Investigating the Effectiveness of ChatGPT OpenAI, Google Gemini and Human Translation in Translating Colloquial Libyan-Arabic Cultural Expressions: A Comparative Study

Thuraya Ibrahim Al-Hassi*
Department of English, Faculty of Linguistic and translation, Azzaytuna University, Tarhunah, Libya
thouraya.hassi@g.mail.com
Corresponding Author: (*)

ABSTRACT This study aims at evaluating the translation products of ChatGPT OpenAI, Google Gemini tools verses human translation tools in translating colloquial Libyan-Arabic cultural expressions. The study focuses on examining the accuracy of the above automated translations tools Vis a Vis Human Translation in translating cultural expressions. The researcher adopts a combination methodology of research (qualitative and quantitative). The objective is to find out whether Human Translation is the preferable tool in translating cultural issues. The findings determine that the above automated translation tools cannot deal with the colloquial Libyan-Arabic cultural expressions accurately, however, Human Translation achieves more accurate renditions, comparing to the automated tools ChatGPT OpenAI, and Google Gemini. Some recommendations are suggested for further research to integrate both human translations with automated translation systems in professional and educational contexts to select the most appropriate rendition and to encourage trainee translators to critically evaluate machine-generated output and recognize its strength and limitations.
Keywords: ChatGPT OpenAI, Google Gemini, Human Translation, Colloquial Libyan Arabic cultural expressions.

الملخص:

تهدف هذه الدراسة إلى تقييم الترجمات التي تقدمها كل من الأدوات اللاألية تشات جي بي تي أو بن إي أي وقوقل جيميناي مقابل الترجمة البشرية في ترجمة التعابير الثقافية باللهجة الليبية العامية، وتركز هذه الدراسة على فحص مدى دقة ووضوح الترجمات الألية المذكورة أعلاه مقابل الترجمة البشرية في ترجمة التعابير الثقافية، وقد اعتمد الباحث في دراسته على المنهجية البحثية المدمجة (االنوعي والكمي) لمعرفة ما إذا كانت الترجمة البشرية هي الأداة الافضل التي يمكن الاعتماد عليها في ترجمة التعابير الثقافية، وتظهر النتائج أن أدوات الترجمة الألية المذكورة لا تستطيع التعامل بدقة في ترجمة التعابير الثقافية باللهجة العربية الليبية العامية، بينما حققت الترجمة البشرية ترجمات أكثر دقة ووضوح مقارنة بأدوات الترجمة الالية، وقد تم اقتراح بعض التوصيات لأبحاث مستقبلية.

الكلمات المفتاحية: تشات جي بي تي اوبن إي أي، قوقل جيميناي، الترجمة البشرية، التعابير الثقافية باللهجة العربية الليبية العامية.

I.   Introduction

Translation discipline is one of the fields that have been transformed by Artificial Intelligence (AI) models. Automated tools are considered as machine learning and natural language processing which have improved the accuracy and efficiency of translation services. For example, AI translation models such as *ChatGPT OpenAI and Google Gemini* translation models can provide urgent translations, and can be easier for users, especially translators, to communicate across languages.

ChatGPT, on the one hand, is an advanced version of AI models. It is a developed by OpenAI and launched in November 2022. Its last version was introduced in May 2024. The current version is based on updates, and it can access real-time information from the internet. On the other hand, Google Gemini is a large language model developed by Google DeepMind. It was updated in September 2024. It is an ongoing process that undergoes constant improvement and enhancement. Google Gemini is a multi-task model that provides translation services such as language-related works, answers questions and gives information in accordance to users' needs. Aydin, Omer, (2023). Google Gemini attempts to translate cultural expressions; it can capture the meaning of the original and can produce accurate translations of cultural expressions. (www.1).

In an increasingly globalized world, the translation of cultural texts has become more vital than before. Thus, modern technology plays a crucial role in the translation process, enabling translators to bridge linguistic and cultural gaps with greater accuracy. O'Hagan, M., & Ashworth, D. (2002).

