Factors Affecting Yemeni University Students' Translation Using Google Translate

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Abstract

The engagement of Yemeni undergraduate students in an effective translation process using machine translation (MT) including Google translate (GT) seems to be affected by certain factors which may have positive or negative effect on the translation of Arabic texts into English. This study aimed to explore factors affecting Yemeni undergraduate students' translation of Arabic texts into English when using GT. To achieve this objective, a qualitative approach was employed by means of an interview to gather data from students about factors that may affect their translation. Collected data were analyzed following a thematic analysis method. Findings revealed fostering and impeding factors that affect students' translation when using GT. Fostering factors included positive attitude toward MT, awareness of GT limitations, dissatisfaction with GT translations and think-aloud strategy. On the contrary, impeding factors involved challenges faced by participants, lack of competence in using GT, negative effect of think-aloud and negative attitude toward GT. The study provides insights to educators about what may affect students' translation using GT which can be considered in training translation students on how to use GT effectively. Future research could examine factors that may affect students' use of other machine translation tools, including artificial intelligence (AI).

Keywords: Google Translate (GT), machine translation (MT), factors affecting translation, undergraduate translation students, qualitative approach.

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العوامل المؤثرة في ترجمة طلبة الجامعة اليمنيين عند استخدام مترجم قوقل

الملخص

يبـدو أن انخراط طلبة الجامعـة اليمنيين ــِ عملية ترجمة فعالة باسـتخدام الترجمة الآلية (MT) بمـا ـِ ذلك ترجمة قوقـل (GT) يتأثر بعوامل معينة قد يكون لها تأثير إيجابي أو سـلبي على ترجمة النصوص العربية إلى اللغة الإنجليزية، وهدفت هذه الدراسـة إلى استكشـاف العوامل التي تؤثر على ترجمـة طلبة الجامعـة اليمنيين للنصـوص العربية إلى اللغـة الإنجليزية عند اسـتخدامهم مترجم قوقـل، ولتحقيـق هذا الهدف، تم اسـتخدام منهجية نوعية من خلال المقابلة لجمـع البيانات من الطلبة حـول العوامـل التي قد تؤثر على ترجمتهم، وقـد تم تحليل البيانات والتي جمعت باسـتخدام طريقة التحليـل المواضيعي. بينت النتائج وجـود عوامل محفزة وأخرى معيقة تؤثـر على ترجمة الطلبة عند اسـتخدامهم مترجم قوقل. وقد شملت العوامل المحفزة من وجهة نظر بعض المشاركين: الموقف الإيجابي تجاه الترجمة الآلية، ووعي الطلبة بجوانب القصور ـِ مترجم قوقل، وعدم الرضا عن ترجمات مترجم قوقل، وكذلك اسـتراتيجية التفكير بصوت عال أثناء الترجمة. وعلى العكس من ذلك، تضمنت العوامل المعيقة: التحديات التي واجهها المشـاركون، وعدم الكفاءة ـِ اسـتخدام ترجمة قوقل، والآثار السـلبية للتفـكير بصوت عال أثناء الترجمة من وجهة نظر بعض المشـاركين، بالإضافة إلى الموقف السـلبي تجاه ترجمة قوقل. وتقدم الدراسـة رؤى للمعلمين حول ما قد يؤثر على ترجمة الطلبة باسـتخدام ترجمة قوقل، والتي يمكن أن تؤخذ بعين الاعتبار عند تدريب طلبة الترجمة على كيفية استخدام مترجم قوقل بطريقة فعالة. ويمكن أن تتناول الأبحاث المستقبلية العوامل التي قد تؤثر على استخدام الطلبة لأدوات الترجمة الآلية الأخرى، بما ـِ ذلك الذكاء الاصطناعي.

الكلمــات المفتاحيــة : ترجمة قوقل، الترجمة الآليــة، العوامل المؤثرة ـِ الترجمــة، طلبة الترجمة الجامعيين، المنهج النوعي.

