

TRANSLANGUAGING WITH MACHINE TRANSLATION: A PEDAGOGICAL TOOL FOR ENHANCING LANGUAGE PROFICIENCY AND AUTONOMY OF IRANIAN EFL LEARNERS

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Abstract: This qualitative study critically explores how Iranian adult EFL learners at varying proficiency levels utilize Machine Translation (MT) to develop their English language competence, with particular attention to the role of their first language and its influence on their metacognitive awareness, self-regulation skills, and autonomy. Specifically, it investigates their perspectives on the benefits and drawbacks of using MT as a learning tool beyond formal settings. Participants were selected from a prestigious language institute in Shiraz, Iran, to explore their views on incorporating MT into their language learning and to conduct an in-depth analysis of their experiences through semi-structured interviews and focus group discussions. The results indicated that participants generally preferred using translanguaging with MT in their learning process. While intermediate learners primarily relied on MT for comprehension, vocabulary expansion, and writing assistance, upper-intermediate and advanced learners used it more selectively, leveraging its capabilities and critically assessing its shortcomings. The study showed that translanguaging through MT enabled learners to draw on their entire linguistic repertoire, develop their metacognition, and strengthen their autonomy. The implications offer valuable insights into the significance of translanguaging, particularly with MT, in language learning, highlighting its contribution to higher-order thinking abilities and the enhancement of language education.

Keywords: autonomy, heteroglossia, machine translation, metacognition, multilingual education, translanguaging

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The recent emergence of Artificial Intelligence (AI) in education has created new opportunities for substantially enhancing the productivity of both teaching and learning (Chiu et al., 2023; Shafiee Rad, 2024). More importantly, AI has truly revolutionized education by simplifying learning processes and fostering learner independence (Pratama et al., 2023). In recent years, Machine Translation (MT) – the use of computer software to translate text (either written or spoken) from one language to another (Pokrivcakova, 2019) – has also become prevalent due to

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the fast-paced progress in AI (Deng & Yu, 2022). Despite ongoing debates, MT has become increasingly popular both in and out of the classroom (Lee, 2020). Since language learners often struggle to access and process the target language in their immediate surroundings, external exposure and technology-mediated use of the language are crucial for language learning outside the classroom (Lai, 2019). Hence, successful language learners look for opportunities to interact with the language beyond the classroom (Ellis, 2005). As learners are growingly relying on such MT capable AI-driven tools for a variety of academic goals and everyday activities (Lee, 2020), this study explores the impact of MT and how it supports language learners outside formal educational contexts.

Alongside these pedagogical transformations, the insistence on monolingual instruction where a foreign language is exclusively used in the language classroom toward the attainment of native-like competency development has long been debunked (Liu & Fang, 2022), especially since the critical turn in English language teaching (ELT) in the 90s (Pennycook, 1990, 1994). In this changed paradigm, the translanguaging approach provides an opportunity to re-evaluate the long-standing question regarding the significance of the first language (L1) in teaching and learning L2 (Chowdhury, 2024a, 2024b; Wei, 2018). Translanguaging, which involves “the ability of multilingual speakers to shuttle between languages, treating the diverse languages that form their repertoire as an integrated system” (Canagarajah, 2011, p. 401), reshapes our perspectives on language, bi/multilingualism, and teaching methods, encouraging multilingual students to utilize and expand their specific meaning-making repertoire (Garcia & Kleifgen, 2020). As MacSwan (2017) explains, this term underpins the heteroglossic view of language, where languages are not compartmentalized in a learner or user’s linguistic repertoire (Blommaert, 2010; Canagarajah, 2013; Pennycook, 2010; Wei, 2018).

Despite the growing prominence of translanguaging in language teaching, it remains a contentious topic, particularly in settings where traditional language teaching approaches advocate for excluding the first language in the foreign language instruction (Serna-Bermejo & Lasagabaster, 2024), such as in Iran. It is thus essential for researchers, educators, and language practitioners to assess how effectively translanguaging practices can be integrated into ELT (Chowdhury, 2024a; Liu & Fang, 2022). In real-world contexts, translanguaging, especially with help of technology like MT tools, also requires further investigation to understand how it can be used dynamically to enhance language competence and facilitate language learning processes. As such, more information is needed to understand how much MT is incorporated into learners’ semiotic repertoire for informal learning, daily communication, or home-based learning (Kelly & Hou, 2022). This emphasizes the importance of examining the pivotal role of MT in EFL (English as a Foreign Language) contexts, such as Iran, and exploring whether translanguaging with MT is beneficial for learning English beyond formal settings.

