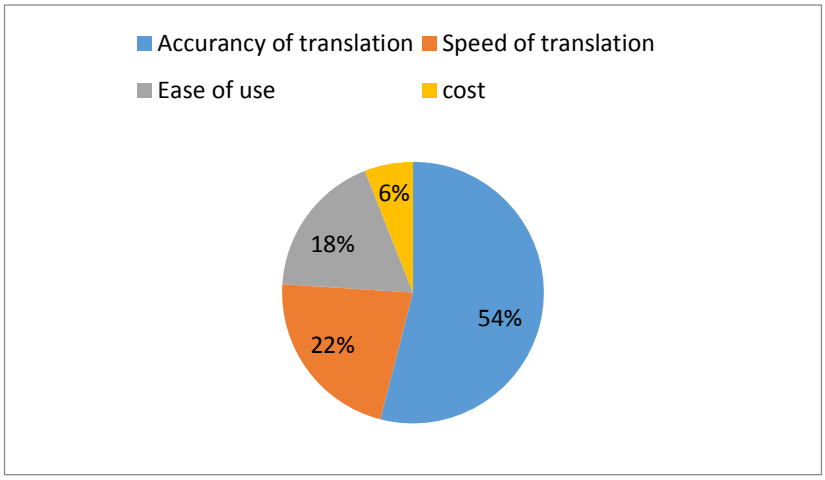

Figure 16: Pie chart on the most translation features in translation tools.

Question17 : According to you can translation effectively facilitate cross cultural understanding and immersion ?

This question aims to know learners perspectives about translation technology influence on culture.

Choice	Number	percentage
Yes	43	86.00%
No	7	14.00%

Table 17:cultural understanding through translation technology.

Based on the table, (86%) learners strongly agree that translation technology facilitate cross-cultural understanding ,while (14%)disagree with this notion

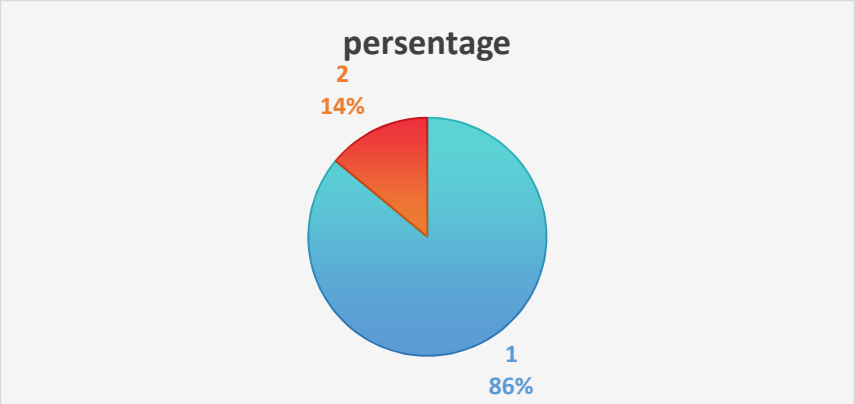

Figure 17:pie chart of learners opinion about translation technology effect on culture .

Question 18: do you think those technologies enhance your cognitive processes**?**

The purpose of this question was to determine the translation technology effects learners cognitive

Choice	Number	Percentage
Yes	30	60.00%
No	3	6.00%
Not sure	17	34.00%

Table 18: perceptions of translation technology impact on cognitive processes .

According to the final table above ,(60%) of participants agree that translation technologies enhance their cognitive processes ,while (6%) of them answered by (NO) ,Additionally ,(34%) were not sure with the impact of translation technology on cognitive processes.