II. Hypothesis of the Study

The study hypothesizes that ChatGPT and Google Gemini translation tools are not advanced enough to replace human translation in the translating of colloquial Libyan-Arabic cultural expressions.

III. Research Objectives

1- ChatGPT and Google Gemini cannot render cultural denotations properly.
2- Automated translation tools cannot be substituted by Human Translation; however, they may work together with human translation.
3- Human Translation is an essential tool in enhancing cultural understanding to achieve accuracy.

IV. Research Question

To what extent can automated translation tools be non-effective to be replaced by Human Translation in translating colloquial Libyan-Arabic cultural expressions? (www.1).

V. The Role of Human Translation

Human Translation is the process of translating texts, speeches and other forms of communication by translators. It is considered essential for ensuring cultural differences because it involves rendering the intended meaning of a text, its tone and objectives. Human translation can handle cultural differences, contexts, idiomatic expressions, and differences of meaning that humans acquire and the ability to understand. Baker (2011).

A human translator provides high accuracy, especially for complex and problematic texts that require cultural sensitivity and creative rendition. Translators can consider the emotional impact, tone, and the intended meaning of the source text; however, human translation can be time-consuming and costs more compared with AI translation tools. (https://openai.com).

Fields et al., (2014) stated that human translators can understand the intended meaning of the texts to be translated and can use their knowledge and experience in conveying them accurately in the target language.

Translating Libyan-Arabic cultural expressions require understanding of the cultural differences, such as cultural norms, traditions and values. It is crucial to comprehend the cultural expressions of different languages to ensure that the translated texts are appropriate, and relevant to the target readers. (https://openai.com).

Culture is considered an essential part in the text of a language. Bassnett (1996) stated that when transferring the meaning from one language into another, the linguistic concept can be a part of the translation process. Bassnett (1996), page (23) added, "A whole set of extra-linguistic criteria, must be considered". Therefore, "the translator must tackle the original language text in a way that the target language version will correspond to the source language version".

Cultural expressions may carry figurative meaning, and literary expressions that can be difficult for automated translation tools to interpret accurately. Alowedi, N. & Al-Ahdal, A. (2023),

ChatGPT, Google Gemini and Human Translations have their advantages and disadvantages and using any one of them may depend on the specific context and needs of the translation. Thus, human translation is considered the best for complex cultural texts.

The following texts explore the difficulties involved in translating colloquial Libyan-Arabic cultural expressions into English, particularly when utilizing automated translation tools such as ChatGPT and Google Gemini. It is emphasized that these tools often fail to capture the cultural meaning behind the expressions leading to literal translations that may confuse or mislead the target-language reader.

Cultural expressions may be translated differently depending on whether the translation tool is a human translator, or automated translation, including, ChatGPT and Google Gemini. The translations may be accurate or otherwise. For instance, the Libyan cultural expression, (بلاد يأكلك فيها الطير) denotes (an abandoned area), is mistranslated by ChatGPT as (A land where the birds would devour you). The same expression was also mistranslated by Google Gemini as (They say it's a place where you can't survive). Moreover, it was interpreted as (A country where you get eaten alive) by human translation, where the rendition is appropriate. The reason beyond the above inaccurate renditions relies on the inability of the three translation tools to translate culturally rich texts may be due to a lack of the cultural knowledge of the Libyan-Arabic cultural expressions or may be due to the poor understanding of the whole context.

The expression (المتصرف يحيط به الدجاج الأسود) has a figurative meaning as (someone is in a bad mood or having a negative mental state). It was interpreted literally by ChatGPT as (The administrator is surrounded by black chickens) and it was misinterpreted by Google Gemini as (The governor is surrounded by shady characters), where the meaning was completely changed. In contrast, the human translator accurately conveyed it as (The mayor was in a bad mood), which is the accurate meaning intended by the original expression.