The current study aims to investigate how Iranian language learners utilize MT outside educational environments to complement classroom learning, aid classroom activities, and fulfill their language needs in daily life. Accordingly, the participants were classified into three proficiency levels - intermediate, upper-intermediate, and advanced - to examine potential differences in how learners at varying levels leverage MT to support their learning and promote effective language skills. This research also focuses on learners’ views to demonstrate the strengths and shortcomings of translanguaging with MT for learning English. Specifically, it

determines the influence of learners' L1 on their language competence, metacognition, self-regulation, and autonomy, shedding light on how translanguaging with MT supports their language development and independence in the learning process. Therefore, the study aims to address the following research questions:

1. What are the practices of Iranian language learners at various proficiency levels in integrating MT into their language learning?
2. What are their attitudes toward the advantages and drawbacks of translanguaging with MT for learning English?
3. How does translanguaging with MT impact Iranian learners' language skills, metacognitive awareness, and autonomy?

Heteroglossia in Language Education

Heteroglossia challenges the exclusivity of a single language in the context of multilingualism (Set, 2023). While monoglossic language ideologies regard monolingualism as the norm, heteroglossic perspectives recognize multilingualism as the norm and examine the practices of language-minoritized learners through a multilingual lens (Flores & Rosa, 2015). In fact, a heteroglossic approach to languages highlights the necessity and influence of not only switching between named languages but also employing a variety of linguistic *forms* and *semiotic resources* to facilitate learning and make meaning (Goodman & Tastanbek, 2021). Consequently, there is a need for heteroglossic frameworks that recognize the complex discursive practices of multilingual learners, where their translanguaging is utilized in the process of meaning-making (García & Sylvan, 2011).

The foundations of translanguaging theory are largely derived from Bakhtin's idea of heteroglossia (Turner & Lin, 2020), which signified a shift from seeing languages as isolated entities to recognizing their integration, from a diglossic perspective to a heteroglossic understanding of minority languages, and from focusing on negative aspects of bilingualism to highlighting its benefits where languages function concurrently in the brain, classroom, and society (Lewis et al., 2012a). Therefore, pedagogical translanguaging embraces *both* multilingualism and heteroglossia, considering languages as fluid and co-existing (Cenoz & Gorter, 2021). Since this concept substantially impacts the learning experiences of bilingual or multilingual students, this research focuses on how translanguaging with MT helps Iranian language learners draw upon their full linguistic repertoire to deepen their comprehension and enrich their learning process.

Translanguaging as an Educational Tool

García proposed the concept of dynamic bilingualism to represent the complex bilingual skills required for communication in the 21st century (Baker & Wright, 2021). This concept opposes the linear views of bilingualism found in both additive and subtractive models (Baker & Wright, 2021). In this context, translanguaging has offered valuable insights into language policy, ideology, and pedagogy, as well as influencing teachers' perspectives on language in classroom environments (MacSwan, 2017). It broadly relates to how bilingual learners

communicate and construct meaning by utilizing and blending linguistic elements from various languages (Hornberger & Link, 2012). Thus, a key advantage of translanguaging is that it enables learners to access a broader range of information by drawing on multiple languages (Cenoz & Gorter, 2022).

Over the years, translanguaging has demonstrated its effectiveness as a teaching method in various educational settings where the instructional language or the language used in schools differs from learners' languages (Wei, 2018). Translanguaging practices are seen as a natural and typical way of communication, rather than a deviation (Creese & Blackledge, 2015), and cannot be fully constrained by monolingual education policies (Canagarajah, 2011). According to Lewis et al. (2012b), translanguaging practices facilitate connections between home and school, particularly when the learner is being taught in a language that their parents do not understand. It also has the potential to enhance a more comprehensive and thorough understanding of the topic (Baker, 2001). Hence, it attempts to strengthen the learning process by utilizing the speaker's full linguistic repertoire rather than overlooking the knowledge that multilingual learners possess due to their educational and linguistic backgrounds (Cenoz & Gorter, 2020).

MT in Language Learning

More recently, advancements in AI, such as neural MT, have significantly enhanced the quality of MT (Pokrivcakova, 2019). Beyond the classroom, MT helps millions of learners obtain at least a limited understanding of content that otherwise would have been entirely incomprehensible (Garcia & Pena, 2011). While learners are mostly cognizant of MT's shortcomings (Jolley & Maimone, 2022), they still regard it as a useful and convenient resource for supporting their language learning (Jolley & Maimone, 2022). Consequently, it appears unavoidable that learners rely on applications that enable them not only to comprehend the meaning of words but also to translate entire sections of text into their native language or English (Groves & Mundt, 2015).