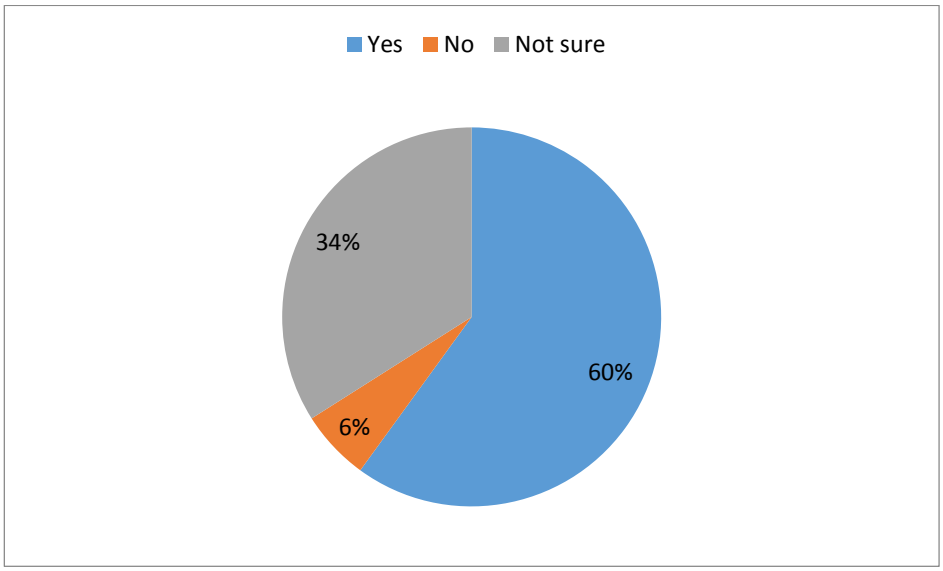

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Figure 18: pie chart represents the learners opinion about the impact of translation technology on cognitive processes .

1.5 Discussion of the results

This study tries to find out whether the student uses translation technologies and how this technology impacts their learning as an EFL student , the work conducts a questionnaire in order to answer the question mentioned earlier of whether the latest technologies affect the quality of EFL students' translation nor not.

- The majority of students use translation technology in their learning, and they are familiar with a lot of programs of translation technologies and the well known one was Google translator.

- The most of student emphasized that translation improved their skills in reading and vocabulary and it also affects their communication skill .

-We found that most learners care about the accuracy of the translation when using those programs and they encourage the use of technologies cause it facilitates language acquisition .

-The majority of students said that AI has an important role to play in translation today and they emphasize its importance for future generation .

-There were two different answers to the question of whether machine translation and AI will replace human translation some of them believe that machine cannot the replace human being cause machines cannot deal with culture and folklore like human .However , others were convinced that technology can change everything.

-Most of the student agrees that the use of those technologies impacts their cognitive and culture so it has a great impact on their memory .

3.8. Recommendations

Translation technology has become paramount, it is a considered as a powerful tool used for learning language, especially EFL learning since English became the dominant language. EFL learners prefer to apply those technologies in their learning process because of their accuracy, fluency, and ease of utilization. But there are some essential guidelines to take into account for better results:

- Encourage the learners to get engaged with the use of translation technologies: It is beneficial to get familiar with the use of those technological tools, promoting their use in language learning process to improve learners' skills, acquisition process, as well as language proficiency.

- Talk to them about the challenges behind employing translation technologies: While translation technology offers many benefits, they also come with certain challenges. It is essential to be aware of those challenges, and to have an idea about the appropriate application of those tools (especially EFL learners).

- Enhance EFL learning through the application of the latest translation technologies into pedagogical methods: Teachers have to apply translation technologies in their pedagogical approaches adequately and based on learners' needs, paying attention to the challenges (like cheating) through prudent utilization.

- Choose appropriate tasks and activities: Integrating translation technologies in language activities and assignments provides well training on the effective utilization of those tools among learners, and it offers a better understanding.

