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Advancing Communicative Competence in the Digital Age: A Case for AI Tools in Japanese EFL Education

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Abstract

English language education in Japan has long been criticized for its traditional methods emphasizing grammar and reading at the expense of communicative competence. This article explores the potential of Artificial Intelligence in Education (AIEd**)** to address this issue. A review of literature explored critical challenges faced by Japanese EFL learners, including Japanese teachers' low English proficiency and attitudes towards English teaching, heavy focus on entrance examinations in high school, overemphasis on grammar in EFL curricula and textbooks, lack of authentic communicative practice, and differences in cultural values. An examination of technology integration in Japanese education revealed that while many institutions have begun incorporating technology, its widespread adoption has been gradual. Several case studies support the use of AI to address the psychological barrier to speaking by offering a safe and engaging learning environment, thus boosting confidence and fluency. Furthermore, in the Japanese language context, AI can lower anxiety, promote creativity, and offer personalized learning. In addition to the individual benefits, AI empowers institutions to tailor learning needs, teachers to shift their role from instructors to facilitators, and students to become independent critical thinkers. Finally, challenges and limitations are addressed, including ethical considerations surrounding data privacy, overreliance, predictive patterns, and watermarking. Despite potential drawbacks, the benefits of AIEd merit a deeper exploration of its adoption in EFL curricula. AI tools offer a practical solution to prepare Japanese EFL students to communicate in English effectively and confidently and thus participate in the global landscape.

Keywords: AI in EFL context, communicative competence, Japanese university, language learning

Introduction

English education in Japan is considered a necessary tool for global competitiveness and a symbol of Westernization (Fujimoto-Adamson, 2006). Business leaders have long urged the government to integrate English into the curriculum to improve Japan's competitiveness in the global economy. However, English proficiency among Japanese students remains low, ranking consistently at the bottom within Asia and worldwide (Education First, 2023; Nuttal, 2019). For instance, Thailand and South Korea have included English as a school subject for all levels for nearly thirty years (Amaki, 2008), while Japan has only incorporated mandatory English education at both primary and secondary levels within the last decade (Nakashima, 2021).

In recent years, the Japanese Ministry of Education, Culture, Sports, Science, and Technology (MEXT) has shifted its focus towards the development of communicative competence, emphasizing English-medium EFL classes (Nakashima, 2021), as well as teaching methods such as communicative language teaching (CLT), project-based learning (PBL), and content and language-integrated learning (CLIL) for success in an increasingly interconnected and competitive global environment (Okihara, 2014). Furthermore, there has been increasing emphasis on developing 21st-century skills (Lockley & Promnitz-Hayashi, 2012) to prepare students for their roles as global human resources.

The transition towards more communicative teaching methods has garnered mixed perspectives from teachers and students. While some educators have embraced the shift, recognizing the benefits of developing practical language skills, others have faced challenges adapting their teaching styles (Bartlett, 2016). Furthermore, even when teachers want to adopt more progressive teaching styles, the hierarchical culture of Japan often prevents them from implementing methodologies that contrast with the more traditional perspectives of senior teachers (Bartlett, 2017). Thus, increasing Japanese students' communicative competence in English remains a pressing issue.

Communicative Competence in Japanese EFL Education

Various theoretical frameworks of communicative competence have been proposed (Bachman, 1990; Celce-Murcia et al., 1995; Littlewood, 2004; Savignon, 2002); however, one of the most influential and widely cited is by Canale and Swain (1980) which initially defined three significant components of communicative competence: grammatical, sociolinguistic, and strategic. Discourse competence was later added (Canale, 1983). Grammatical competence (i.e., the knowledge of language rules and patterns) and discourse competence (i.e., the ability to create coherent and cohesive texts) focused on the organization of language; in contrast, strategic competence (i.e., knowledge of strategies for communicating verbally and nonverbally) and sociolinguistic competence (i.e., the understanding of the social and cultural context in language use) focused on using language effectively in social situations (Taş & Khan, 2020).