The significance of MT in language learning has been examined in various contexts. For example, Garcia and Pena (2011) attempted to evaluate students' performance in writing directly in Spanish versus using MT as a tool. Their study aimed to determine whether MT helped them express themselves more effectively in Spanish and whether its use facilitated or hindered their language learning process. The findings suggested that MT assisted *beginner* learners in communicating more effectively in the target language, allowing them to produce a greater number of words relevant to specific situations. This support seemed to be particularly beneficial for learners with limited knowledge of Spanish. Likewise, Briggs (2018) investigated students' attitudes toward web-based machine translation (WBMT) tools for learning English in Korea. The results showed that most students employed WBMT to aid their language learning in academic settings and at home. While many expressed doubts about the accuracy of the outputs, the findings highlighted disparities among students regarding their reliance on and perceived benefits of WBMT tools.

Tsai (2019) also examined the effectiveness of Google Translate (GT) by comparing English translations of Chinese texts written by EFL students in different contexts with unaided English writing in the same contexts and assessed students' views on their utilization of GT. Tsai

concluded that English texts translated by GT demonstrated significantly higher writing quality in several aspects compared to students' self-written texts. Furthermore, the results indicated that students were content with using GT in their English writing process. In another Korean study, Lee (2020) conducted a mixed-methods study to explore the role of MT in developing students' L2 writing. An analysis of students' writing outcomes revealed that MT was helpful in reducing lexico-grammatical errors and improving the quality of their revisions. This study also indicated that such MT had a positive impact on students' writing strategies and could be applied as an effective tool in language learning.

While prior studies have indicated that MT tools can support language learners in developing their language skills, especially in writing, there remains a need for more comprehensive research on how learners in real-life contexts incorporate MT into their pedagogical resources for learning English and how their first language influences this process. This is particularly significant in Iran, where, to our knowledge, no such studies have been conducted. Additionally, it is vital to examine the role of MT among language learners with differing proficiency levels to compare their attitudes and determine its effects on their language proficiency, self-regulation, and autonomy *beyond* formal settings. For these reasons, the present study seeks to explore the importance of MT in language learning based on learners' abilities.

Autonomy and AI

Metacognition, autonomy, and learning are interconnected, and the synergy among these can be profoundly disrupted if metacognition is not developed (Victori & Lockhart, 1995). Metacognition is defined as "knowledge, awareness, and regulation of one's thinking" (Zimmerman & Moylan, 2009, p. 299). According to Flavell (1979), metacognition is crucial in different domains, including oral information communication, language learning, reading comprehension, writing, problem-solving, self-instruction and self-control. Metacognitive knowledge is fundamental for self-regulated learning (Chowdhury, 2021; Falahi & Chowdhury, 2024; Wenden, 1998), the key purpose of which is to develop skills for lifelong learning (Zimmerman, 2002). Autonomy, the ability to take control of one's own learning, is regarded as a normal outcome of self-directed learning (Benson, 2013), where learners set their own goals, monitor their progress, and assess their learning. As learners gain greater autonomy in their communication, they become more capable of leveraging learning opportunities that emerge both inside and outside the classroom (Littlewood, 1996).

As recent studies have shown, the advancement of AI can further support this process. For instance, Xia et al. (2023) believe that the humanistic features of AI have the potential to establish a supportive environment for self-directed learning. Wei (2023) also found that AI-mediated instruction significantly influences students' learning achievement, motivation for learning L2, and their ability for self-regulated learning. Therefore, promoting student autonomy and enabling learners to actively engage with technology for their education beyond the classroom is vital for achieving success in language learning (Lai et al., 2016; Taridi et al., 2025).

Translanguaging, rooted in heteroglossic theory, thus challenges traditional approaches to language instruction and emphasizes the *dynamic* use of multiple languages. Instead of treating languages as separate systems, it empowers learners to leverage their full linguistic resources to

construct meaning and communicate more effectively in diverse contexts. With the support of MT, translanguaging also provides ideal opportunities for learners to access multiple languages and gain a deeper understanding of content, particularly in today's technology-dependent contexts where learning foreign languages is no longer confined to the classroom.

METHOD

This section begins with an overview of the context, highlighting the importance of out-of-class English learning and the role of technology in developing language skills in Iran. The section then presents the research design of the study and provides a description of the participants. It further explains the methods used for data collection and analysis, with a particular emphasis on thematic analysis to identify key patterns and themes that emerged from the data.