General conclusion

The integration of the latest technologies in translation and communication has profoundly enhanced the way we interact in various languages. Artificial Intelligence and Machine Translation have revolutionized multilingual communication through advanced technology in translation and English as a Foreign Language learning. The aforementioned communication is improved by AI-powered tools and NMT systems like Google Translate and DeepL offer precise and contextually relevant translations. AI-powered teaching programs offer individualized courses that raise student interest and proficiency. By lowering language barriers and boosting cross-border cooperation, these technologies promote the concept of interconnected world. This study tries to realize whether EFL learners depend on translation technologies and in which way translation tools impact their learning and acquisition process. It also looks into the most recent developments in the translation industry and their effects on translation services, and the mostly utilized translation eengines. Finally, it highlights the important role that media translation plays in context learning and knowledge exchange as well as the levels changing among EFL learners also the research's examination of the cognitive effects of the newest translation technology in EFL instruction.

Additionally, the findings in our research show that the latest technologies have influenced translation and transformed many of its services. Thanks to these developments, EFL students utilize translation technologies in learning. This answers our research question and confirms our hypothesis.

On the grounds of the aforementioned findings EFL learners are aware of a wide range of programs available; Google Translate is one of the most well-known. It’s improved with the ability to translate texts accurately and quickly, translation technology improves student

collaboration, language acquisition, and accessibility while fostering global perspectives and elevating the educational process.

We came into conclusion that translation requires a thorough comprehension of the source material, broadens lexical knowledge, and develops expressive abilities, all of which help students' reading, vocabulary, and affect their communication skills. It also promotes cultural awareness, which improves linguistic ability in a variety of settings.

The study results show that in language translation programs, learners place a high value on accuracy since it facilitates straightforward communication, efficient learning, and real-world application. Reliable examples of proper syntax, grammar, and vocabulary are provided by accurate translations, which facilitate language learning. Translation tools are a useful tool for language learners since they enhance comprehension and boost confidence. Furthermore, learners emphasize the importance of AI and agree on the idea that Artificial intelligence plays a fundamental role in translation.

We have found that we are still unsure if MT and AI tools can replace human translators or not. Where some people see that future innovations and improvements in those technological instruments could be a reason to depend only on them rather than humans. While others supposed that machines can't be as smart as humans.

Finally, we have discovered that the utility of translation technologies during learning impacts EFL learners' cognitive and cultural process raising questions on the future learning possibilities in line with state of the art innovations.

Limitations and further studies

While this research has provided significant insight into the investigation of the latest technologies in the translation industry and their impact on EFL learning , several limitations should be noted . First of all, the study focused on EFL learners from a single university (Ibn Khaldoun Tiaret university), which could not accurately reflect the multitude of learning environments and backgrounds found among students throughout. Next, the generality of results would be improved by boarding the range of participants to include students from different and multiple learning settings and geographical areas. Additionally, the research have missed qualitative details including learners' attitudes, experiences, as well as the motives when applying those technological devices because of its main focus on quantitative data.Finally, further researches should investigates how factors like learning styles interact and powered with the technology use, and should aim to examine another varieties as well as the new technologies to provide clear and comprehensive image of the field.

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Appendix: questionnaire

The use of technologies in translation and the impact on EFL learning.

The questionnaire in front of you is part of our research for an MA degree. The research is aimed at collecting data about the use of technologies in translation and its impacts on EFL learning. It would be highly appreciated if you take some time to answer the question below, we greatly value your participation.

1)_Age:

- From 18to 20
- From 20to 25
- Over 26

2)_Gender:

- Male
- Female

3)_Do you use translation programs when learning English?

- Yes
- No

4) what are the machine translation programs or apps do you use mostly ?

- Google translate
- Deepl
- Chat gpt
- Copy .ai
- Microsoft bing translator

5) In what situations do you rely on translation technologies for EFL learning?

• Understanding written texts

• Writing paragraphs

• Improving your oral skills

• Other

6)_What do you think about translation as a method of learning English as foreign language?

• Helps

• Hinders

• No impact

7)_How has the use of translation technologies influenced your language learning process?

