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Navigating the Opportunities and Challenges of Google Translate: A Thematic Analysis of its Impact on Arabic-English EFL Learners

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Abstract: This qualitative study explores the impact of Google Translate (GT) on learners' engagement, comprehension, and autonomy in second language acquisition, with a specific focus on English as a foreign language in Arabic-speaking contexts. Drawing on a thematic synthesis of existing research and relevant literature, the study integrates insights from empirical findings and theoretical perspectives. The analysis shows that GT enhances engagement by reducing affective barriers, supports comprehension through access to vocabulary and syntactic structures, and promotes learner autonomy by enabling self-directed learning. However, excessive reliance on GT may limit deeper cognitive processing. The findings also highlight its limitations in handling idiomatic expressions and culturally specific language. The study concludes that GT should be integrated as a mediating tool within language learning, supported by structured reflection to maximize its benefits while minimizing potential drawbacks.

Keywords: *Google Translate; machine translation; language learning; learner engagement; learner autonomy; EFL; Arabic–English contexts; CALL; AI-mediated learning; thematic analysis*

1. Introduction

Technology over the last few years has transformed the foreign language learning process by providing autonomous and independent learning activities. Among the plethora of digital learning tools used in the foreign language learning process today, GT deserves special mention due to its popularity and numerous features, including bilingual translation, pronunciation help, and instant translation of texts (Rowe, 2022). Studies have proven that besides being a tool for translation, GT is also a biliterate composing application, promoting multilingual ideologies and inclusive language practices in educational institutions (Rowe, 2022; O'Neill, 2019).

It has been established that digital vocabulary tools and translation applications facilitate positive motivation, decrease the incidence of negative emotions, and improve academic performance, especially among low-performing students (Sadan et al., 2024). Nevertheless, there is an inconsistency in the efficacy of machine translation across different languages. For example, GT works successfully when translating Spanish or Chinese but shows poor results regarding less widely spoken languages (Kong et al., 2025). In addition, translation services such as GT cannot cope with idiomaticity and culture-specific knowledge, making human translation superior in these cases (Corpas Pastor & Noriega-Santiáñez, 2024).

Nonetheless, GT serves as an important source for personalizing learning environments, enhancing learners' pronunciation skills, and increasing their independence (Joseph et al., 2024). On the other

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hand, incorporating GT in classroom practice requires high levels of digital literacy, access to technology, and pedagogical interventions aimed at preventing overdependence (Ng et al., 2023; Nguyen & Habók, 2023).

The following research question guides the investigation of the selected theme, specifically in relation to GT and its impact on second-language acquisition, particularly in Arabic-English EFL learners.

Research Question: How does Google Translate influence engagement, comprehension, and autonomy of learners during second-language acquisition?

2. Conceptual Background

2.1 Technology in Language Learning

Digital technologies, especially AI-assisted software such as GT, have revolutionized language learning through easy access to multiple languages, reduced cognitive overload, and enhanced motivation (Rowe, 2022). Research indicates that MT software such as GT, DeepL, and Microsoft CoPilot improve vocabulary development and bilingual writing skills in learners, especially children (Rowe, 2022; O'Neill, 2019). Yet, heavy dependence on such technologies can result in superficial learning processes, as learners depend more on translations and less on language analysis (Deng & Yu, 2022).

In order to fully exploit the advantages of MT, teachers need to ensure that students acquire adequate knowledge about how to use such technology appropriately. In other words, educators need to develop machine translation literacy in students so that they learn when and why they should use such technology (Dorst et al., 2022).

2.2 Evolution of Machine Translation

The history of machine translation spans from rule-based approaches to neural machine translation (NMT) that relies on deep learning for contextual translation fluency (Hang et al., 2024). Despite progress in accuracy, NMT struggles with the translation of idioms, pragmatics, and low-resource languages (Zhang et al., 2024). In the future, innovations could involve adaptive learning algorithms and multimodal translation, while ethical issues will include bias and privacy (Liu et al., 2025).

2.3 Engagement, Comprehension, and Autonomy

The impact of Google Translate (GT) on language acquisition can be examined along three interrelated dimensions: engagement, comprehension, and autonomy. Firstly, GT contributes to engagement through minimizing frustration via prompt translation, thus maintaining learner motivation and diminishing affective filters (Han, 2021; Shen, 2021). Secondly, GT aids comprehension by fostering vocabulary and syntax understanding; yet GT may also generate the illusion of comprehension when processing complicated or idiomatic constructions requiring a deeper understanding of context (Alm, 2024). Lastly, GT facilitates learner autonomy through promoting self-regulation and problem-solving skills; yet an over-reliance on GT might induce dependency without reflective and critical practices (Dorst et al., 2022).

