**Lecture Four**

**Artificial Intelligence in Language Teaching and Learning**

The advent of the internet in the late 1990s revolutionized language learning and aided the educationalists’ claims for more authentic situations and social learning. Web-based resources, websites, and online courses became widely available, providing learners with access to a vast array of language materials (Hubbard, 2008). The computer became a communication device rather than a teaching tool (Jordan et.al 2008).

With the proliferation of smartphones and mobile devices in the 2000s, language learning applications and mobile platforms gained popularity. Users could practice languages on the go, making learning more convenient and flexible (Stockwell, 2010). Language learning apps such as Duolingo incorporated gamification elements to enhance engagement and motivation, attracting a broad user base (Thorne, 2017). Besides, language learners increasingly turned to social media and online communities to connect with native speakers, exchange language skills, and engage in real-life conversations (Lam, 2000). In this vein, virtual classrooms and video conferencing tools allowed for remote language instruction and collaboration (Garrison & Kanuka, 2004).

Recently, the integration of AI in language learning platforms has enabled personalized feedback, adaptive learning paths, and real-time language assessment (Heift & Vyatkina, 2008). AI systems use algorithms, data, and computational power to simulate human cognitive functions and adapt to new information, ultimately aiming to improve efficiency, accuracy, and automation in various domains. They are capable of performing tasks that traditionally require human intelligence such as problem-solving, learning, reasoning, natural language understanding, pattern recognition, and decision making (Russell & Norvig, 2020).

AI's potential in language teaching and learning is substantial**:**

-AI-driven language learning platforms can dynamically tailor educational experiences to individual learners. Through the analysis of user performance and preferences, AI systems offer customized lessons, exercises, and feedback, ensuring a unique learning journey for each learner (Graesser, D'Mello, & Cade, 2018).

**-**AI can perform language skill assessments efficiently and accurately. Automated language assessment tools evaluate pronunciation, grammar, vocabulary, and fluency, providing immediate feedback to learners (Chapelle & Voss, 2016).

**-** AI-powered natural language processing (NLP) tools aid language learners in comprehending complex texts by providing explanations for unfamiliar vocabulary and grammar structures (Jurafsky & Martin, 2019).

- AI chatbots or virtual language partners provide learners with real-time conversations. These interactions enable practice in speaking, listening, and comprehension skills at the learner's preferred pace (Lan, Zhang, & Li, 2021).

**-**AI-driven translation tools facilitate language learners in translating texts from one language to another. They can also transcribe spoken language into written form, facilitating language acquisition and understanding (Koehn, 2010).

**-**AI has the capability to generate language learning content, including exercises, quizzes, flashcards, and lessons, all tailored to specific language proficiency levels and learning objectives (Chen, Wu, Liu, & Zhang, 2018).

**-**AI-powered virtual language tutors offer 24/7 assistance and support, answering questions and guiding learners through their language learning journey (Nye, Graesser, & Hu, 2014).

**-**Gamified language learning apps that utilize AI can make language practice more engaging and enjoyable, encouraging regular practice and skill development (Hamari, Koivisto, & Sarsa, 2014).

**-**AI can create virtual environments for cultural immersion, allowing language learners to explore and interact with diverse cultural contexts, thus enriching their language learning experience (Babu & Sundararajan, 2017).

**-**AI can provide invaluable assistance to individuals with disabilities in language learning by offering features like text-to-speech, speech recognition, and other accessibility aids (Khezri, Alemi, & Ghasempour, 2020).

**-**AI is proficient at analyzing data related to learner performance and identifying areas for improvement. This information can assist instructors and learners in refining their language learning strategies (Baker, O'Neil, & Linn, 2017).

**-**Language educators can benefit from AI tools that aid in lesson planning, curriculum design, and grading, allowing instructors to allocate more time to personalized instruction (Yuan & Lai, 2016).

 However, the use of AI tools may have also negative impacts on the learners, these may include the following

**-**Language learning often involves building connections with native speakers and fellow learners. Overemphasis on AI tools may diminish the social and cultural aspects of language acquisition (Hubbard, 2008). Besides, Excessive dependence on AI-driven language learning platforms may result in reduced interaction with human instructors and peers, potentially diminishing the nuanced aspects of real-life communication (Chapelle & Voss, 2016).

**-** AI platforms collect extensive data on learners' interactions, preferences, and performance. Concerns may arise regarding data privacy, security, and how this information is used or shared (Lam, 2010).

**-** AI lacks genuine emotional intelligence and empathy. While it can provide feedback and assessment, it may not fully understand the emotional states, motivations, and needs of learners, potentially affecting emotional support during the learning process (Graesser, D'Mello, & Cade, 2018). AI may not fully comprehend the cultural context or sensitivities related to language use, leading to the inadvertent teaching or promotion of language inappropriately or insensitively (Jurafsky & Martin, 2019).

