# AI-POWERED FLUENCY: HOW MACHINE LEARNING IS TRANSFORMING ENGLISH LANGUAGE TEACHING IN 2025

BY

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**Abstract**

This paper assesses AI-powered fluency, with a specific focus on how machine learning is transforming English language teaching in the current digital era. In this paper, the dynamics of AI-powered fluency and how machine learning is transforming language pedagogy are reviewed in three dimensions using the theoretical lens of sociocultural theory. First, the evolution of technologies and how AI is transforming English language teaching is reviewed. Secondly, the impact of AI on teachers' roles in language pedagogy in this technologically-driven era is analysed. Thirdly, the impact of AI on learners' learning outcomes is discussed. It found that AI is bringing about data-driven assessment on a high scale, enabling real-time feedback, fostering personalised learning that meets individual learners' needs. It is revealed that the affordances of AI have divested teachers of the role of holding the kernel of knowledge in the instructional process, and some English language teachers are threatened by this development. It is also found that AI-powered language instruction is notable for improved learners' outcomes in listening, speaking, reading, and writing. It is therefore concluded that language teachers should not perceive AI as a threat but as a helpful assistant. This paper contributes to expanding the discourse of AI within the sociocultural theory through its position that, in this era, neither the human agent (human teacher) nor the artificial agent (AI) is exclusively sufficient for building fluency in the form of pragmatic competence.

**Keywords:** Fluency, AI, Machine Learning, ELT, Teachers, Roles, Learning Outcomes

## INTRODUCTION

Within the current global context, fluency in English has transitioned from a desirable skill to a basic necessity for individuals wishing to participate in international dialogue, especially since English is the lingua franca of globalisation. Fluency entails effectiveness in communication, whether through speaking or writing, by articulating ideas coherently and smoothly using linguistic resources (Wang, Razaei, &Izadpanah, 2024). Fluency in English serves as a gateway to scientific, technological, and economic spheres, thereby establishing itself as a primary requirement for professional and academic advancement (Hashim, 2025). The majority of the benefits that globalisation offers are accessible only through proficiency in English. The prominence of English has grossly increased the demand for learning it, thus exacerbating pressure on the teachers to meet the heterogeneous needs of the learners. Among others, English language teachers need to improve their capacities to absorb this pressure, particularly leveraging the affordances of new technologies (Biletska, Paladieva, Avchinnikova, & Kazak, 2021). This implies that the conventional classrooms and methods for language teaching have not only been limited but also grossly inadequate to cater for the heterogeneous needs of learners.

As a way forward, artificial intelligence (AI)-powered fluency offers a veritable alternative and innovations

that have totally deconstructed the myth of the role of language teaching as an exclusive function of human agents. AI is increasingly transforming English language teaching by encouraging active learning and engaging learners in context-aware dialogues, which are pertinent for fluency and the overall communicative competence (Baskara, 2023). AI offers enormous opportunities not only to the learners but also to the teachers to make the learning learner-centred and interactive. Admittedly, there have been many research efforts in investigating the role of AI in English language teaching (Baskara, 2023; Yaşar, 2025). But then, much of these efforts have been concentrated on exploring how AI is deployed in assessing discrete grammar elements that emphasise grammatical competence rather than communicative competence. More so, not much is known about how AI can be used to scale up individualised learners' assessment. To bridge this gap, this paper assesses AI-powered fluency, with a specific focus on how machine learning is transforming English language teaching in the current digital era. This is more so due to the intricate sophistication and maturation that AI has attained in recent times. To achieve this objective, this set aims to answer these questions:

1. How is AI transforming English language teaching methods in 2025?
2. What are the impacts of AI on English language teachers' roles in this era?
3. How is AI impacting English learners' learning outcomes in 2025?

**LITERATURE REVIEW**
**Theoretical Framework**
Innovations in language pedagogy, including in technology, are gravitating towards learner-centred learning. Within the technological domain, trends keep emerging. A typical theory that can be leveraged to assess the suitability of these evolvements to ensure their suitability for learners is the Sociocultural Theory (SCT). The SCT, also known as cultural historical theory, is a psychologically oriented language learning theory that has received a myriad of interpretations, resulting in not only misinterpretation but also misinformation (Lantolf&Poehner, 2023; Lantolf& Xi, 2023). A typical example of such misinterpretation is the stance that learning takes place in social interaction

(Lantolf& Xi, 2023). These researchers argue that what happens, contrary to the misinterpretation, is that social relations establish new connections among the isolated psychological processes at birth, such as perception, attention, memory, and emotion, and eventually result in a synchronised higher psychological system (Lantolf& Xi, 2023). At a glance, AI appears to offer this connection where learners' psychological processes develop to a higher one through imitation. But as Lantolf and Xi (2023) would argue, this line of thought runs contrary to the original intention of Vygotsky on how learners gradually imitate the socially prevalent psychological processes. Indeed, AI would provide the necessary framework for the dialectical process, but its human-oriented social relation that would induce the higher psychological system is still limited at the moment.