Haugh (2019) argues that Japanese English learners may need more sociolinguistic and strategic competence. While Japanese students may be able to use correct grammar, vocabulary, and pronunciation because of the focus on linguistic competence in schools, they may need to learn how to use language appropriately in different situations or how to deal with communication breakdown. Considering the growing emphasis on communicative English in language classrooms worldwide, this need for sociolinguistic and strategic competence is a pressing concern. Japan stands out as an exception compared to many countries that follow a similar implementation pattern in English education. In a review of Japan's education history, Terasawa (2022) explains that Japan's goal has never been explicitly to improve English skills but rather to experience English. This approach only recently shifted when the Japanese Ministry of Education, Culture, Sports, Science, and Technology (MEXT)

implemented English as a subject instead of just an activity in 2020, emphasizing the importance of studying English to attain proficiency and communicative competence.

However, many Japanese EFL teachers' lack of communicative ability in English hinders their capacity to teach the language and meet MEXT's goals effectively (Iwai, 2009; Yamaoka, 2010), often stemming from limited or no exposure to authentic English communication (Aizawa & Rose, 2018; Bartlett, 2017; Jankovskis, 2021). Compounding the issue, attitudes toward English inhibit many teachers from achieving a level sufficient for English teaching, many claiming that it is not a "sophisticated skill" (Yamaoka, 2010, p. 60).

Furthermore, strict licensing requirements in Japanese public schools prevent more proficient foreign teachers from taking on English teaching roles besides assistant language teachers (ALT). Prospective teachers can obtain teacher certification by earning a general bachelor's degree or completing a degree at a college of education at a Japanese university. While all MEXT program participants held teaching certificates, only a small portion had completed a substantial number of education-related courses (Cook, 2010). Because foreign teachers are not likely to earn teacher certification from a Japanese university, Japanese teachers are required to teach English as the primary classroom teacher, regardless of their proficiency level. This often leads to ALTs being used solely as "human tape recorders," in which they are utilized to read passages aloud as directed by the Japanese English teacher, or as "desk warmers," in which they have no work to do because the Japanese English teacher is busy preparing students for exams (Borg, 2020, p. 48). Borg (2020) found that other reasons for this treatment of ALTs range from general disinterest in foreign presence in the classroom to Japanese English teachers' embarrassment of their low proficiency.

Another challenge is the pervasive importance of entrance exams in high school curricula, which primarily focus on reading and writing skills (Bartlett, 2016; Haugh, 2019; Iwai, 2009; Taguchi & Naganuma, 2006; Takanashi, 2004; Sakui, 2004; Spahiu & Kryeziu, 2021; Yamanaka et al., 2020). Thus, teachers often feel pressured to focus on teaching these skills (Cook, 2010; Gorsuch, 2001; Takanashi, 2004; Yamaoka, 2010). The conflicting demands to both prepare students for high-stakes exams and real-world communication were captured by one interviewee in Sakui's (2004) case study, who stressed the need to "wear two pairs of shoes" (p. 158). Furthermore, many junior high school students attend cram school in preparation for the entrance exam, where they learn 'English for entrance examination' (EEE, or *juken-eigo*). This implies that even supplemental courses intended to address shortcomings in school fail to equip students with the skills necessary for real-world English use (Takanashi, 2004).

Expanding on the previous point is the limited opportunity for oral production in and outside English classes (Haugh, 2019; Taguchi & Naganuma, 2006). Speaking activities are centered on lower order thinking skills (LOTS), such as rote memorization and recall, providing minimal class time for students to engage in meaningful conversations or participate in collaborative problem-solving activities (Hosoki, 2011). The emphasis on these LOTS activities is primarily due to predominant teaching methods in Japanese education, such as the grammar-translation method (GTM) and *yaku-doku*, a Japanese-style GTM focused on literal translations for acquiring grammar patterns (Bartlett, 2016; Bartlett, 2017; Nuttal, 2019) which emphasize rote memorization and translating text word-for-word, often neglecting the development of practical communication skills. Japanese students believe that their inability to communicate in English is due to the lack of English-speaking opportunities in high school (Taguchi & Naganuma, 2006). Sakui (2004) describes the high school experience as teacher-fronted, with the main activities being translation, sentence manipulation, and choral reading. Living in a monolingual society with limited opportunities to practice outside of class further exacerbates this issue (Dizon, 2020). Consequently, there is often a significant disconnect

between what students learn in the classroom and the requirements of real-world communicative competence abilities.