Context

Since Iranian students who graduate from high school are unable to use English properly (Sadeghi & Richards, 2015), a significant number of young adults enroll in private institutions to improve their language proficiency (Sadeghi & Richards, 2015). As Ebrahimi and Chowdhury (2024) noted, many language learners in Iran tend to supplement their language learning with extracurricular resources, as they believe that input provided in formal settings is insufficient to satisfy all their linguistic needs. Despite these, in recent years, there has been a growing interest in utilizing technology within Iran's EFL context (Dashtestani & Hojatpanah, 2022), as technological advancements and the prevalence of English on social media offer greater opportunities for meaningful and real language use than what is typically available in classrooms (Richards, 2015). In fact, technological advancements, the increased adoption of the internet, and the growing interest in private language institutes in Iran have created more pathways for learning English (Eslami & Fatahi, 2008). While these developments have facilitated easier access to language resources, MT is still not a well-known area of study in Iran and requires considerable efforts and research (Ghasemi & Hashemian, 2016). Hence, the effectiveness of MT in informal settings and its potential applications warrant more investigation to support learners in achieving their educational goals and to optimize ELT in such diverse contexts.

Research Design and Participants

This study adopted a qualitative design to focus on the impact of translanguaging with MT on learners' language development and self-directed learning. The qualitative approach was selected for its potential to deepen understanding of the meanings and experiences of human lives and social worlds (Fossey et al., 2002). Thus, a central strength of this method is its ability to examine underlying perspectives and emotions that influence how behaviors, experiences, or events are described, revealing the significance these experiences hold for participants (Legard et al., 2003).

The participants consisted of 15 English language learners from an English language center, a major language institute in Shiraz, Iran. They were grouped into three proficiency levels,

intermediate, upper-intermediate, and advanced, based on a test administered at the center and in accordance with the Common European Framework of Reference for Languages (CEFR). This categorization allowed for a comparison of their views on the role of translanguaging with MT, as well as an exploration of how participants at varying proficiency levels employed MT to support their learning outside the classroom. Each group comprised five learners, facilitating a more in-depth analysis and a richer understanding of their personal experiences with MT in their language learning journey.

All participants were studying English (as a foreign language) at this institute and had successfully completed pre-intermediate courses. Participants' ages ranged from 16 to 23 and were either high school or university students. During the study, all 15 students (8 females and 7 males) participated in individual interviews, offering valuable insights into their experiences with MT. Of these, only 11 students (6 females and 5 males) expressed their willingness to join focus group discussions, where they could openly discuss and reflect on their shared and differing opinions on translanguaging with MT.

Data Collection

To obtain comprehensive data, both semi-structured interviews and focus group discussions were employed to elicit nuanced responses and enrich the analysis. In-depth interviews provide detailed information about the experiences of participants (Hennink et al., 2020), while focus groups allow for the observation of interactions (Berg, 2001). In qualitative research, interviews are frequently the main method used for data collection (Merriam & Tisdell, 2016) and are often combined with other methods to ensure a more holistic understanding of the analysis (Turner, 2010). Such triangulating of various data sources allows an evaluation of evidence from several sources and construct a coherent justification for identified themes (Creswell, 2009).

In this study, both methods complemented each other in capturing learners' attitudes. Semi-structured interviews provided detailed insights into participants' personal experiences to thoroughly understand how learners engaged with MT and translanguaging in language learning. Focus groups, in turn, enabled observation of shared and divergent perspectives through discussion, highlighting group dynamics and common patterns in L1 use among learners. Together, these methods revealed the richness and complexity of learners' experiences and strengthened the trustworthiness of the findings.

A guideline was meticulously prepared to maintain procedural consistency and provide precise direction throughout data collection. The primary questions within this guideline were derived from the works of Niño (2009) and Almusharraf and Bailey (2023), as they were closely pertinent to the objectives of the current study. These inquiries sought to understand how learners utilized MT as a pedagogical tool in their language learning process, focusing on the effects of L1 reliance in developing language skills beyond the classroom setting. However, follow-up questions were posed in order to gain deeper insights or elucidate ambiguous responses. Recognizing that the participants, especially those at lower proficiency levels, might struggle to articulate their thoughts fully in English, they were allowed to ask questions or provide explanations in their first language (Persian). This process aimed to reduce any potential barriers during the data collection phases.

Prior to initiating data collection, the participants were briefed on the study's objectives and key terms were meticulously explained to prevent any misunderstandings. The face-to-face interviews lasted 20 to 30 minutes, while the focus group discussion continued for 90 minutes, all conducted in private and comfortable settings. All conversations were recorded for transcription.