Translating cultural contexts can be difficult for ChatGPT, and Google Gemini translation tools to capture, since the original expressions may include specific cultural references, traditional concepts and historical events that may not translate accurately into another language or another cultural context. Sager, (1994).

For example, ChatGPT translated the cultural phrase (جرّة من خمر النخيل اللاقبي), which denotes (fresh and natural beverage extracted from palm trees) as (A jar of Laqbi palm) which maintains the cultural term "Laqbi" without explanation while Google Gemini, on the other hand, is much better. It rendered the phrase as (A jar of palm wine), opting for a more accessible phrase for English readers. Meanwhile, the human translator chose (A bottle of their wine that was made from date), offering an interpretive and explanatory approach that emphasizes the source (date palm) and the cultural ownership (their wine).

The above variation reflects different strategies in cultural translation-ranging from literal and foreignizing to explanatory and domesticating. It is also important to note that "Laqbi" refers to a natural juice extracted from the palm tree, which may or may not be fermented, a nuance that automated systems might overlook.

Utilizing automated translation tools, such as ChatGPT and Google Gemini are not effective in producing acceptable cultural translations, but they may be using as assistant tools in offering significant advantages in speed and accessibility.

The cultural expression, (سقاها اللاقبي) refers to (a traditional fresh beverage extracted from palm trees). It was rendered by ChatGPT as (**He watered it with the nickname). And it was translated by Google Gemini as (**He/she offered her a drink of palm wine). The human translation of the above expression was (He plied her with date wine).

The second and third translations above were accurate, while the first one is unacceptable.

In contexts that require cultural nuances, human translation is more capable of capturing cultural differences, making the work more reliable when translating cultural contexts.

VI. Literature Review

In the field of translating literary and cultural texts, there are growing research on the performance of automated translation tools such as, ChatGPT and Google Gemini in handling textual cultural expressions. These texts include cultural expressions that are difficult to translate.

1- Studies indicate that translating literary texts often include a figurative meaning related to a specific society-culture using a ChatGPT translation tool that may provide translations but may fail to render accurate cultural rendition. Their study stated that ChatGPT has the ability to process multicultural expressions. Cao, Y. et al. (2023).

2- Human translation focuses on style, tone, audience consideration and cultural nuances to determine accuracy. With (AI) translation models, human translators will have to correct the content of the automated translation tools to ensure accuracy. Human translation may provide appropriate and accurate translations that AI tools cannot offer. (www.3).

3- Baker, (2018) asserts that while automated machines can assist in the translation process, they do not possess the cultural, linguistic, and creative competencies of human translators.

4- Mileg, (a team comprised multilingual communication professionals as well as experts in tech solutions and Artificial Intelligence), clarified that Google Gemini aims to enhance productivity, creativity and collaboration. It lies in understanding the content of sentences and paragraphs, including some idiomatic expressions and cultural references. According

to Mileg team, Google Gemini can deliver accurate and fluent translations, sometimes, capturing idiomatic expressions and cultural nuances, while, it has limitations in that it may miss the nuances, leading to potential misunderstanding. (www.mileage.com.sg).

5- Tsvetkov et al. (2019) propose to integrate the cultural expressions into translation models. This could include using corpora of texts that carries cultural and idiomatic expressions with their meanings within specific contexts. In addition to this, the continuous training that allows artificial intelligence models adapts, relying on the users, who could improve their translation quality.

6- Garcia and Pena (2011) highlight that trainee translators often exhibit higher confidence in machine translation due to its speed and accessibility. However, as training progress, they tend to develop and value the human translator's ability to handle cultural and contextual differences.

VII.   Source of Data

The data was extracted from the Libyan-Arabic novel, (حقول الرماد), (Valley of Aches), with its translated versions. The novel was written by the Libyan novelist Ahmad Ibrahim Al-Faqih. The researcher will discuss three types of translation tools (ChatGPT, Google Gemini and Human Translations) to explore the extent of clarity and accuracy of both automated translation tools and human translations. The concern in this study is to evaluate the accuracy of the translations of the Libyan-Arabic cultural expressions shown in the table below and discussing potential inaccuracy where they may occur. For this purpose, the researcher employed a questionnaire as a main tool in the current study.