3. Methodology

3.1 Research Design

A qualitative thematic synthesis approach was used for synthesizing the results from extant literature on the use of GT in language acquisition. While thematic analysis is based on empirical data, thematic synthesis, in this case, involves synthesizing published papers as secondary data, as described by Thomas and Harden (2008). Thematic synthesis was chosen because it enables pattern recognition and analysis across various studies and provides higher-level analytical themes.

3.2 Study Selection and Screening Process

The selection of studies was based on a standardized screening methodology, according to the PRISMA guidelines. The initial database search, which consisted of searches within the ERIC, Google Scholar, Scopus, and Web of Science databases, yielded 186 articles. After excluding 38 duplicates, 148 articles remained to be screened based on their titles and abstracts.

During the screening process, 92 articles were discarded for their irrelevance regarding the research topic, contribution to the field of study, and context relevant to language learning settings. Fifty-six articles passed the screening process. The full-text screening stage led to the rejection of 31 articles for their irrelevance in relation to the Arabic EFL context, engagement and comprehension, as well as methodological rigor. Finally, the review was carried out based on 25 articles. This approach enabled an appropriate and thorough analysis of the selected literature.

3.3 Data Analysis

The analysis followed a structured thematic synthesis process based on the approach proposed by Thomas and Harden (2008), while also being informed by the analytical principles outlined by Braun and Clarke (2020). Initially, a line-by-line coding procedure was conducted, in which relevant findings and discussion sections from the selected studies were coded inductively. This process focused on identifying recurring patterns related to engagement, comprehension, and autonomy.

Following this, the generated codes were systematically organized into broader descriptive categories, allowing for the identification of recurring concepts across studies. This stage facilitated the consolidation of fragmented insights into coherent thematic groupings. In the final stage, higher-order analytical themes were developed by interpreting the relationships between these categories in relation to the research question. This process enabled the synthesis to move beyond description toward a more conceptual understanding of how Google Translate shapes language learning experiences.

3.4 Ensuring Rigor and Trustworthiness

Methodological robustness was achieved using a number of techniques throughout the research process. The research process was made transparent by documenting the entire procedure for searching sources, determining the inclusion criteria, and coding, thus making it possible to trace and replicate the process. An audit trail was created through systematic documentation of the coding process as well as theme building, which helped in tracking the development of interpretations. Additionally, iteration was employed in refining the generated themes to ensure coherence and consistency. Lastly, theory triangulation was used through interpreting the results based on different theoretical frameworks, such as learner autonomy and AI-based learning.

4. Thematic Insights

4.1 Engagement: GT as an Affective and Cognitive Gateway

GT reduces affective barriers by providing instant translations, thereby lowering anxiety and sustaining engagement (Sadan et al., 2024; Han, 2021). However, some learners exhibit superficial interaction, using GT for quick answers rather than deep processing (Dorst et al., 2022).

Table 1: Engagement Dimensions Mediated by GT

Engagement Dimension	Empirical Observation	Theoretical Anchor
Affective	Reduced anxiety	Sadan et al. (2024)
Behavioral	Sustained text exposure	Rowe (2022)
Cognitive	Mixed processing depth	Dorst et al. (2022)

4.2 Comprehension: Lexical Support and Illusory Understanding

While GT can be used to interpret lexical items and syntactic structure, it fails when handling idiomatic expressions, pragmatics, and other culturally-bound language constructions (Corpas Pastor & Noriega-Santiáñez, 2024). In relation to the Arabic language setting, these limitations become more apparent due to the existence of certain characteristics inherent in the language that are yet to be fully captured by current machine learning models. First, Arabic diglossia results in switching between Modern Standard Arabic and local dialects, making GT translations structurally correct but semantically inaccurate or socially awkward. Second, frequent usage of the root-and-pattern system, clitics, gender marking, and short vowel omission poses additional challenges to resolving lexical ambiguity and achieving word sense disambiguation.

Table 2: Comprehension Outcomes and Limitations

Comprehension Level	GT Contribution	Limitation	Supporting Literature
Lexical	Immediate access	Weak retention	Rowe (2022)
Syntactic	Pattern recognition	Overgeneralization	Zhang et al. (2024)
Pragmatic	Limited contextual support	Cultural distortion	Corpas Pastor & Noriega-Santiáñez (2024)

4.3 Autonomy: Conditional Independence

GT fosters self-directed learning but risks creating dependency (Joseph et al., 2024). Autonomy varies by proficiency level, with advanced learners using GT for verification and refinement, while beginners rely on it for basic translation (Alm, 2024).