Introduction

One effective way to facilitate communication between people of different languages is to present information in a language that the audience can understand. This can be done through translation, the process of conveying meaning from one language to another, ensuring that the target text accurately reflects the author's intended meaning (Newmark, 1988). Human translators are essential for complex or culturally sensitive texts; however, the increasing volume of written material necessitates alternative tools to assist in translation. Technology has played a vital role in facilitating and enhancing the accuracy and efficiency of translation, especially when technology tools are used effectively, and translators possess adequate linguistic and cultural knowledge (Gough, 2011). Understanding machine translation (MT) tools and their capabilities is crucial for achieving desired results (Doherty, 2016).

Machine Translation (MT) Tools

MT tools, such as Google Translate, Microsoft Bing and Ginger, have experienced significant growth, with millions of words being translated daily (Kumar, 2012). Although these tools can be faster than human translation, the quality of the output depends on user's knowledge and revisions (Longares, 2015). Skilled translators can detect and correct errors, conduct stylistic revisions, and effectively use such tools. This requires familiarity with MT programs, computers, and word-processing software (Krings, 2001).

Google Translate (GT)

GT is one of the most popular online MT tools that supports over 90 languages and translates various types of texts (Ghasemi & Hashemian, 2016). Despite its widespread use, GT may produce inaccurate translations (Darancik, 2016; Koponen, 2010). To improve the quality of its output, pre-editing and post-editing are essential (Al-Batineh & Al Tenaijy, 2024; Salimi, 2014; Udina, 2019).

Pre-editing involves preparing the source text for translation by following certain language rules such as maintaining clear sentence structures, breaking up long sentences, and using formal language (Austermuhl, 2014). This can make the source text more comprehensible and standard (Anggrina et al., 2017). Post-editing involves modifying GT output such as correcting

mistranslated words, deleting confusing elements, and modifying sentence structure for better comprehension (Depraetere, 2010). During pre-editing and post-editing, students' translation may be positively or negatively affected by certain factors.

Factors Affecting Translation

Effective translation process requires a combination of knowledge and skills, including problem-solving and decision-making abilities (PACTE group, 2005). Lack of proficiency in MT tools can lead to translation errors, such as grammatical, semantic, pragmatic, orthographic, phonological, and strategic problems (Al-Jarf, 2010; Longares, 2015).

Although MT has become a valuable tool, it cannot fully replace human translation, especially for language pairs with significant linguistic and cultural differences, such as Arabic and English (Jabak, 2019), which make the translation between the two languages challenging (Hadla et al., 2014; Salem, 2009). Human translators can use their cultural knowledge to select appropriate equivalents in the target language and modify machine-generated translations.

The translation process typically involves three phases: pre-editing, editing, and post-editing (Dimitrova, 2005). Understanding these phases and the associated requirements can help translators, especially novices, improve MT output (Guerberof-Arenas, 2013).

Effective translation requires a conscious effort to pre-modify and post-modify the source or translated text to achieve an output comparable to professional translations (Wirantaka & Fijanah, 2021). This involves adhering to pre-editing and post-editing rules and understanding the limitations of MT tools.

Additionally, translators should understand source text characteristics such as length, function, topic, specialization, structure, vocabulary, difficulty, and syntax, as well as target text requirements (Munkova et al., 2020; Tatsumi, 2010). However, hesitation, limited technology skills, lack of experience, slow processing speed, and knowledge gaps are factors that can affect translators' competence (Tatsumi, 2010).

Previous Studies

To establish the theoretical background for this study, a comprehensive review of existing literature related to machine translation (MT), Google Translate (GT), and factors affecting translation using GT was conducted.