VIII.   Data analysis

The researcher collected twenty three colloquial Libyan-Arabic cultural expressions. Data is extracted with its English-translated versions and classified in the table shown below. The researcher adopted the mixed methodology research, (qualitative and quantitative methods) for data analysis. A questionnaire is conducted to rank and categorize translation tools based on their accuracy, classifying them as highly accurate, moderately accurate, or poor in accuracy. Specialists and trainee academic students in the field of translation were asked to evaluate whether the quality of each rendition is high, moderated or low.

Table (1): The Colloquial Libyan-Arabic Cultural Expressions

S. N.	Original texts	ChatGPT Translation	Google Gemini Translation	Human Translation
1	" جرة من خمر نخيل اللاقبي"	"A jar of Laqbi palm wine"	"A jar of palm wine"	"A bottle of their wine that was made from dates"
2	"يعزفون المزامير ويضربون الدرابيك"	"Play the flutes, and beat the drums"	"Playing the mizmar, and drumming on the darabuka"	"Play their flutes and beat their drums"
3	"لا يمر يوماً إلا ويحط "لايمر يوماً الا	"Not a day passes without it settling on like a dark cloud"	"Every day brings darkness to our lives"	"Every day he comes like a black cloud"

	"ويحل علينا كسحابة سوداء"			
4	"رياح القبلي"	"The Khibli winds"	"The desert wind"	"The south winds"
5	"ارتدى اليتيم الجريدي والزبون وطاقية حمراء لها زر طويل"	"The orphan wore the jereedy and the customer, a red cap with a long button"	"The orphan was dressed in a traditional jreed, while the customer wore a red fez"	"Yateem wore a new outfit of traditional robes and a fez with a long tassel"
6	"ارتدت بسرعة لحافها"	"She quickly wrapped herself in her blanket"	"She hastily pulled her blanket around her"	"The woman put on her coat"
7	"كان الحاكم إيطالياً يرتدي برنيطة ويرطن بلغة غريبة"	"The governor of Italy was wearing a beret and speaking in a strange language"	"The Italian ruler, adorned with a beret, was muttering incomprehensibly in a foreign tongue"	"The Italian ruler used to wear a hat, spoke a strange language"
8	"ارتدت رداء تزين حواشيه خيوط الفضة"	"She wore a robe adorned with silver threads"	"She donned a gown embellished with shimmering silver threads"	"wearing a dress embroidered with silver"
9	"أم الأولاد"	"The mother of the children"	"The children's mother"	"My wife"
10	"أمي سعيدة "	"My mother, Saida"	"Mom, Saidah" 2	"Umm Saida"
11	" يا سيدنا"	" O our master"	"sir"	"Your Reverence"
12	"حفظ الله مولانا ورعاه"	"May God protect and care for our master"	May God protect our Lord and guide him"	"God save our king"
13	"قرأت أية الكرسي مرات ثلاث "	"I recited Ayat al-Kursi three times"	"I recited the Verse of the Throne three times"	"I started reciting some verses of the Quran"
14	"صلوا صلاة الجنازة "	"They performed the funeral prayer"	"Conduct the funeral service"	"After they had finished praying"
15	"طاسة الشاي"	" The cup of tea"	"The teacup"	"A glass of tea"
16	"مربوعة البيت"	"The house's gathering place"	"The corner of the house"	"At home"
17	"المتصرف يحيط به الدجاج الأسود"	"The administrator is surrounded by black chickens"	"The governor is surrounded by shady characters"	"The mayor was in a bad mood"
18	"جرة الخمر"	"Jug of wine"	"Wine vessel"	"A bottle of wine"