In putting the records straight, Lantolf and Poehner (2023) articulate the salient principles of Vygotsky's SCT. The first principle, according to Vygotsky, states that there is a sort of transition from direct, innate, natural forms and methods of behaviour to mediated, artificial mental functions that develop in the process of cultural development (Vygotsky, 1978). This points to how the social environment shapes the societal norms. The second principle posits thus "The relation between higher mental functions was at one time a concrete relation between people; collective social forms of behaviour in the process of development become a method of individual adaptations and forms of behaviour and thinking of the personality (Vygotsky, 1998, p. 169). This emphasises how one's behaviour could not be separated from the regular social interaction that takes place in the environment. The third principle states that transition of a function [is] from outside inward" (Vygotsky, 1978, p. 170). This implies that our psychological makeup is a function of the social experiences we have, and this psychological disposition influences the world, thereby making our psychology and social world inseparable (Lantolf&Poehner, 2023).

From the analysis of the principles of SCT over the years, there have been recurring discernible constructs. These constructs include mediation, scaffolding, and zone of proximal development (ZPD). Mediation captures how language is used by society to represent social and cultural systems, thus making interaction in

language a trigger of learning (Achike, 2021). On the other hand, scaffolding implies a structured guide provided by a more knowledgeable other as support for the learner to gain autonomy in the learning process. ZPD is "*the distance between actual developmental level as determined by independentproblem solving and the level of potential development as determined through problem solvingunder adult guidance or in collaboration with more capable peers*" (Vygotsky, 1978, p. 86). Put succinctly, ZPD is the gap between what the learners know and what they could actually know if all the necessary supports are provided.

For many years, these constructs of SCT: mediation, scaffolding, and ZPD, as far as formal education is concerned, were perceived as the main role of the teacher. But as Williyan et al (2024) argue, AI is positioned to provide superior learning outcomes. In particular, AI-fluency support is a veritable scaffolding tool that could enhance the independent language fluency of learners. However, in the original tenet of SCT, the role of machine learning as an aspect of AI is fractured by its failure to provide emotive behaviours, as seen in real social interactions among humans. This implies a cautionary note for educators not to abdicate their roles entirely to AI. It is important to note that programmed interactions/instructions would have some deficits in the psychological disposition of the environment of learners, and could be lacking in contextual and cultural appropriateness.

### The Evolution of Technology in ELT: How AI is Transforming ELT Methods

Methods in ELT have evolved over the years. The earliest methods, known as traditional methods such as the audio-lingual method, grammar translation method, and the direct method, gave prominence to mastering grammatical rules, and could not prepare learners to have communicative competence in the target language. As a result of this deficit, methods such as communicative language teaching (CLT) and task-based language teaching (TBLT) emerged (Sukmalasari&Tarihoran, 2025). These methods are inspired by constructive and sociocultural theories and focus on enhancing the communicative proficiency of the learners through the language skills (Bhagat& Dave, 2025). Unlike the traditional methods, these

methods are more learner-centred. Within this dynamic, technology-enhanced language learning has not only been a game-changer but more so disruptive. Educational technology is making learning more dynamic and tailored to the individual. With adaptive feedback from platforms like TELL, students can progress independently while targeting their personal weaknesses. The advent of AI-driven tools like ChatGPT has deepened this personalisation, successfully fostering student involvement and self-directed learning (Sukmalasari&Tarihoran, 2025).

TELL underpins the development of interactive, adaptable learning ecosystems that accommodate both synchronous and asynchronous pedagogical approaches. Leveraging AI, they deliver customised educational trajectories, real-time assessment, and data-driven insights, thereby enhancing student agency and active participation (Bhagat& Dave, 2025). AI-assisted ELT ushers a new era of innovation by leveraging the framework of integrative computer-assisted language learning (CALL). Typically, AI uses machine learning and advanced techniques to deliver personalised input, adapt to the needs of each learner, and evaluate enormous data sets to improve methods of ELT. AI-powered tools are making language learning software more effective by providing instant help, conversational practice, and immersive activities (Yaşar, 2025). AI-driven applications, including Grammarly and ELSA Speak, facilitate autonomous skill development by providing learners with immediate feedback on their performance. Additionally, AI adoption in ELT enhances the creation of local contents that resonate with learners and makes interaction easier (Yaşar, 2025).