Studies Related to Machine Translation

Several studies have explored the role of MT in translation and language learning (e.g., Almutawa & Izwaini, 2015; Raheem, 2020; Rico & Gonzalez-Pastor, 2022). Findings revealed that MT can significantly enhance learners' translation abilities and facilitate effective learning (Raheem, 2020). MT literacy was viewed important in developing translation competencies (Rico & Gonzalez-Pastor, 2022). However, Almutawa and Izwaini (2015) noted that many Saudi organizations still have skepticism towards MT. Some other studies stressed the crucial role of human translators in refining MT outputs, especially when dealing with idiomatic expressions (e.g., Abdulhaq, 2016). Additionally, previous studies compared different MT tools, such as Google Translate, Microsoft Bing, and Ginger, and found that although those tools can provide a general understanding of the translated text, post-editing is essential for accurate translations (Ali, 2020; Azer & Aghayi, 2015).

Studies Related to Google Translate

Previous studies have also focused on evaluating GT. For instance, Panah et al. (2022) identified the translation methods used by GT and analyzed its errors, finding that GT often employs various translation techniques but may produce inaccuracies such as pronoun misuse and incoherence. Aiken (2019) observed that GT's accuracy had improved over time, especially for certain language pairs. Sutrisno (2020) examined GT's limitations, noting its effectiveness at the word and phrase level but shortcomings in overall accuracy. Lunić et al. (2020) found that students had better comprehension of GT-translated texts, especially for technical subjects, highlighting the importance of contextual understanding. Aizouky (2020) and Noviarini (2021) emphasized the limitations of GT, indicating that it cannot fully replace human translators due to its inability to accurately translate cultural terms and complex texts.

Studies Related to Factors Affecting the Translation Process

Limited studies have been conducted on factors affecting the translation process in general. For instance, Panah et al. (2022) investigated factors affecting the use of GT as a language learning tool from teachers' perspectives, finding that ease of use, accuracy, and usefulness were significant predictors. Al-Batineh and Al Tenaijy (2024) conducted a study to identify the technology-

related skills needed in the Arabic translation market and found that, while demand for computer-aided translation and software localization skills is increasing, few training programs offer localization courses, indicating a need for improvement in translator education.

Study Gap

Although previous studies have explored various aspects of the translation process and what influences that process from the perspectives of teachers (Panah et al., 2022) and from the analysis of market needs (Al-Batineh & Al Tenaijy, 2024), factors that may influence this process undertaken by university translation students when translating Arabic texts into English using GT remain unexplored. Thus, this study aims to explore factors affecting students' translation of Arabic texts into English using GT.

Statement of the Problem

Google Translate presents both opportunities and challenges for undergraduate translation students. Although it can serve as a helpful tool to facilitate the translation process, excessive reliance on GT can result in unsatisfactory translation output (Abdalhussein, 2021; Tabib, 2024). This can negatively impact the development of second language learners' translation skills (Bin Dahmash, 2020), particularly when the translation input is uncontrolled (Anggrina et al., 2017) and the output is not edited (Belam, 2003).

Yemeni undergraduate translation students frequently rely on GT for their assignments, but they often lack awareness of its limitations and the potential for inaccurate translations (Alsalem, 2019). Their translation may be hindered by a failure to adhere to established editing rules, resulting in outputs that do not meet professional standards (Kenny, 2022; Wirantaka & Fijanah, 2021). This suggests that certain factors may influence students' translation when using GT, leading to inaccurate and unsatisfactory results (Cancino & Panes, 2021). Further research is needed to identify these factors, ensuring how GT can be used effectively as a tool to support, rather than hinder, the development of students' translation skills, providing insights into how to improve the accuracy of their translations (Al-Batineh & Al Tenaijy, 2024). Thus, this study aims to answer the following question:

What are the factors that affect Yemeni undergraduate students' translation of Arabic texts into English using GT?

Methodology

Study Design

The study adopted a qualitative approach which is dedicated to the exploration and comprehension of one phenomenon for specific individuals (Creswell & Creswell, 2018).

Study Population and Sample

The population for this study consisted of Level 4 undergraduate translation students enrolled in the second semester of the academic year 2023-2024 at a private university, i.e., University of Science and Technology, Sana'a. This population was selected due to their anticipated high level of proficiency in translation and machine translation tools, including GT, given their advanced stage of study.