19	" انه موسم نضوج البلح"	"The season of date ripening"	"It's date-ripening season"	"it was the season for harvesting dates"
20	"البركة فيكم وفي الحكومة"	"Blessings be upon you and the government"	"May God bless you and the government"	"If it were not for your efforts and the efforts of our government"
21	"سعف النخيل"	"Palm fronds"	"Palm fronds"	Palm leaves""
22	"خيّمت فوق رؤوسهم سحابة ثقيلة"	"A heavy cloud hung over their heads"	"A sense of gloom enveloped them"	"Frustrated"
23	"قطع اللسان الذي يتحدث عنك بسوء، هل ينسى أهل هذه البلدة أياديك البيضاء"	"Cut off the tongue that speaks ill of you. Do the people of this town forget your benevolent deeds"	"Anyone who speaks badly of you should be punished, do the people of this town forget all the good you've done"	".....How can they forget all you've done for the village"

IX. Data discussion

In this study, twenty-three colloquial Libyan-Arabic cultural expressions were translated into English, by using three different translation tools; (ChatGPT OpenAI, Google Gemini and Human Translations). It is clear that most of the original cultural expressions have been translated differently. The researcher conducted a questionnaire which was administered to distribute to nineteen specialists and trainee translators to classify the translations deciding whether the translations rendered are high, moderate or poor quality. Participants were asked to choose among three quality-levels, by classifying the translation on a scale as (high, moderate or poor). The subjects were asked to mark the high quality translation using (No. 1), the moderate translation (No. 2) and the poor translation (No. 3). The researcher adopted the mixed methodology, through compiling, classifying and calculating the data extracted to decide which translations are high, moderate or poor. The table below shows the percentages of each translation tool with their three quality-levels.

Table (2): Percentages of Translation Tool-Performance across Levels

Levels of Translation	ChatGPT	Google Gemini	Human Translation	Total Percentages
Level (1)	36.84%	24.48%	41.18%	100%
Level (2)	30.89%	47.82%	19.90%	98.61%
Level (3)	32.26%	27.68%	38.90%	98.84%

Table (3): Comparative Analysis of Translation Quality-Levels

Translation Quality-Levels	High	Moderate	Low/Poor
1	Human Translation	ChatGPT	Google Gemini

2	Google Gemini	ChatGPT	Human Translation
3	Human Translation	ChatGPT	Google Gemini

Note: the Percentages above represent the proportion of translations classified at each quality level.

X. Data Results

- The discussion revealed a clear variation in the performance of the three translation tools (ChatGPT), Google Gemini and Human Translation) across the three translation levels. In level (1), Human Translation achieved the highest percentage (41.18%). This reflects its effectiveness in handling cultural texts with more accuracy. This may be due to the human translator's awareness of cultural and idiomatic expressions. ChatGPT ranked second (36.84%), while Google Gemini came last (24.48%) showing possible difficulty they encounter in rendering basic structures or simple contents.

- Considering level (2), the results shifted where Google Gemini outperformed the others with (47.82), followed by ChatGPT (30.89%). Then, Human Translation scored the lowest (19.90%). This percentage shows poor type of translation. The human low score result failed to be in the lead in translating the cultural expression. Here are some key interrelated factors that impact translators in the translation process: 1) Time constraints which can lead translators to rush and reduce poor translation quality. 2) Lack of context or reference materials to convey the intended meaning. 3) Lack of standardized glossaries that can lead to discrepancies in translation quality. 4) Insufficient expertise can result in low quality of translations. 5) Traditional manual translation such as incomplete texts or lack of context may affect the quality of the translation.

- Level (3), Human Translation returned to the lead with (38.90%), ahead of ChatGPT (32.26%) and Google Gemini (27.68%). This highlights the translator's capacity to address cultural and complex texts. Thus, automated tools still face difficulties in translating cultural expressions.

XI. Analytical Discussion of Translation Quality Levels

The comparative results across the three levels revealed a distinctive performance patterns between Human Translation, ChatGPT, and Google Gemini. While the descriptive findings highlight percentages, a deeper analysis shows broader implications about the nature of human versus automated translations.