The overemphasis on grammar sequences and artificial dialogues in Japanese EFL textbooks poses additional challenges. Japanese-English textbooks often omit essential sociolinguistic rules for communication; even textbooks for oral communication predominantly focus on non-communicative learning and pre-communicative language practice (Gilmore, 2016; Okushi, 1990). Gilmore (2016) offers two explanations for this: (1) textbook materials reflect the traditional focus on sentence-level grammar and vocabulary, and (2) these materials are based on the author's intuition rather than on data from real-world language use. These findings suggest that EFL textbooks do not reflect the communicative needs of Japanese EFL students.

Finally, some researchers argue that cultural differences in communication styles may also contribute to the challenges that Japanese learners of English face (Effiong, 2013; Ellis, 1991; Iwai, 2009; Takanashi, 2004). Japanese speakers are less talkative, use more back-channeling devices, can be direct depending on the situation, lack politeness strategies needed for certain speech acts, and are less likely to explain their verbal behavior (Ellis, 1991). Iwai (2009) argues that Japanese cultural values, such as harmony, respect for elders, and implicit communication can inhibit students' willingness to speak up and interact in group discussions. Unlike Westerners who value individualism, Japanese people are more likely to endure and regulate their behavior for the sake of the group, reflected in the Japanese concept of *nihonjinron,* which emphasizes the uniqueness and group-oriented nature of Japanese people (Effiong, 2013). Takanashi (2004) further distinguishes between *tatemae* (overt), which is used in social situations, and *honne* (covert), which is used in private communication styles in Japanese culture. This distinction may explain why Japanese learners of English struggle with communicative competence.

Considering the issues discussed above, this forum article explores how recent advancements in AI technology can empower Japanese university students to become more effective communicators in English.

Technology Use in Japanese Education

First, examining how technology has historically been implemented in Japanese education is essential. Caldwell (2020) contends that "in comparison with their counterparts from other countries, Japanese students lag in their use of technology for learning" (p. 187). Takasaki (2017) explains that compared to previous years, lower reading comprehension scores in the 2015 Organization for Economic Cooperation and Development Program for International Student Assessment (OECD-PISA) results were likely due to unfamiliarity with information and communication technology (ICT), as this was the first year that computer-based exams were used. The 2012 PISA findings supported this, revealing that schools provided only one computer for every four students, and only 59.2% of students reported using a computer at school. Additionally, the 2012 PISA results showed that when searching for information in the PISA digital reading test, 16% of Japanese students clicked on more task-irrelevant links than task-relevant ones (OECD, 2015). This suggests that Japanese students are not accustomed to searching for information using computers and are less proficient in ICT than in other economically advanced countries.

Though broadband internet is available for almost 100% of homes in Japan (Umejima et al., 2021) and ranks second worldwide for internet access (OECD, 2016), Japan is still considered a mobile-centered society. The pervasive use of mobile phones among Japanese people in their late twenties has been coined *oyaybukinka*, meaning "literally, thumb culture" (Takahashi, 2011, p. 70). While Japan

has made significant investments in educational technology infrastructure, such as the "GIGA School Concept" subsidized by the Japanese government and aimed at creating a personalized educational ICT environment for all students (Kihara, 2021, p. 4), adoption and integration of ICT in schools has been slow overall. The 2018 PISA results showed that only a quarter of students attend a school with an effective online learning platform, compared to half of students in other OECD schools (OECD, 2018). Until 2015, authorities prohibited primary and secondary schools from implementing distance education, and even after that, its broad utilization did not occur until the COVID-19 pandemic forced schools to implement it (Umejima et al., 2021).

Despite the capability, infrastructure, and a clear push by MEXT to advance ICT skills, implementation has often been met with resistance by teachers who either need to prepare or are unwilling to make effective pedagogical use of new technologies. Suzuki (2021) has argued that "a generation shift of teachers might be required before a major shift can be expected to happen in schools" (p. 2). EFL classrooms are an ideal place for ICT implementation due to the courses' more progressive nature, more students' willingness to learn new things, and more opportunities for active learning. In fact, as of 2019, 91.7% of Japanese high schools reported utilizing ICT in English courses (Fujii et al., 2022), an increase from 2013, in which only 25% reported using ICT in their EFL classes (Lockley, 2013). Fathali, Marandi, and Okada's (2020) survey of 248 EFL Japanese students found that those who utilized ICT for English language learning outside the classroom were more motivated to learn English and have higher proficiency levels.