Eleven female translation students were purposefully chosen as a sample for participation, given that all level four students were female. Purposive sampling technique allows researchers to select participants who are likely to provide valuable insights and contribute relevant data to the study (Patton, 2015). This approach which is commonly used in qualitative research is viewed as effective with smaller sample sizes of 10-50 participants (Creswell & Creswell, 2018). Among the entire population of fourth-level students, only 11 volunteered to participate in the interviews.

Study Instrument

A semi-structured in-depth interview was conducted to encourage participants to provide spontaneous and comprehensive responses (Ryan et al., 2009) regarding their viewpoints and experiences (DiCicco-Bloom & Crabtree, 2006; Lambert & Loiselle, 2008) on factors that may affect their translation when using Google Translate (GT). The researchers prepared open-ended questions based on the study question and review of related literature.

The interview questions aimed to gather data on participants' perspectives regarding the factors affecting their translation of Arabic texts into English. They focused on participants' knowledge and skills in translation, as well as their experiences with machine translation tools, including GT. Follow-up questions were also asked to gain more in-depth understanding of the issues that emerged during the discussions.

Validity and Reliability of the Instrument

To ensure the validity of the instrument, the interview questions, prepared by the researchers, were sent to six experts in translation and applied linguistics who were requested to evaluate the questions for clarity, relevance, and appropriateness. Based on the feedback provided by the experts, necessary modifications were made to enhance the instrument's validity.

The reliability of the instrument was established through a pilot study involving two participants who were excluded from the main study. Questions that were found to be ambiguous or confusing were revised to improve clarity and understanding. Additionally, to enhance the accuracy of the data collected, the main researcher conducted a member checking process. This involved summarizing the key points generated from the interview with each participant and seeking the participant's confirmation to ensure that participants' perspectives were accurately captured (Lincoln & Guba, 1985).

Data Collection

After obtaining informed consent from the participants (eleven Level 4 female translation students), the main researcher conducted individual semi-structured interviews with each student at the university campus. The average interview duration with each participant was 25 minutes. To ensure accurate transcription and analysis, all interviews were audio-recorded.

Data Analysis

To elicit factors which affect the translation process that undergraduate students engage in when translating Arabic texts into English using GT, audio-recorded interviews were analysed thematically following Ritchie and Spencer's (2002) analysis framework (transcription, familiarization, coding, theme identification, interpretation, and reporting). First, the audio-recorded interviews were transcribed using the Microsoft Word document and students' grammatical errors in the audio-recordings were corrected by the researchers. Second, the researchers familiarized themselves with the data by reading and re-reading the interview transcriptions. This step aided in gaining a comprehensive understanding of the data and identifying initial codes. It involved eliciting and writing phrases that indicated factors influencing students' translation when using GT. Subsequently, the researchers elicited sub-themes from the codes, which were then categorized to identify the main themes. Finally, the researchers reported the findings of the analysis.

Findings and Discussion

To answer the study question, ''What are the factors that affect Yemeni undergraduate students' translation of Arabic texts into English using GT?'', Table (1) presents the main and sub-themes identified through the interview analysis. These themes shed light on the factors that affect Yemeni undergraduate students' translation of Arabic texts into English using GT.

Table 1: Main and Sub-themes of Factors Affecting Students' Translation

Main themes	Sub-themes
1. Fostering factors	a. Positive attitude toward MT (including GT) (participants: 1, 2, 3, 4, 6, 7, & 8) b. The awareness of GT limitations (participants: 1, 2, 3, 8, & 9) c. Dissatisfaction with GT translations (participants: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 & 11) d. Think-aloud strategy (participants: 3, 5, 6, 8, 9, 10 & 11)
2. Impeding factors	a. Challenges faced by participants (1, 2, 3, 4, 5, 6, 7, 8, 9, 10 & 11) b. Lack of competence in using GT (participants: 1, 4, 6 & 9) c. Negative attitude toward GT (participants: 1, 2, 3, 4, 6, 7, & 8) d. Negative effects of think-aloud (participants: 7 & 11)

According to Table (1), two main themes related to factors affecting students' translation were generated: 1. Fostering factors and 2. Impeding factors. Each main theme includes four sub-themes.