At **Level (1)**, Human Translation achieved the highest score (41.18%), which indicates that human translators remain more reliable when dealing with cultural and idiomatic texts. This superiority can be explained by their ability to apply cultural awareness, contextual reasoning, and idiomatic accuracy compared with the automated systems, which often fail to reproduce. ChatGPT followed with 36.84%, reflecting its capacity to handle simple cultural expressions with relative adequacy, though not at the human level. By contrast, Google Gemini obtained the lowest score (24.48%), suggesting difficulties in processing even basic structures when cultural sensitivity is required.

The pattern changed noticeably at Level (2), where Google Gemini ranked first (47.82%), surpassing both ChatGPT (30.89%) and Human Translation (19.90%). This unexpected reversal demonstrates that AI tools, particularly in Google Gemini, may perform more effectively in

structured or moderately complex texts where cultural elements are limited. The lower performance of human translators in this level could be attributed to external factors such as time constraints, lack of reference materials, or may be the inconsistency in manual translation. This suggests that while human expertise is superior in cultural contexts, it may not always guarantee regular accuracy in routine or semi-technical content.

At **Level (3)**, Human Translation returned to the peak (38.90%), followed by ChatGPT (32.26%) and Google Gemini (27.68%). The results here confirm that humans still dominate when the text involves cultural depth, metaphorical expressions, or semantic complexity. Automated systems, despite their progress, continue to struggle with capturing connotative meaning and pragmatic differences that are essential for high-quality cultural translation.

XII.   Summary

The results suggest that human translators remain necessary for culturally embedded and complex expressions, while AI tools demonstrate strength in routine, technical, or semi-structured content. ChatGPT shows a balanced performance across levels, indicating adaptability but also it lacks of specialization. Google Gemini's inconstancy between weak and strong performance reflects its reliance on structural patterns rather than cultural reasoning.

From a methodological perspective, the integration of quantitative results (percentages) with qualitative interpretation (cultural, contextual, and technical factors) provides a more holistic understanding of translation quality. This combined approach shows that translation quality is not merely a matter of numbers but also of context, expertise, and cultural awareness.

XIII.   Findings of the Study

- The results in percentages highlighted a continued trust in Human Translators, despite the growing capability of automated translation tools.
- The comparative evaluation viewed three translation systems, ChatGPT OpenAI, Google Gemini and Human Translation across three quality-levels: high translation (level 1), moderate translation (level 2) and low translation (level 3). The distribution of responses revealed notable patterns in how each tool is perceived in terms of translation quality.
- The comparative analysis of ChatGPT, Google Gemini and Human Translation demonstrates that human translation excels in rendering cultural expressions, (levels 1 and 3). Google Gemini shows the ability in handling general contexts (level 2), while ChatGPT presents a balanced performance indicating translating general translation work.
- The automated translation systems are not effective enough in replacing the interpretive and contextual abilities, especially in complex or culturally embedded texts.
- Translating colloquial Libyan-Arabic cultural expressions into English can be really problematic, because, sometimes, they pose misunderstanding on the part the target language readers, especially when using automated translation tools. Thus, integrating automated translation systems with human translation can be possible to improve the efficiency of translation work.

XIV. Based on the findings, the study achieved the following:

1- ChatGPT is emerged as a powerful and quick tool for high-quality translations, with balance across varying quality levels.
2- Google Gemini is proved to be an effective tool for moderate-quality translations, and it is suitable for tasks that require a balance between accuracy and efficiency.
3- Human Translation remained the gold standard for high-quality translations. It demonstrates consistent and superior performance in texts requiring high precision.
4- Human Translation may encounter challenges in quality when dealing with texts that have lower or moderate requirements, due to the translators' performance that may vary based on their experience and specialization in a particular field.

XV. Recommendations

The researcher concludes the current research with some recommendations which may improve the translation quality in translating the colloquial Libyan-Arabic cultural expressions into English.