While the Japanese education system has made strides in incorporating ICT, a noticeable gap exists in actively leveraging advanced technologies like AI, particularly within the EFL context.

Artificial Intelligence in Education (AIEd)

The use of AI in language learning has been made possible and prevalent through previous endeavors to integrate and leverage technology within language learning environments. Computer Assisted Language Learning (CALL), which was one of the first methodologies for incorporating technology into language education on a pedagogical scale, has gone through several stages of development, evolving from a focus on accuracy and memorization to a more communicative and interactive approach (Kannan & Munday, 2018). This shift paved the way for the emergence of Mobile Assisted Language Learning (MALL) in the early 2000's. MALL, with its emphasis on portability and accessibility, further expanded the possibilities for ubiquitous language learning. The widespread use of CALL and MALL created opportunities for other innovative methods and tools, including AI.

AI is a multifaceted term with various interpretations. While some definitions view AI as machines capable of mimicking human cognitive functions, others focus on specific computer abilities or consider AI a broader science inspired by human intelligence (Pokrivcakova, 2019). For this article, we adopt the definition from Luckin et al. (2016) who define AI as:

> "computer systems that have been designed to interact with the world through capabilities (for example, visual perception and speech recognition) and intelligent behaviors (for example, assessing the available information and then taking the most sensible action to achieve a stated goal) that we would think of as essentially human" (p. 14).

Artificial Intelligence in Education (AIEd) represents the intersection of AI and learning science and encompasses the study of learning in diverse settings. It aims to enhance formal education and lifelong learning by developing flexible, inclusive, personalized, engaging, and effective AIEd tools (Luckin et al., 2016). In recent years, educators and researchers have integrated AI technology

into language learning through intelligent tutoring systems, humanoid robots, and analytical tools (Yang & Kyun, 2022).

Kannan and Munday (2018) categorize AI research within second language learning into three domains: language teaching, language learning methodologies, and language learning assessments. These applications in an EFL context include Automatic Evaluation Systems, Neural Machine Translation Tools, Intelligent Tutoring Systems (ITSs), AI Chatting Robots, Intelligent Virtual Environments, and Affective Computing (AC) in ITSs (Jiang, 2022). While these AI tools have been extensively utilized in various EFL contexts worldwide to improve reading (Xu et al., 2019), writing (Chan & Hu, 2023; Sumakul et al., 2020), listening (Lee, 2019), vocabulary (Kim, 2018), grammar (Abu Ghali et al., 2018; Castañeda & Cho, 2016), pronunciation (Kim et al., 2021), and error correction (Dodigovic, 2007), research on AI implementation in Japan remains relatively limited, particularly in the context of fostering communicative competence.

Chatbots have been recognized as an ideal tool for raising communicative competence compared to other language learning technologies. Chatbots are defined as "an artificial construct that is designed to converse with human beings using natural language as input and output" (Brennon, 2006, p.61). Kim, Cha, and Kim (2019) support their potential for increasing communicative competence, explaining that chatbots such as ELIZA, ALICE, Cleverbot, and Duolingo offer learners access to intellectual conversational partners anytime, anywhere. In a subsequent study on university students at two different proficiency levels, Kim, Cha, and Kim (2021) found that chatbots improved both groups' pronunciation, intonation, stress, and speaking test scores. This suggests that AI can benefit all students, regardless of English ability. Moreover, Zhou (2023) investigated the use of ChatGPT to improve communicative competence among EFL students in South Korea. Their research interviews revealed two main themes: convenience and accessibility and personalized and self-paced learning. Zhou (2023) concluded that ChatGPT's convenience and accessibility allowed learners to practice English regularly and independently, thus developing speaking skills and fluency, while its tailored language input and immediate feedback fostered personalized learning.

Other AI tools, such as Online Translation (OT) and Machine Translation (MT), are increasingly prevalent among Japanese university students. While OT prioritizes word-by-word translations, MT improves vocabulary accuracy (Lee, 2023; Takagaki, 2022). These trends highlight the growing role of AI in language learning and the need for educators to integrate these tools effectively into their teaching to bridge the gap between vocabulary knowledge and real-world application.