1. Fostering Factors:

This main theme includes some sub-themes i.e., A. Positive attitude toward MT, B. Awareness of GT limitations, C. Dissatisfaction with GT translations, and D. Think-aloud strategy.

A. Positive Attitude Toward MT:

Several participants expressed positive views toward MT tools, including GT (participants: 1, 2, 3, 4, 6, 7, & 8). They believed that MT could be effective for specific text types such as political discourse. Participant 3 exemplified this view, stating, ''I think GT is correct because GT translates political texts correctly sometimes. Because these texts are popular not like Hadith and Quran. GT translates politics better than other texts''. However, this trust

had its limits. Participants (3) and (6) expressed a preference for using tools such as Reverso Context and Almaany Dictionary beside MT. This aligns with comments stated by participant 2: ''I used the Reverso and Almaany Dictionary''. It is worth mentioning that participant 2 even mentioned instructor's recommendation of Reverso and Almaany over GT: ''Dr. … advises us to use Reverso and Almaany''.

Although some participants expressed a preference for alternative translation tools such as Reverso Context (e.g., participant 1: ''I used Reverso Context and I think Reverso is the best''), this does not necessarily indicate their negative attitude towards GT. It is more likely that their instructor's recommendation influenced their choices. However, the study highlights the potential benefits of training students on how to effectively use GT alongside other resources, drawing on the free and user-friendly nature of GT, making it an attractive option for quick translations.

Mastering MT tools, which can be helpful for understanding the basic meaning of the text (Groves & Mundt, 2015), is increasingly recognized as an essential skill for future translators (Rothwell & Svoboda, 2019). According to Guerberof-Arenas et al. (2024), students who receive pre- and post-editing training for MT tools exhibit greater confidence in experimentation, problem-solving, and developing their own translation skills. This underlines the importance of incorporating MT training including GT into translation education.

B. Awareness of GT Limitations:

Most of the participants (1, 2, 3, 5, 8 & 9) were aware of potential inaccuracies in GT outputs. This awareness could motivate them to engage in pre-editing and post-editing for improving GT output. Participant 5 demonstrated this awareness, stating:

Okay, GT does not give us the accurate and specific meaning of the words. I feel GT gives us literal meaning more than the linguistic and cultural meaning that we want to achieve … I feel GT does not fit for all texts.

 Also, what was stated by participant 3, ''Sometimes GT translates correctly for the most popular texts. But I never use GT, I mean not always, because I use Reverso context'', implies users' awareness of GT's shortcomings which can motivate them to edit its output.

Although students were motivated by GT's ease of use and free accessibility, in addition to its use as a valuable language learning tool that helps students build vocabulary (Groves & Mundt, 2015), participants showed awareness of GT's accuracy limitations and tendency towards literal translation. This awareness, as stated by participant 5: ''As I told you, the first weakness which is a literal translation… GT does not have that amount of the synonyms of the words'', fosters a more critical analysis of GT outputs, leading to more human-like translations, a point highlighted by Alharbi (2023). When coupled with pre-editing and post-editing strategies, participants' awareness of GT translations could potentially lead to improved translation outputs (Alharbi, 2023).

C. Dissatisfaction with GT Translations:

All participants (1-11) expressed dissatisfaction with the quality of GT translations. Although some found that the general meaning of the text was conveyed in the GT translation, they felt the need for revising and improving GT output. This is evident in what was mentioned by participant 6:

I knew GT makes mistakes, so when I translated, I knew there are mistakes, and I have to check … It is like 50%. Because GT gives me the whole meaning of the text, so from my experience; when I get the idea I can change and make it better.