Data Analysis

This study employed thematic analysis, which offers a systematic and accessible approach for identifying codes and themes from qualitative data (Clarke & Braun, 2017). Following the six-step framework proposed by Braun and Clarke (2006), data analysis commenced with the verbatim transcription of participants' responses gathered from interviews and focus group discussions. Next, iterative readings of the transcripts were conducted to achieve deep immersion in the data which is essential to fully understand its nuances (Braun & Clarke, 2006).

Coding is a fundamental process in qualitative research, facilitating data analysis and guiding subsequent steps toward achieving objectives of the study (Williams & Moser, 2019). Through this process, salient ideas and key concepts tied closely to the research questions were meticulously identified. By systematically interpreting data, coding not only uncovered significant insights in this study but also enhanced the depth of analysis, leading to a comprehensive understanding of the findings. As an example of the coding process, a short excerpt of the data was carefully analyzed, and initial codes such as "using MT for comprehension," "MT for writing enhancement," and "self-monitoring translation errors" were generated.

Similar codes were organized based on frequency to find recurring patterns, thereby ensuring the systematic transformation of coded data into meaningful categories. These patterns were then grouped into broader themes and ultimately refined in light of newly derived interpretations from the data, culminating in the final themes (*MT as a Pedagogical Tool in Real-world Contexts*). This series of steps demonstrated the transparency of the analysis and the way in which learners' interactions with MT and translanguaging were interpreted to answer the research questions.

Lincoln and Guba (1985) assert that qualitative research emphasizes key criteria such as credibility, transferability, confirmability, and dependability. Adhering to these principles, the current study collected data in accordance with the clearly defined objectives and applied thematic coding to strengthen the credibility and trustworthiness of the data analysis. Additionally, two experts in the field reviewed the guideline questions, the coding process, and the thematic analysis, offering valuable feedback to refine the analytical approach. Their insights not only enriched the interpretation of the findings but also elevated the overall quality of the study by ensuring that the analysis was rigorous and reflective of the participants' true experiences.

FINDINGS AND DISCUSSION

Findings

In this section, the results of the data analysis are presented to reflect language learners' perspectives on the impact of translanguaging with MT in informal environments. After identifying and categorizing the codes based on the data, three primary themes emerged: MT as a pedagogical tool in real-world contexts, translanguaging with MT to reinforce classroom learning beyond formal contexts, and recognizing the constraints of MT through self-regulation. While each theme primarily relates to one question, some inevitable overlap occurs due to the interrelated nature of the research questions.

MT as a Pedagogical Tool in Real-world Contexts

This theme relates to learners' perceptions of the benefits and drawbacks of using translanguaging with MT in learning English. Collectively and generally, the respondents considered learning a foreign language an endeavor that transcends the boundaries of formal settings, primarily due to limited input available in such environments. To supplement this, they required extra exposure and actively engaged in varied activities to develop their language skills in the real world. For instance, Parsa remarked, "I use MT outside the classroom because I think it can help me solve my problems alone, even though I know its translations aren't always correct." Participants like Parsa felt that although they could not totally rely on MT, it was beneficial for eliminating some of their challenges outside the classroom, where structured guidance was absent and thus independent problem-solving was essential for overcoming obstacles.

The intermediate learners highlighted the importance of MT outside the classroom as it enabled them to understand short phrases, full sentences, and paragraphs in their native language, thereby supporting their overall comprehension. They applied MT in real-life situations, such as translating different resources, interacting with social media, and understanding a variety of texts. This demonstrated the vital role of L1 in comprehending *new* information since it helped learners establish meaningful connections between familiar and unfamiliar concepts. In fact, translanguaging with MT appeared to not only allow them to interact with a foreign language but also support their language learning and development in authentic contexts. Nevertheless, these participants pointed out while the texts were accessible, they sometimes had difficulties in fully grasping them due to "inaccurate translations". For example, Maryam explained:

MT helps me understand long and short sentences easily. I use it to learn new things on social media or translate different texts. But, I can't always understand the translations of all sentences because they are wrong, and I sometimes get confused.

Learners thus regarded that MT had motivated them to adopt a more independent approach in their language learning. The integration of translanguaging via MT into their daily activities

assisted them in bridging the gap between classroom learning and real-world activities, reinforcing their confidence to understand different texts and learn more independently.