The integration of AI also has its own challenges. The issue of privacy and how AI defies ethical consideration has continued to raise concerns. This, therefore, demands moderation of the teacher to ensure that learners have access to suitable content. Nevertheless, the impact of AI on ELT methods remains revolutionary. EFL/ESL teachers need to embrace the affordances of AI-assisted language learning in their methods so that they are not left behind in this wave of change.

### The Impacts of AI on English Language Teachers' Roles

The evolving digital technologies, particularly AI, have brought about revolutionary impacts on the roles of English language teachers. Teachers are no longer an exclusive harbinger of knowledge. This is in view of the unprecedented democratisation that technology has brought to the teaching and learning process. A significant outcome has been the imperative for teachers to reconceptualise their professional identity through a process of negotiation and adaptation **(**Zaman et al., 2024). As a matter of fact, some teachers are perceiving the innovation of AI as a serious threat to their jobs, thereby nursing the fear of losing their jobs to digital technologies or waning in relevance. This sort of fear is revealed in a qualitative study conducted by Zaman et al (2024), where English language teachers were asked, "Why does it seem that AI can be dangerous for ELT teachers' identity in the future?". The study outcome reported the fear of the teachers as they are apprehensive and specifically stated that AI has divested them of the role of knowledge providers to mere facilitators. This apprehension is consistent with Pokrivcakova's (2019) concerns about teachers' application of AI in language pedagogy. The concerns include a lack of knowledge and ICT abilities, insufficient ICT experience as a student, a lack of drive, and difficulty incorporating ICT into the teacher's current teaching methods and style. Others include feeling uncomfortable, fearing a loss of control over students, fearing a decline in their dominance in the classroom, and fearing a decline in students' respect (Pokrivcakova, 2019). This points to the need for more training for teachers to reappraise both the role of AI in language pedagogy as well as their own roles in utilising AI for effective language pedagogy.

A critical examination of the negative perception of the role of AI would easily allay the fears of teachers. As much as the role of teachers is crucial in the teaching and learning process, teachers' perception as knowledge providers is contrary to the tenets of learner-centred teaching and learning, as advocated in the constructivists' and socioculturalists' theories. It is notable from the perspective of SCT that social experiences and their inter- and intra-metric consequences transfer into knowledge (Lantolf&Poehner, 2023).

Instead of posing a threat, AI lessens the strain for educators and offers the resources and genuine support needed for effective instruction (Pokrivcakova, 2019). For example, according to Williyan et al (2024), teachers in the modern educational environment use multimedia, artificial intelligence, and textbook content to create enriched learning environments. Language acquisition, communicative ability, and self-assurance are being successfully promoted by pedagogical approaches that place a high priority on student engagement, such as conversation exercises, role-playing, and pair work. AI tools like ChatGPT, Twee, and Questionwell are becoming more and more popular in the assessment space. They diversify evaluation methods and have the potential to produce better learning results (Williyan et al., 2024). Because of these possibilities, the development of AI represents a paradigm shift rather than merely an addition to existing teaching strategies. This change should not be seen as a threat but as a positive complement to teachers' roles in language pedagogy.

A recognised consequence of increased AI integration is the depersonalization of the teacher's role (Bhagat& Dave, 2025). This trend threatens to produce students who may achieve linguistic fluency yet lack the pragmatic competence necessary for contextually appropriate communication aligned with societal norms. To mitigate this risk, teachers who are apprehensive about the integration of AI in language pedagogy must be reoriented through professional development. The goal is to shift their perspective, encouraging them to embrace AI as a supplement to their expertise rather than a competitor. This aligns with Pokrivcakova's (2019) position that educators must cultivate new skills that inform their understanding of AI's application.

### Impacts of AI on English Learners' Learning Outcomes

AI has been acknowledged to have tremendous impacts on learners' learning outcomes.Jawaid et al (2025) examined AI's role in improving English language learning results for students who perform poorly (D grades) in a variety of academic levels (1st to 8th semesters). The researchers developed a tailored AI-powered strategy focused on student-centred learning and outcome-based education (OBE). The

study focused on AI tools that facilitate individualised learning, such as intelligent tutoring systems, machine learning, speech recognition, and natural language processing (NLP). These resources, which provide real-time feedback, focused practice, and contextualised exercises that improve speaking and writing abilities, were tailored to each student's unique proficiency levels. The study's output is a methodical framework for integrating AI technologies into English language classes with a focus on inclusive, sustainable, and scalable methods. The research concludes that AI is a paradigm change that enhances educational fairness and fosters student-centred learning by reinventing language teaching for inclusive and sustainable practices (Jawaid et al., 2025). Specifically, the researchers identified AI to promote consistent use of language in practical tasks, and this is not only necessary for fluency but more so for communicative competence in terms of contextual appropriateness. This report aligns with the position of Sukmalasari and Tarihoran(2025) that AI-driven language pedagogy fosters high-level learners' involvement in the instructional process.