Some institutions in Japan have begun tapping into the potential of AI to improve students' English communication skills. The Toda City Board of Education incorporated an AI robot called *Musio* for elementary students as part of their educational reform focusing on 21st-century skills. *Musio* can carry out "reciprocal conversations in English in accordance with the required topics" and has the "ability to recite and hear using teaching materials" (Auliawan & Ong, 2020, p. 4). Students were happier, more confident, and less anxious and ashamed to communicate due to *Musio*'s "funny shape" (p. 5). *Musio's* success demonstrates that AI can provide a safe and fun environment to practice speaking English. In another case, Obari and Lambacher (2019) investigated the use of Google Home Mini, Amazon Alexa, and virtual reality (VR) goggles within a flipped learning environment at a Japanese university to practice English listening, speaking, and vocabulary skills in a variety of authentic L2 learning environments. Lambacher, Kikuchi, and Obari (2020) repeated the study with new groups. The results of both studies showed that using smart speakers contributed to substantial gains in participants' average TOEIC scores over two semesters. Additionally, AI-enhanced training positively affected students' overall English language learning experience, particularly in listening and oral communication (Lambacher et al., 2020; Obari et al., 2019). Students also reported improved

recognition of cross-cultural ambiguities and global communication skills (Obari et al., 2019). Similarly, a study by Dizon (2020) in another Japanese university found that students who used Alexa for 12 minutes per week for ten weeks improved their L2 speaking proficiency more than students who did not. These results suggest that AI tools like smart speakers can help improve L2 speaking skills.

AIEd offers customized learning paths tailored to each student's strengths and weaknesses by monitoring progress, offering feedback, and adjusting to various learning preferences (Mukhallafi, 2020). Tools like chatbots, large language models (LLMs), smart speakers, and web-based machine learning (WBML) have shown promise in improving EFL learners' communication skills alongside translation tools like OT and MT. Research also suggests that AI integration in the classroom can enhance student learning by fostering engagement, motivation (Haryanto, 2019), and self-confidence (Castañeda & Cho, 2016), promoting a safe learning environment that reduces the fear of speaking (Yang, 2020). Thus, employing AI technologies alongside traditional teaching can significantly improve the development of communicative competence.

Pedagogical Implications

Teaching English to Japanese university students is a complex task, as students need more motivation, may have negative attitudes toward learning English, and often need to see the benefits of English (Chambers, 2015). Furthermore, culture plays a significant role in shaping learners' attitudes and motivation. Thus, the literature above supports the notion that AI can potentially improve English language education in Japan, particularly communicative competence.

Asian learners, in general, are often more reluctant and experience an unwillingness to communicate (UTC) due to their cultural and educational environment, which discourages independent thinking and values the teacher as an authority figure (Effiong, 2013). Japanese students, in particular, experience anxiety in the English classroom related to speaking competence, public speaking, teacher comprehension, class attitude, and interaction with native speakers (Yashima et al., 2009). Stress and anxiety can harm learning because they affect the limbic system, the part of the brain that controls emotions and memory (Oflaz, 2019).

One way in which AI can be beneficial for Japanese students is by lowering their affective filter. Krashen (1982) developed the affective filter hypothesis to identify the psychological and emotional factors influencing a learner's ability to acquire and communicate effectively in a new language. Educators often categorize these factors as motivation, self-confidence, and anxiety. The affective filter hypothesis suggests that learners with a positive attitude towards language learning have a "low" filter (Krashen, 1982, p. 32), allowing input to reach the part of the brain responsible for language acquisition. In contrast, learners with a negative attitude towards language learning have a high filter, which blocks input from reaching this part of the brain.

AI tools can mitigate affective factors by creating a secure and supportive environment for students to practice English speaking skills. As Freiermuth and Jarrell (2006) noted, "online chat elicits a willingness to communicate because it suspends, at least partially, the social rules that are found in face-to-face settings" (p. 197). AI tools like chatbots and LLMs increase students' willingness to communicate by bolstering self-confidence and reducing anxiety (Bibauw et al., 2019; Wallace, 2015). Kim, Cha, and Kim's (2021) research supports this, as they found that students felt more comfortable practicing English speaking and pronunciation using chatbots. Additionally, a systematic review and meta-analysis by Lee (2023) on the effectiveness of Machine Translation (MT) revealed numerous studies highlighting MT's positive impact on the affective aspect of language learning. These studies

emphasize MT's ability to reduce language apprehension, boost confidence, and foster a more comfortable learning environment in foreign language classrooms.