In addition, participant 9 pointed out that GT has potential errors which require post-editing. This aligns with Masdhalifa's (2021) observation that inaccuracies in GT can interrupt the meaning of the translated text. Participant 6 indicated a partial reliance on GT, using it for grasping the general idea of the text before revising for better quality.

Moreover, participant 5 perceives GT as a translation tool with a tendency towards literal translations, lacking natural flow and cultural context (Baihaqi & Mulyana, 2021; Kartika, 2017). Participants' dissatisfaction with GT outputs i.e., grammatical errors and understanding the advanced vocabulary used in lengthy texts (Santya, 2021), which motivates students to modify GT, is evident in the words of participant 2 when asked about GT outputs: ''Zero, zero (laughing). I'm not satisfied with my translation''. This indicates that participants' dissatisfaction with GT outputs was a motive for their engagement in the editing translation process.

D. Think-aloud Strategy:

The think-aloud strategy adopted during participants' translation appeared beneficial for most of them (participants: 3, 5, 6, 8, 9, 10 & 11). This strategy encouraged participants to engage in pre-editing and post-editing, allowing them to analyse the source texts and improve their translations. For instance, participant 3 reported, ''Ahh, think-aloud has affected me a lot because when I read the sentence and think of these words, are they correct or not? It helps me to correct my translation''. This verbalization of the translation process allows participants to identify potential issues and make adjustments (Leow & Morgan-Short, 2004).

Similarly, participant 10 highlighted the value of verbalizing thoughts during translation: ''When I speak while translating, it helps me a lot''. This suggests that speaking their thoughts aloud helps participants focus on the source text and improve the accuracy of the translation output.

The think-aloud strategy, which emerged as a fostering factor influencing students' engagement with GT, motivated participants to engage more deeply in the translation process. Verbalizing their thoughts during pre-editing and post-editing encouraged them to identify potential errors and make necessary corrections before and after using GT to achieve better translation outcomes (Leow & Morgan-Short, 2004). This was highlighted by participant 11, who mentioned that she wanted to paraphrase sentences for better flow but lacked time due to pressure.

2. Impeding Factors:

The second main theme, i.e., impeding factors, involves A. Challenges faced by participants, B. Lack of competence in using GT, C. Negative attitude toward GT, and D. Negative effects of think-aloud.

A. Challenges Faced by Participants:

Participants encountered a variety of challenges during translation. These challenges can be broadly categorized into issues with the GT itself, difficulties in understanding the source text, and limitations in participants' abilities. Some participants (1, 3, 5, 6 & 10) reported encountering missing information and inconsistency in the translations of GT, making it difficult to rely solely on its output.

Moreover, participants (2, 4, 7, 9 & 11) faced difficulty in understanding the source text as they struggled to find appropriate English equivalents. An example of this is what was stated by participant 11, ''The challenges sometimes are the difficulties of understanding some terms in the source text''. Another example was mentioned by participant 2, ''I did not understand some words in the source text''. This could be due to a lack of knowledge in specific subject areas, leading to misinterpretations (Pham et al., 2022). Furthermore, participants reported difficulty finding appropriate equivalents in the target language. Participant 5 attributed this to limitation in vocabulary and inaccurate word meaning (Nugroho et al., 2021).

Similarly, participants faced difficulty in translating idioms and figurative language. For example, participant 4 mentioned the difficulty with translating Arabic idioms, and participant 7 highlighted the issue of GT rendering metaphors and proverbs literally, resulting in inaccurate translations. This aligns with Kartika's (2017) findings that MT generally produces less accurate translations.

Additionally, limited experience with computers created additional challenges for participants. The pressure to complete translations quickly affected the quality of the GT outputs. Participants 8, 9 and 11 highlighted the challenge of balancing between speed and accuracy of translation, a common problem for many GT users (Ghobadi et al., 2017). Participant 9 stated: ''I have a big problem with typing because I do not use a computer, so I use a phone… it is very easy for me with the phone''. Also, slow typing speed hindered the translation process for some participants (e.g., participant 4), and time constraints impeded students' translation as mentioned by participant 8, '' when you are typing, you want to use the time and finish your job''.