**-** While AI can assess language skills to some extent, it may not capture the full range of language competencies, such as cultural fluency, non-verbal communication, or context-based language usage (Chen, Wu, Liu, & Zhang, 2018).

**-** Some learners may become overly reliant on AI for answers and problem-solving, potentially diminishing their motivation and ability to think critically and solve language-related challenges independently (Thorne, 2017).

**-** Gamification and rewards used in AI language learning platforms may lead to extrinsic motivation rather than genuine interest in language and culture, potentially shifting the focus to earning points or rewards (Hamari, Koivisto, & Sarsa, 2014).

**-** the overrelliance on AI may reduce learners’ emphasis on traditional teaching methods and resources, and diminish the diversity of pedagogical approaches available to learners (Russell & Norvig, 2020).

**References**

Babu, S. K., & Sundararajan, V. (2017). Augmented Reality in Language Learning: A Literature Review. *International Journal of Research in Engineering and Technology*, 6(8), 111-116

Baker, R. S., O'Neil, H. F., & Linn, M. C. (2017). Technology-Based Assessment. In J. Hattie & E. M. Anderman (Eds.), *International Guide to Student Achievement* (pp. 262-268). Routledge.

Canning-Wilson, C. (2013). Practical Aspects of Authentic Assessment. In *The TESOL Encyclopedia of English Language Teaching* (pp. 1-7). Wiley.

Chapelle, C. A. (2001). *Computer applications in second language acquisition: Foundations for teaching, testing, and research*. Cambridge University Press

Chapelle, C. A., & Voss, J. F. (2016*). Learning Through Computer-Assisted Language Learning: Insights from Research.* Routledge.

Chen, J., Wu, J., Liu, Y., & Zhang, C. (2018). Artificial Intelligence in Education: A Review. In *2018 25th International Conference on Mechatronics and Machine Vision in Practice (M2VIP)* (pp. 1-7).

Garrison, D. R., & Kanuka, H. (2004). Blended learning: Uncovering its transformative potential in higher education. *The Internet and Higher Education*, 7(2), 95-105.

Graesser, A. C., D'Mello, S., & Cade, W. (2018). Emotions during the Learning of Difficult Material. In R. Pekrun & L. Linnenbrink-Garcia (Eds.), *International Handbook of Emotions in Education* (pp. 379-396). Routledge.

Hamari, J., Koivisto, J., & Sarsa, H. (2014). Does Gamification Work? — A Literature Review of Empirical Studies on Gamification*. 2014 47th Hawaii International Conference on System Sciences* (pp. 3025-3034).

Heift, T., & Vyatkina, N. (2008). Exploring the role of feedback in the dynamics of language learning. *CALICO Journal*, 25(2), 281-314.

Hubbard, P. (2008). CALL and the Future of Language Teacher Education. *CALICO Journal*, 25(2), 175-188.

Jurafsky, D., & Martin, J. H. (2019). *Speech and Language Processing* (3rd ed.). Pearson.

Khezri, H., Alemi, M., & Ghasempour, Z. (2020). Speech Recognition Applications for English Language Learning: A Review. *Computers & Education*, 143, 103673.

Koehn, P. (2010). *Statistical Machine Translation.* Cambridge University Press.

Lam, W. S. E. (2000). L2 literacy and the design of the self: A case study of a teenager writing on the Internet. *TESOL Quarterly*, 34(3), 457-482.

Lan, C., Zhang, Y., & Li, W. (2021). Mobile Chatbot-Assisted English Speaking Practice. *IEEE Access*, 9, 5896-5903.

Levy, M. (1997). *Computer-Assisted Language Learning: Context and Conceptualization.* Oxford University Press.

Nye, B. D., Graesser, A. C., & Hu, X. (2014). AutoTutor and Family: A Review of 17 Years of Natural Language Tutoring. *International Journal of Artificial Intelligence in Education,* 24(4), 427-469.

Russell, S. J., & Norvig, P. (2020). *Artificial Intelligence: A Modern Approach (4th ed.).* Pearson.

Stockwell, G. (2010). Using mobile phones for vocabulary activities: Examining the effect of the platform. *Language Learning & Technology,* 14(2), 95-110.

Thorne, S. L. (2017). *Language education and applied linguistics: Bridging the two fields.* Routledge.

Yuan, L., & Lai, C. (2016). The Benefits of Project-Based Learning Environments in Learning and Teaching of Robotics Programming: A Systematic Review. *Educational Technology & Society,* 19(4), 215-235.

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