In their investigation of the experiences of 36 Japanese university students using online chatbots in English to solve tasks, Freiermuth and Jarrell (2006) discovered six major themes: "anxiety, power, control, confidence, sequence disorientation, and negotiation" (p.196). Among these themes, the researchers found that reduced anxiety most strongly influenced their positive ratings for online chat, as it allowed them to communicate with others from a distance in a way that resembles a conversation but without the pressure to respond immediately. These results highlight some of the benefits of AI tools, particularly chatbots, in that "students' inabilities in the target language fade from the users' immediate focus; there is no social penalty for making an error; there are no pronunciation problems to deal with; students instead can focus on the task at hand" (p. 197).

AI-powered language learning tools offer a compelling addition to traditional teaching methods, providing a low-stakes environment for interactive conversations and personalized feedback. These advantages, in turn, foster confidence and fluency. However, students need to have considerable buy-in for successful implementation. For instance, Liton (2015) found that limited digital skills can negatively influence students' attitudes toward embracing technology in the classroom. Furthermore, consistent exposure to AI technologies has been shown to promote a better understanding and acceptance of these advancements (Chan & Hu, 2023).

AI tools can empower learners to be more creative and think critically. This is particularly noteworthy in a Japanese EFL context, where students often struggle to generate original ideas, express informed opinions, and engage in brainstorming. Western-centric EFL programs emphasize independent thinking, which can clash with Japanese cultural norms characterized by respect for authority and collective thinking (Effiong, 2013). AI tools can bridge this gap by offering frameworks that encourage creativity and support independent thinking. A study by Yangyu and Yuying Zhi (2023) revealed that AI tools are valuable for generating ideas and overcoming initial hurdles in writing English essays. AI tools can supplement existing methods and enhance the writing process by providing frameworks that encourage creativity and a user-friendly approach to brainstorming. Additionally, numerous MT studies have shown that AI tools can enhance students' L2 writing skills, particularly in vocabulary and grammar. This allows students to focus more on content and organization, improving overall writing quality (Lee, 2023). Furthermore, research on specific AI writing tools, such as *Grammarly*, has investigated their effectiveness among Japanese EFL university students. Through guided freewriting tasks, where participants alternated between *Grammarly* and non-*Grammarly* platforms, Dizon and Gayed (2021) observed enhanced grammatical accuracy and lexical richness among *Grammarly* users. Kawashima (2023) evaluated students' perceptions of *Grammarly* and teacher feedback, finding that while participants valued both tools, they preferred direct teacher feedback due to its perceived trustworthiness and clarity. These findings contribute to the growing body of research on the use of AI in language learning in Japanese EFL education. EFL educators can leverage this potential to address students' specific challenges, such as promoting creativity, critical thinking, and improving writing skills.

As EFL educators continue incorporating AI in their classrooms, Jiang (2022) argues that inexperienced teachers may need help with successful implementation. Teachers must prepare themselves to understand the technical requirements and pedagogical considerations (Son et al., 2023; Sumakul et al., 2022). However, adjusting their methods and roles involves a significant shift away from a teacher-centric knowledge delivery model to a more facilitative approach that prioritizes learner-centered activities (Liton, 2015). Historically, there has been reluctance by many teachers to incorporate new technologies into their classrooms for various factors such as inadequate ICT skills and experience,

low motivation, challenges integrating ICT with traditional teaching methods, and concerns about maintaining classroom control such as losing student's respect (Pokrivcakova, 2019). The COVID-19 pandemic brought about a rapid digitalization of education, forcing teachers worldwide to explore new avenues of technology-enhanced teaching. In Japan, many Japanese EFL teachers assumed the role of "members of a professional learning community" (Kihara, 2021, p. 7). However, despite losing in-person interactions with students and visiting other schools, they learned to use technology for teaching and collaborating effectively.

This shift in teachers' roles offers new opportunities for revolutionizing teaching practices. AI can encourage educators to integrate other advanced technologies into their teaching practices, transforming teachers from "principal source of expertise to that of a learning coach" (Alshumaimeri & Alshememry, 2023, p. 8). While AI would alter teachers' roles in the classroom, many have been optimistic about this change, recognizing that AI "could be considered as a friend of teachers" (Sumakul et al., 2022, p. 249). AI can be "a creative partner in co-constructing a text and provide stimuli that aid the language acquisition process" (Strasser, 2023, p. 132). This interactive partnership can improve the future of the educational landscape by providing personalized feedback, engaging and motivating learning environments, and opportunities to engage in real-world conversation practice, thereby freeing teachers to focus on their core strengths as guides and facilitators.