• From beginner to intermediate

• In average to good

• From good to excellent

8)_Do those translation technologies influence your communication skills?

• Yes

• No

• If yes how

9) According to you, what language skills can be improved the most by using translation technologies?

• Grammar

• Reading and vocabulary

• Speaking

• Writing

• Listening

10)_Do you encourage the use of translation technologies in learning English?

• Yes

• No

• If yes why

11)- According to you, in which way does technology affect translation?

• It enhances translation quality

• It detracts translation quality

12)_What do you think about the role of artificial intelligence in translation?

• It develops translation

• It hinders translation

• No impact

13) Do you think that machine translation technologies will replace human translation in the future?

• Yes

• No

• No Opinion

14) How important is accuracy in the translations you need ?

• Crucial

• Very important

• Important

• Less critical

• Not critical

15)_When considering a translation tool, which feature is most important to you?

• Accuracy of the translation

• Speed of translation

• Ease of use

• Cost

16)- Do you think that translation technology will be important to all future professional translators ?

• Yes

• No

• If yes why?

17)_ According to you, can translation effectively facilitate cross-cultural understanding and immersion?

• Yes

• No

• Not sure

18) Do you think that those technologies enhance your cognitive process

• Yes

• No

Summary

The purpose of this research is to shed the light on the latest technologies ,Artificial Intelligence, Machine Translation and how their implementation in the translation industry as well as the impact of it on EFL learning .To work on this research ,the case study was conducted at Tiaret university ,specifically ,the department of English student of third year as a sample population ,to collect data students were kindly asked to respond to a questionnaire ,the data collected analyzed quantity and the findings revealed that learners depend on translation technologies because of its features that make it an important and a flexible as a learning process. Despite some drawbacks ,EFL learners expect those developments to serve their interests ,and they believe that the latest technologies will change the translation sector in terms of accuracy ,translators role ,and their uses.

ملخص

الغرض من هذا البحث الاكاديمي هو تسليط الضوء على التكنولوجيات الحديثة ،الذكاء الاصطناعي والترجمة الالية وكيف تم دمجها في صناعة الترجمة ،كذلك تأثيرها على متعلمي اللغة الانجليزية .للعمل على هذا البحث ،اجريت دراسة في جامعة ابن خلدون تيارت ،وتحديدا قسم اللغة الانجليزية طلاب السنة الثالثة كعينة لجمع البيانات ،وقد طلب من الطلبة ملء الاستبيان ،تم تحليل البيانات التي تم جمعها من حيث الكمية .كشفت نتائج الدراسة ان الطلاب يعتمدون على تكنولوجيات الترجمة لمميزاتها التي جعلتها مهمة ومرنة كوسيلة تعليمية ،بغض النظر عن المساوئ ،طلاب اللغة الانجليزية يتوقعون تطور يخدم اهتماماتهم ويؤمنون ان التكنولوجيات الحديثة سوف تغير عالم الترجمة من ناحية الدقة ودور المترجمين و استخداماتها

Résumé

Cette étude vise à mettre en lumière les récentes technologies telles l'intelligence artificielle et la traduction automatique et leur impact sur l'industrie de la traduction ainsi que sur l'apprentissage de l'Anglais langue étrangère. Pour mettre en pratique cette étude, le cas d'étude des étudiants de

l'université de Tiaret, département des lettres et langues étrangères a été sélectionné. Afin de récolter les informations nécessaires, un questionnaire a été soumis aux étudiants a révélé d'intéressantes pistes, à savoir que les étudiants s'appuient sur les technologies de la traduction au vu de son rôle et sa flexibilité durant le processus d'apprentissage. En dépit de quelques entraves, les étudiants en Anglais langue étrangère s'attendent à ce que ces développements servent leurs intérêts en s'appuyant sur l'idée que les récentes technologies vont affecter le secteur de la traduction en termes de précision, rôles du traducteur et usage de la traduction