Elsewhere, Rusmiyanto et al (2023) examined the role of AI in developing communication skills among second language second/foreign language learners. Using a systematic review, the study highlighted the views of extant literature regarding the role that AI plays in enhancing the communication skills of learners, and summarised it thus: AI-powered tools such as speech recognition systems and virtual tutors immensely aid speaking and pronunciation skills. Again, AI-based interactive platforms and chatbots enabled real-time feedback as well as the needed engagement that improved the fluency of learners (Rusmiyanto et al., 2023). In the same vein, Wang and Liu (2019) submitted that learners who used AItools improved significantly in oral proficiency compared to their counterparts who did not.

In another similar study, Wu et al (2025) examined the effect and mediating mechanisms of AI-powered adaptive learning platforms in facilitating reading proficiency. The researchers deployed Structural Equation Modelling to validate chained mediation, wherein learner engagement mediates the relationship between satisfaction with platform functionalities and perceived learning outcomes. One of the striking results is that the AI-powered learning platforms strongly enhance reading comprehension through a dual intervention mechanism integrating bottom-up decoding and top-down schema (Wu et al., 2025). This finding supports previous research wherein AI-powered instruction has been connected to significant positive learning outcomes. The connection between AI and positive outcomes in reading comprehension, as found in the study, is an indication that AI virtually impacts learning outcomes in all language skills, positively. This is because other researchers, such as Rusmiyanto et al (2023), Jawaid et al (2025), and Manzoor et al (2025), have all unravelled how AI-enhanced language teaching improves learning outcomes in the aspects of listening, speaking, and writing. It thus becomes imperative for language teachers to embrace the affordances of technology, particularly AI, for more effective language teaching and learning.

**CONCLUSION**

Artificial intelligence and machine learning have brought about revolutionary changes in language pedagogy. Significant among these changes is the personalisation of learning strategy as well as real-time feedback, which not only tickles interactivity but also sustains it. This AI-enhanced leverage is continually improving fluency in the target language. In this paper, the dynamics of AI-powered fluency and how machine learning is transforming language pedagogy are reviewed in three dimensions using the theoretical lens of sociocultural theory. First, the evolution of technologies and how AI is transforming English language teaching is reviewed. In this discourse, it is noted that AI has taken learner-centred learning to an entirely new level. It is bringing about data-driven assessment on a high scale, enabling real-time feedback, and fostering personalised learning that meets individual learners' needs.

Second, the impact of AI on teachers' roles in language pedagogy in this technologically-driven era is analysed. It is noted that the affordances of AI have divested teachers of the role of holding the kernel of knowledge in the instructional process. But then, it is noted that teachers do not have to perceive this development as a threat. Instead, it is entirely complementary and should be embraced as it reduces

the workload for teachers and provides more active engagement of learners in the instructional process. Thirdly, the impact of AI on learners' learning outcomes is analysed. AI-powered language instruction is notable for improved learners' outcomes in listening, speaking, reading, and writing. This makes the impact of AI on learners' learning outcomes an all-encompassing one. AI and its machine learning constructs are therefore valuable for enhancing fluency in the era.

When placed on the scale of sociocultural theory, AI is necessary for mediation in enabling learners to fill the gap in the zone of proximal development. However, the mediation of AI is not and should not be exclusive. It should be concurrent with the role of teachers. This is because when weighed on the scale of the first principle of SCT, according to Vygotsky (1978), AI alone is not sufficient for the transition from natural social behaviour to its mediated form, which becomes internalised. Before it becomes artificial, it has to be natural. The theoretical implication of this is that innovations in technology, such as AI, should not be hyped at the expense of the significance of teachers' roles. What is needed is a balanced approach that should encourage teachers to embrace these innovations as a complement to their own indispensable roles. This paper contributes to expanding the discourse of AI within the sociocultural theory through its position that, in this era, neither the human agent (human teacher) nor the artificial agent (AI) is exclusively sufficient for building fluency in the form of pragmatic competence. Thus, language teachers should not perceive AI as a threat but as a trustworthy assistant.

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