To fully leverage AI's benefit in language education, the curriculum and training for teachers and students must be reimagined. Teachers should shift from repetitive and traditional teaching methods to personalized instruction (Yang, 2020). Dakakni and Safa (2023) advocate for a curriculum overhaul that incorporates "AI-proof tasks" where students analyze, critique, and extend AI-generated "end products" (p. 9). Evaluating essays written by ChatGPT for academic language, citations, coherence, articulation of ideas, and referencing would allow students to hone their critical thinking skills and apply the concepts taught in class. This approach is supported by Yang and Kyun's (2022) systematic review, promoting the integration of a mixed module of AI-supported language learning and formal teacher instruction. AI bridges the gap between classroom instruction and real-world communication by simulating scenarios, providing practical language training, and engaging educational games (Mukhallafi, 2020). Despite challenges, even minor AI integration brings benefits. It offers teachers the opportunity to improve the quality of education for all students (Chen et al., 2020), as their lessons can be tailored to the needs of individual learners, considering their learning style, motivation level, and language proficiency, enabling them to work at their own pace (Braul, 2006). Teachers need instruction on AI algorithms, tool selection, practical sessions, and ethical considerations. Professional development opportunities such as workshops, supplemental courses, and ongoing training can help bolster teachers' confidence in integrating AI and expanding their knowledge of its applications (Braul, 2006). Furthermore, educators should teach students digital literacy and how to critically evaluate AI-generated content, adapting AI platforms for optimal learning.

Despite AI's benefits in personalizing language learning and improving student engagement in Japanese EFL classrooms, future research is needed to optimize its implementation, including its role in assessing student learning, designing engaging and interactive learning experiences, and enhancing students' sociolinguistic and strategic competence.

Challenges and Concerns with AI Tools in Language Education

While AI tools can potentially transform English language education, their implementation has challenges and concerns. These include issues of privacy, overreliance, predictive patterns, and watermarking.

Regan and Jesse (2018) identify six privacy concerns: information privacy, anonymity, surveillance, autonomy, non-discrimination, and ownership of information. Because AI models are trained on large volumes of data, students may be reluctant and at risk of their data protection. Furthermore, unmonitored AI algorithms can reinforce stereotypes or favor specific groups (Moybeka et al., 2023) or provide contextually inappropriate (Belda-Medina & Calvo-Ferrer, 2022), posing communication problems for students who may be unaware of these issues. To effectively integrate these tools, researchers argue that policymakers must balance promoting experimentation, upholding student consent, and ensuring transparency (Kannan & Munday, 2018).

There is also a risk that language learners and educators will become over-reliant on AI tools, leading to decreased independent thinking (Ningrum, 2023). Excessive reliance on AI-generated feedback, such as ChatGPT, may obstruct learners' ability to analyze and assess their writing independently, thus impeding their progress as writers (Ningrum, 2023). Additionally, reliance on AI can distort students' understanding of academic integrity and diminish their motivation to learn authentically (Eke, 2023; Sweeney, 2023). Furthermore, AI's evolving sophistication makes detection increasingly difficult, raising concerns that algorithms designed by powerful tech companies could enable manipulation and suppression of information and diverse viewpoints. This poses a significant threat to the core mission of educational institutions. Undermining academic integrity and critical thinking skills harms students' development as independent and autonomous learners (Dakakni & Safa, 2023). Addressing these valid concerns is possible through a carefully balanced approach that combines AI-assisted learning with explicit instruction in independent analysis and critical thinking. Like other tools, AI applications are context-dependent and should consider various factors, including the purpose, the student's proficiency level, and the learning environment (Takagaki, 2022).