Table 3: Autonomy Across Proficiency Levels

Proficiency Level	GT Use Pattern	Autonomy Profile	Literature Alignment
Beginner	Constant translation	Survival autonomy	Dorst et al. (2022)
Intermediate	Strategic use	Emerging autonomy	Deng & Yu (2022)
Advanced	Verification	Reflective autonomy	Alm (2024)

Through this mechanism, GT can work as a mediating scaffold that enhances engagement, comprehension, and autonomy on the part of learners, although at the same time it poses risks such as shallow cognitive processing, dependency on technology, and loss of context. In addition, due to the phenomenon of diglossia and other specific characteristics of Arabic, the above-mentioned downsides could become even more pronounced. Yet, it should be noted that this is not merely a matter of technicality. As Warschauer (2004) puts it, digital technology use is inherently social and cannot be viewed as politically and ethically neutral. Thus, while allowing language learners access to a language they do not speak fluently, GT risks creating an impression of passivity and making learners dependent on technology.

In turn, from the perspective of digital literacies, Selwyn (2016) states that new technologies are not inherently revolutionary and tend to replicate the very inequalities they try to challenge. Thus, while acting as a means of promoting social justice, GT is prone to reproducing cultural and linguistic hegemony by translating expressions relating to the Arab world through particular cultural or religious lenses. Finally, from a sociocultural perspective, according to Norton and Toohey (2011), language learning is inseparably linked to the negotiation of meanings, identity construction, and power relationships.

Consequently, if GT usage becomes prevalent among learners of Arabic, their opportunities to negotiate meanings, construct identities, and join the target language community may necessarily diminish. Thus, a critical digital literacy perspective is essential. Apart from the skills and techniques necessary for successful GT use, learners need to develop a critical attitude, skepticism regarding GT authority, and an understanding of the limits imposed by using this tool. Specifically, learners should

comprehend that GT is not an unbiased interpreter but rather a technology developed by humans, always carrying the possibility of introducing certain biases, and thus the resulting translation might contain certain flaws.

To achieve the maximum benefit of GT usage within the language learning process, the following factors should be considered:

Learners: Interpret GT results not as definitive but rather as provisional interpretations of the source text, capable of being compared, paraphrased, and evaluated within specific contexts; particularly, learners should examine which meanings become emphasized and which are disregarded in GT translations, taking into account the possibility of dealing with Arabic dialects and expressions of a religious nature (Alm, 2024; Tsai, 2019; Warschauer, 2004).

Educators: Train learners in spotting GT errors, analyzing biases, and reflecting on issues of power dynamics within the machine translation process; Arabic-related GT aspects should be taken into account here (Deng & Yu, 2022; Groves & Mundt, 2015; Selwyn, 2016).

Curriculum designers: Include in the curriculum activities based on GT and aimed at fostering critical thinking and ethics awareness; in particular, this should involve comparing GT and human translations, examining cases of cultural distortion, and reflecting on mistranslations of religious or socially sensitive expressions in Arabic (Nguyen & Habók, 2023; Norton & Toohey, 2011).

5. Conclusion

With regard to the process of acquiring a second language, the application of Google Translate (GT) has become one of the innovations of the contemporary world. The use of various features in the platform, such as translation and pronunciation guidance, among others, contributes greatly to making the learning process more efficient. Thematic analysis reveals both the positive and negative aspects of using Google Translate in the acquisition of Arabic and English. In spite of the many opportunities Google Translate provides to make learning easy and engaging, there are also a number of challenges. Firstly, the research findings indicate that GT is able to facilitate learning because of its ability to reduce affective barriers, including anxiety and frustration, thus increasing the levels of motivation and engagement. On the other hand, it is clear that GT cannot effectively translate idiomatic and culture-bound expressions. Therefore, teachers are encouraged to cultivate a culture of machine translation literacy — specifically, it is important to show students how to properly use Google Translate, including when and how to apply the platform.

Finally, it is essential to state that GT should be applied systematically and reflectively during learning. Through the process of verification and paraphrasing of translations, the level of autonomy can be increased along with fostering higher-order cognitive skills. In this way, the benefits of GT will be achieved while possible drawbacks are minimized.

In sum, Google Translate is a beneficial platform for second language acquisition. However, for GT to yield positive results, it should be used reflectively and systematically. Technological advancements will continue to provide new platforms and software, and hence future EFL instruction will increasingly incorporate advanced AI-based tools.

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