However, it was found that the participants in other groups mainly utilized MT for quick translations in certain situations, valuing its speed and convenience. While they found MT was suitable for basic and simple texts, it was often unable to transfer accurate meanings in more complex content. For example, Bita explained “MT seems ineffective for fully understanding the meaning of complex sentences, as it often fails to translate all words accurately. I prefer using online resources to check the correct meaning of words”. Language learners like Bita believed that such texts lacked cohesion and coherence, particularly with complicated content. Despite acknowledging the supportive role of MT in real life, they thus generally tended to rely on other sources to understand complex phrases and nuanced meanings accurately.

Translanguaging with MT to Reinforce Classroom Learning Beyond Formal Contexts

This theme explores how learners at different proficiency levels incorporate MT into their language learning and how this integration shapes their language development, metacognition, and autonomy. For intermediate learners, who often reported encountering difficulties with certain sections of their textbook passages, using their first language to understand unfamiliar terms was necessary for developing comprehension and broadening their vocabulary. In this context, translanguaging empowered them to draw on their *existing* L1 knowledge to make sense of complex ideas in English, thereby reducing their linguistic barriers outside formal learning settings. The participants also believed that GT was a highly practical MT tool here due to its free availability, user-friendly interface, and ability to provide instant translations. For example, Elnaz explained:

I often use GT to translate sentences and understand their meanings. I try to pay attention to new words, understand their meanings, and learn them. I also try to use these words in my own sentences. I think I need to learn many words because speaking and writing are very important to me, and knowing more words helps me share my ideas clearly.

This sense of self-reliance enhanced their abilities and empowered them to understand challenging textbook materials with greater ease. By learning new words, they were able not only to expand their lexical resources but also to prepare themselves for meaningful communication outside the classroom. However, participants at *higher* proficiency levels noted that they rarely used MT for textbook readings, as the translations often did not meet their classroom requirements.

While advanced learners did not typically use MT for classroom writing, upper-intermediate participants appeared to occasionally turn to it, especially when dealing with tight schedules, time constraints, or fatigue. They recognized that MT-generated sentences, particularly complex ones, often required further revisions. In contrast, the intermediate learners relied more on MT for their writing, as their limited vocabulary knowledge hindered them from composing directly in English. By translating their ideas from Persian into English, these students were exposed to new words or phrases, which they could incorporate into their future work. They also used Persian to translate parts of their sentences when they were uncertain or

unaware of specific English terms. This process indicated the significance of translanguaging, particularly when employing MT, as it assisted students in switching between both languages and leveraging their full linguistic repertoire, or heteroglossia, beyond the classroom. More importantly, it promoted autonomous language learning and supported self-regulated learning, contributing to gradual improvement in language skills. As Raha explained:

I think MT is really useful for writing. With the help of MT, I can find new words and join sentences because I need some help with my writing. It is difficult for me to write all sentences in English. When I don't know how to write some sentences in English, I write them in Persian and translate them into English. I can learn these sentences and use them again.

While higher-level participants appeared to rarely employ MT for grammar, some *intermediate* learners reported using it when unsure about grammatical rules. They stated that they sometimes forgot certain grammatical structures or struggled with connecting multiple sentences. In such cases MT helped them organize their sentences more effectively and improve the overall coherence of their writing. In addition, translanguaging enabled them to identify gaps in their knowledge and encouraged ongoing improvement as they consistently encountered new grammatical structures and vocabulary. This practice not only improved their writing accuracy but also promoted personalized learning habits toward lifelong learning. It was also useful for enhancing metacognition among intermediate students, empowering them to control their learning process and develop their language skills without the assistance of teachers.

Recognizing the Constraints of MT through Self-regulation

The final theme highlights the limitations of MT and examines how translanguaging with this tool contributes to learners' language proficiency, metacognitive awareness, and autonomous learning. All participants were keenly aware that MT had limitations, particularly in terms of translation quality and accuracy. Despite occasional errors in MT translations, intermediate students could understand the overall meaning of the materials most of the time. Hence, MT proved to be a useful tool for initial understanding, *even when* it lacked complete precision. The two other groups observed that MT tools often produced translations that were deficient in linguistic and cultural accuracy. Regarding accuracy, MT sometimes encountered challenges with words that had multiple meanings depending on the context. As Ali mentioned: "I can't trust MT's translations without checking because there is always the risk of errors that could change the meaning". This means, without human intervention, MT might select incorrect meanings, resulting in translations that could mislead or distort the intended meaning. These challenges highlight the necessity of human involvement in refining MT output to ensure reliability, particularly in contexts that demanded precise translation. Ali also explained:

I know that MT has some limitations, but it's still effective for understanding the overall meaning of texts, especially when I need quick translations. When I notice translation errors, I become curious about the accurate meaning of words, expressions, or phrases. This curiosity leads me to search for their correct meaning and usage.