1- It is useful to integrate both human translations with automated translation systems in professional and educational contexts in order to select the most appropriate rendition.
2- It is recommended to encourage trainee translators to critically evaluate machine-generated output and recognize its strength and limitations.
3- It is advised to include training modules on post-editing and evaluation of AI-based translation within the university curricula to train future translators for hybrid workflows.
4- It is recommended to enhance awareness among professionals and clients about when automated translation tool is sufficient and when human translation is essential, particularly for cultural expressions.
5- It is useful to adopt and encourage continued research into the performance of translation technologies across different genres, languages and cultural contexts to improve their integration into real translation practice.

XVI. Delimitations of the Current Research

This study focuses exclusively on the challenges of translating colloquial Libyan-Arabic cultural expressions into English using automated tools, specifically ChatGPT and Google Gemini. It does not address other Arabic expressions, formal language, or human translation methods.

XVII. Future Expectations

Future research should include more translation tools and Arabic cultural dialects for broader and wider analysis. Advancements in artificial intelligence are expected to improve cultural differences, and automated integrated models combining with human may enhance translation accuracy and cultural awareness.

References

Alowedi, A., Noha & Al-Ahdal, A., Arif. (2023). "**Artificial Intelligence Based Arabic-to-English Machine versus Human Translation of Poetry**". An analytic study of outcomes. Journal of Namibian Studies History Political Culture. 33 DOI: 10.59670/jns.v33i.800.

Aydin, O. (2023). "**Google Bard Generated Literature Review**": metaverse. Journal of AI, 7(1), 1-14.

Baker, M. (2011). "**In Other Words**": *A Coursebook on Translation*. Routledge.

Baker, M. (2018). "**In Other Words**": A Coursebook on Translation. 3rd Edition, Routledge, London and New York.

Bassnett, S. (1996). "**Translation Studies**". New York: Rutledge.

Bassnett, S. (2003). "**Studying British Culture**": (2nd edition). Rutledge.

Cao, Y., Zhou, L., Lee, S., Cabello, L., Chen, M., Hershcovich, D. (2023). "**Assessing Cross-Cultural Alignment between ChaGPT and Human Societies**": An Empirical Study. Processing of the First Workshop on Cross-Cultural Considerations in NLP (c3NLP). May 5, 2023. Association for Computational Linguistics.

Garcia, I., & Pena, M., I. (2011). "**Machine Translation-Assisted Language Learning**": Writing for Beginners. Computer Assisted Language Learning, 24(5), 471-487. https://doi.org/10.1080/09588221.2011.582687.

O'Hagan, M., & Ashworth, D. (2002). "**Translation-Mediated Communication in a Digital World**": Facing the Challenges of Globalization and Localization. John Benjamins Publishing.

OpenAI. (2021). "**About Us**" OpenAI Official Website.

OpenAI. (2023). "**GPT-3: Language Models are Few-Shot Learners**" *arXiv preprint arXiv: 2005.14165*.

Sager, Juan C. (1994). "**Language Engineering and Translation**": Consequences of Automation. Target International Journal of Translation Studies. Published online: 1January 1996.

Tsvetkov, Y., Narayan, S., & Poesia, D. (2019). **"Cultural Context in Neural Machine Translation".** Proceedings of the 57th Annual Meeting of the Association for Computational Linguistics, 2019.

Website References

https://blog.google "**Introducing Gemini: Our Largest and most capable AI model**".

https://www.bureauworks.com "**Quality Advantages of Human Translation for Professional Results**".

https://www.e-translation-agency.com "**The Impact of Google Gemini on Translation**".
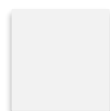
Thuraya Ibrahim Hamed Al-Hassi, Assistant Professor, bachelor's degree: 1989, master's degree: 2011, Academic Interests: Translation Studies, Cultural Text and Linguistic Challenges in Translation, Cross-Cultural communication and Translation of Cultural texts.