Another challenge is the predictive patterns of AI language. They tend to generate structured responses with limited vocabulary and understanding of intent. This may result in off-topic or meaningless sentences, thereby hindering the development of a student's L2 voice and competence in navigating real-world interactions (Belda-Medina & Calvo-Ferrer, 2022; Kim et al., 2019). Furthermore, AI chatbots may not always provide the most accurate turn-taking as they require users to control the conversation with careful prompts, making it inherently inauthentic (Ruan et al., 2021). However, a study comparing negotiation of meaning (NfM) with two web-based chatbot tutors found that learners had similar opportunities to practice NfM as with learners who interacted with humans in SCMC (synchronous computer-mediated communication) (Qinghua & Satar, 2020). This suggests that AI chatbots may be helpful in conversation practice, even if they lack the full range of real-world interactions.

Finally, the advent of watermarking to identify AI-generated content has emerged as a significant concern. Watermarking involves using a code in the text generation process, which utilizes specific words, parts of words, and punctuation marks; researchers then use this code to identify AI-generated text (Lancaster, 2023). Since watermarked text would be generated by code rather than the input it receives, it may lack authenticity compared to native-like speech. On the other hand, language learners are already being exposed to generative AI (GenAI) language since many teachers use ChatGPT to assess and give feedback on student work and create teaching materials such as study guides, reading passages, and course syllabi (Trust et al., 2023). Furthermore, the prevalence of AI-generated content on the internet and its widespread incorporation into individuals' everyday personal and professional lives suggests that the source of input, whether through AI tools or conventional means, is likely negligible. This is supported by the watermarking process, designed so the average person cannot detect the difference. A recent study of 4,600 participants evaluating 7,600 self-presentations found that AI-generated content was only identified with 50–52% accuracy (Jakesch et al., 2023). The authors

conclude that since its language closely mirrors human language and people rely on flawed heuristics to detect AI-generated language, the average person cannot distinguish the difference between human and AI-generated content (Jakesch et al., 2023). Thus, despite its perceived inauthenticity, AI-generated content is still helpful for language learners.

Ensuring AI's responsible and ethical integration is crucial to maximizing its benefits while minimizing its potential downsides. This necessitates the development of clear guidelines for its ethical and responsible use.

Conclusion

AI tools can encourage student participation (Rushton, 2022) and provide personalized learning experiences, immediate feedback, and opportunities to practice English in a safe and supportive environment (Auliawan & Ong, 2020; Kim et al., 2021). Furthermore, AI can assist teachers to be more effective in their teaching. As AI continues to become an integral part of our lives, its impact on education and language learning is undeniable. Equipping educators with the necessary skills and training to effectively integrate AI into their teaching practices will allow them to harness AI's power and prepare students for the demands of an increasingly AI-driven job market.

In the Japanese context, AI has the potential to transform the development of communicative competence for EFL learners by mitigating the affective factors that hinder English learning, such as anxiety and fear, providing opportunities for authentic communicative practice, and personalizing the learning experience. These findings are supported by a growing body of research on the use of AI in EFL classrooms, as well as specific examples of successful AI integration in Japan, such as the Toda City Board of Education's English conversation class activity using the AI robot *Musio,* Obari and Lambacher's (2019) study on the use of AI smart speakers in blended language (BL) training, the effectiveness of *Grammarly* to improve student writing (Dizon & Gayed, 2021), and providing feedback (Kawashima, 2023). Additionally, OT tools can enhance students' vocabulary and interpretation abilities (Takagaki, 2022). MT tools can promote a more comfortable language learning environment by reducing language apprehension and boosting students' confidence (Lee, 2023). The body of positive research on the use of AI to promote language learning combined with the recent adoption of technology by Japanese teachers during the pandemic strongly suggests that AI integration can be successful in a Japanese context and merits further investigation.

Addressing valid concerns regarding privacy, student overreliance, predictable language patterns, and watermarking is crucial when implementing AI in education. The curriculum should explicitly integrate ethical considerations and responsible AI use. While AI may expose learners to inauthentic language, the fact that most people cannot distinguish between human and AI-produced content suggests that AI can still be a valuable tool for building students' communication skills.

The use of AI in English language teaching (ELT) is still in its early stages; ELT researchers need to continue innovation (Sharadgah & Sa'di, 2022). In a systematic review of AI in ELT from 2015 to 2021, Sharadgah and Sa'di (2022) revealed that most of the research on AI in ELT was conducted by researchers outside the ELT field, with only 64 relevant articles conducted by ELT researchers. Its application in developing communicative competence within Japanese EFL universities remains a notable research gap. We hope this article can serve as a starting point for continued investigation into using AI in ELT to improve English language education in Japan and beyond.

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