Such responses revealed that learners at this proficiency level did not passively accept MT outputs. Their attention to mistranslations often prompted them to identify errors in MT results and seek accurate meanings through additional resources, such as English dictionaries. Garcia and Pena (2011) supported this finding by asserting that MT drafts are rarely flawless and often need revision to correct grammar and vocabulary, ensuring that the intended meaning is accurately expressed—a process known as post-editing. This approach exemplified self-directed learning in managing the learners' educational activities since they did not solely rely on MT. Instead, they engaged in a *critical* assessment of its outputs. The process of verification and refinement seemed to be useful as it not only enhanced the quality of translations but also developed essential metacognitive skills and awareness. Translanguaging with MT, along with self-regulation, enabled learners to enhance their language competence and motivated them to pursue learning beyond the classroom. Therefore, MT contributed to boosting learners' confidence by assisting them in overcoming their language barriers and promoting a sense of autonomy.

As discussed above, translanguaging can be highly effective for facilitating language learning and resolving difficulties. Specifically, translanguaging - with MT - encouraged learners to actively engage with their linguistic resources in authentic contexts for a variety of purposes. It empowered the learners to improve their language proficiency, assist with their classroom assignments, and evaluate their own progress in the learning process. This suggests that language learning was not limited to classrooms; rather, it extended into real-world situations where learners could apply, test, and develop their skills. By linking classroom learning with real-world practices, MT motivated learners to take responsibility for their language development, fostering a more dynamic and self-directed approach for learning English.

Discussion

While monoglossic ideologies treat languages as distinct codes, a heteroglossic perspective highlights the variety and multiplicity of languages (Set, 2023). Recognizing the shortcomings of these ideologies in representing the flexible language practices of bilingual communities, applied linguistics has started to develop new ways of conceptualizing language (Flores & Schissel, 2014). In educational settings, translanguaging presents a pedagogical approach that acknowledges, encompasses, and integrates the complete linguistic repertoires of learners (Blackledge & Creese, 2014). Thus, the influence of various translanguaging theories and research on the fields of sociolinguistics, multilingualism, and applied linguistics disrupts conventional methods and practices, presenting new perspectives on language and education (Cenoz & Gorter, 2021).

In this study, translanguaging with MT had advantages for language learners especially at the intermediate proficiency level. Through MT, these learners could translate various sentences and expand their vocabulary as they were exposed to more linguistic input. They also utilized it to develop their language skills, such as writing and reading comprehension. For instance, when they were unable to construct sentences in English owing to gaps in knowledge, hesitation, or memory lapses, this tool enabled them to produce sentences more effectively and confidently. This finding aligns with Chen et al. (2019), who investigated translanguaging practices in

English for Specific Purposes (ESP) courses in Taiwan and highlighted the advantages of using L1 via online translation tools within the L2 writing process. Their analysis revealed that translanguaging positively impacted EFL students' writing. The utilization of online tools like GT enabled students to activate their prior knowledge, incorporate more academic and business vocabulary, and create accurate sentences. This study also showed that integrating digital tools and translanguaging empowered students to fully leverage their L1 and L2 linguistic resources. Similarly, Jolley and Maimone (2022) emphasized that learners often rely on MT for writing tasks, mainly to search for words and phrases.

Although the participants were aware of MT's limitations, they generally held positive attitudes toward its use as an educational tool to support their language learning outside the classroom. However, the upper-intermediate and advanced learners appeared to use MT with a more discerning perspective, often refining and enhancing the MT output rather than accepting it uncritically. Such learners demonstrated metacognitive awareness as they saw MT as an opportunity to strengthen their own understanding of language subtleties, rather than merely relying on it for immediate translation. This finding is supported by Kessler (2018), who argues that translating texts and finding errors helps learners concentrate on particular language elements. These exercises enable them to assess the strengths and limitations of translation tools, allowing them to use these tools more effectively (Kessler, 2018). Consequently, this tool significantly influences metacognition skills in the language learning process, while boosting learners' overall language proficiency.

This research provides nuanced insights into how high-level learners exercise metacognitive control, refining and critically evaluating MT outputs to enhance their language skills. This indicates the importance of learner proficiency in shaping how digital tools are used and offers a differentiated perspective on the varied ways MT supports language learning. Furthermore, the study shows the practical implications of integrating translanguaging strategies with AI tools in out-of-class settings and proves that EFL learners can leverage MT not only to access immediate translations but also to strengthen independent learning. These findings are particularly valuable for learners and educators seeking to use AI for more effective and adaptive language instruction, suggesting that MT can move beyond facilitating quick translations to actively contributing to learners' deeper language awareness and development of practical learning strategies.