B. Lack of Competence in Using GT:

Some participants (1, 2, 4, 6 & 9) demonstrated a lack of experience or proficiency in using GT and related computer applications. This might be due to limited training on MT tools. For instance, participant 6 mentioned the challenge of finding the specific place to copy the translated text from the GT interface. Moreover, some participants mentioned that they rely more on other resources than on GT as stated by participant 2, ''I used the Reverso and Almaany dictionary''. When asked about their familiarity with GT, participant 9 responded, ''Actually, I do not have any idea about this ''. This suggests a lack of knowledge and specific training among participants on

how to use GT and related applications effectively, which justifies Guerberof-Arenas et al.'s (2024) call for training students on how to evaluate and revise MT outputs.

C. Negative Attitude Toward GT:

Although some participants expressed a positive view of GT for translating specific text types as already mentioned, some other participants (e.g., 2 & 5), viewed it as less accurate than human translation. This aligns with Abdalhussein's (2021) findings, which highlight students' negative perceptions of using GT and its output accuracy. This implies a potential need for addressing misconceptions about GT's role as a translation aid rather than a replacement for human translators (Maulidiyah, 2018). Exploring alternative methods and training translation students in using various translation technology tools can change students' negative perceptions about GT and equip them with essential competence for using MT tools, including GT, effectively.

D. Negative Effects of Think-aloud:

Although the think-aloud strategy, adopted by participants during the translation of Arabic texts into English using GT was found beneficial for some participants, as discussed earlier, not all participants perceived it useful. A couple of participants (7 & 11) reported experiencing discomfort with this strategy as it interrupted their usual silent thought process. This is evident in the statement provided by participant 11 about this strategy: ''I did not like it because I used to think in my mind silently. I cannot say a negative way but, a little bit, not comfortable''. This aligns with Someren et al. (1994) who suggested that thinking aloud during translation can be cognitively demanding, potentially reducing the quality and accuracy of translations.

Conclusions, Implications and Future Research Directions

This study investigated the experiences of Yemeni undergraduate translation students with Google Translate (GT) at a private university, revealing a multifaceted interplay of factors that influenced their use of the tool. While fostering factors motivated students to engage with GT more critically and creatively, leading to improved translation outcomes, impeding factors highlighted the need for additional support and training to enhance students' ability to effectively utilize MT tools.

By addressing the impeding factors and making use of the fostering factors, students can maximize the benefits of GT as a translation tool. Additionally, exposing students to a strong theoretical foundation in translation and engaging them in practical experience through translation practice using technology can help develop students' translation competence in using MT tools. Also, incorporating MT training into translation curricula, focusing on students' translation skills and effective use of MT tools (particularly GT), emphasizing pre-editing and post-editing, can contribute to the development of technology translation skills among university students.

The study provides valuable insights into the challenges and opportunities associated with GT-assisted translation, helping students to use GT more effectively and enabling teachers to provide informed guidance and support to students. Furthermore, the study findings can inform curriculum development and training programs in translation technology, helping universities and curriculum designers to refine their programs and ensure that students are adequately prepared to use GT effectively.

The current study focused exclusively on female students. Future research might include both male and female participants and utilize a larger sample size to generate findings that are more generalizable. Additionally, future studies could investigate how the think-aloud strategy enhances university students' translation skills when using machine translation tools. Moreover, exploring the impact of emerging technologies, such as artificial intelligence, on student translation practices could provide valuable insights into deeper understanding of translation education and practice.

Authors' Contribution

RDHS and WMAA developed the introduction, literature review, problem statement, and research objectives, as well as designed the research methodology. RDHS collected and analyzed the data, and contributed to the interpretation of the results. Both authors highlighted the conclusions and recommendations and read and approved the final manuscript.

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