It was also found that MT was beneficial for students, regardless of their ability group, in increasing their knowledge, skills, and self-assessment during their language learning process. It motivated them to monitor their progress, improve their problem-solving abilities, and reflect on their learning experiences. MT also supported students in taking an active role in their learning and helping them recognize their strengths and weaknesses over time. Therefore, it encouraged them to take more personalized approaches to language learning which ultimately promoted their proficiency and autonomy. According to Victori and Lockhart (1995), learning training should empower learners to adopt a self-directed approach to learning, enabling them to specify their personal needs and goals, select appropriate resources aligned with their aims, and continually control and assess their progress.

Since MT allowed learners to connect with their first language, this study provides evidence of how AI tools can facilitate the practical application of translanguaging outside educational

environments. Indeed, the benefits of MT extend beyond this context, offering insights that contribute to global discussions on the pedagogical use of AI and translanguaging in language education. This study helps learners perceive their L1 as an *asset* rather than an *obstacle* in developing proficiency in a foreign language. It also highlights the transformative potential of translanguaging with MT in reshaping EFL learning, moving toward a more inclusive, learner-centered, and technologically integrated pedagogical framework. By embracing the dynamic interplay between languages, learners not only enhance their proficiency but also cultivate the autonomy necessary for lifelong learning in an increasingly multilingual and digitally mediated world.

This means, the purpose of language education is to nurture lifelong learners who willingly take responsibility for their journey toward autonomy (Zhang & Zhang, 2019). In this process, strong metacognitive awareness has a significant role in developing self-regulated skills and enables learners to monitor their own learning (Zhang & Zhang, 2019). Thus, the ability to learn autonomously and apply proper self-regulation strategies is vital for learning L2; without these skills, students may miss valuable opportunities for learning outside the classroom (Kormos & Csizér, 2014).

CONCLUSION

This study has critically examined the role of translanguaging with MT as a pedagogical tool for Iranian EFL learners, providing insights into its impact on language proficiency, metacognitive awareness, and learner autonomy beyond formal educational settings. By investigating the practices and attitudes of learners at different proficiency levels, the findings reveal that MT serves as an invaluable resource for facilitating language acquisition, particularly in contexts where exposure to English is limited. As we have seen, while intermediate learners primarily utilize MT for comprehension, vocabulary expansion, and writing support, upper-intermediate and advanced learners engage with it more selectively, leveraging its functionalities while critically evaluating its limitations. Crucially, the study highlights how translanguaging—enabled by MT—empowers learners to draw on their full linguistic repertoire, reinforcing a heteroglossic view of language learning that disrupts monoglossic ideologies and the long-standing exclusion of L1 from ELT pedagogies.

In addressing the research questions, this study has demonstrated that Iranian EFL learners integrate MT into their learning in diverse ways, with translanguaging allowing for more dynamic and contextually situated language engagement. The findings further suggest that while MT facilitates self-regulated learning, learners also develop critical awareness of its limitations, particularly concerning translation accuracy, coherence, and cultural nuances. Importantly, translanguaging with MT fosters a sense of agency, enabling learners to monitor their progress, refine their linguistic output, and take control of their learning trajectories. This reinforces the growing recognition that effective language learning extends beyond the classroom and is deeply intertwined with digital literacy and technological affordances.

The implications of these findings are multifaceted. Pedagogically, they suggest that educators should move beyond rigid monolingual instructional paradigms and incorporate translanguaging strategies that acknowledge the affordances of AI-driven tools like MT. Rather

than dismissing MT as a threat to language learning, educators can guide learners in employing it strategically, fostering critical digital literacy skills that enhance language acquisition and autonomy. Moreover, given the role of translanguaging in promoting metacognition, EFL curricula should integrate structured activities that encourage learners to navigate between languages as a means of deepening comprehension and developing higher-order thinking skills.

Despite these contributions, this study is not without limitations. Methodologically, its qualitative nature, while offering rich insights into learner experiences, constrains the generalizability of the findings. Future research could employ mixed-methods approaches or larger-scale longitudinal studies to provide a more comprehensive understanding of how translanguaging with MT evolves over time and across different learner populations. Furthermore, given the rapid advancements in AI-powered language technologies, there is a pressing need for further studies examining the evolving role of MT and AI-assisted learning tools in various sociolinguistic contexts. Additionally, research could explore the intersection of translanguaging with other emerging digital tools, such as generative AI and interactive language models, to assess their pedagogical viability in fostering independent learning.

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