

# INTELLIGENT FOREIGN LANGUAGE EDUCATION: PRACTICES AND MODELS IN THE ERA OF ARTIFICIAL INTELLIGENCE

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**Abstract:** The rapid advancement of artificial intelligence has accelerated the transition from adaptive technologies to more complex forms of intelligent language learning. This paper explores contemporary practices and emerging models in foreign language education shaped by AI-driven tools and systems. It examines how adaptive platforms, intelligent feedback mechanisms, and data-informed instructional strategies contribute to the development of more personalized and flexible learning environments. The analysis focuses on the shift from technology as a supplementary resource to its role as an integral component of pedagogical design. Special attention is given to the ways in which intelligent systems support individualized learning paths, enhance learner engagement, and enable continuous monitoring of progress. At the same time, the study highlights the importance of pedagogical mediation in ensuring that technological applications remain aligned with educational objectives and learner needs.

The paper also considers the evolving structure of language learning models, where interaction between human and digital elements creates hybrid educational environments. These environments combine automation with pedagogical guidance, offering new opportunities for communicative competence development while preserving the central role of the teacher. The findings suggest that the effectiveness of intelligent language learning depends on a balanced integration of technological innovation and pedagogical expertise. Rather than replacing traditional teaching practices, artificial intelligence contributes to their transformation, supporting more adaptive, responsive, and learner-centered approaches in foreign language education.

**Keywords:** *artificial intelligence; adaptive intelligent systems; hybrid learning environments.*

**Field:** Foreign Language Teaching Methodology

## 1. INTRODUCTION

In recent decades, education has undergone a profound transformation driven by the rapid development of digital technologies and, in particular, the emergence of artificial intelligence (AI). This transformation extends beyond the mere introduction of new tools; it affects the very nature of teaching and learning (Williamson, 2024). In the context of foreign language education, this shift is especially significant, as language acquisition inherently involves communication, adaptability, and continuous interaction among participants in the educational process (Kessler, 2020; Todorova, 2021). Traditional teaching methodologies, long dominated by teacher-centered approaches, are gradually giving way to more flexible, interactive, and learner-oriented models (Ivanova, 2022). Digitalization has enabled access to a wide range of resources, multimedia content, and online learning environments (Ministry of Education and Science, 2024). Within this evolving landscape, adaptive technologies have established themselves as important tools, allowing for the personalization of learning through alignment with learners' levels, pace, and individual needs (Richter et al., 2020). However, the development of artificial intelligence marks a qualitatively new stage in this evolution. Unlike earlier digital solutions that primarily supported instruction, intelligent systems are increasingly involved in the organization and implementation of the learning process itself (Chen et al., 2020). They are capable of analyzing data in real time, generating personalized learning materials, providing immediate feedback, and simulating communicative situations (UNESCO, 2023). As a result, AI not only expands the technological toolkit available to educators but also reshapes instructional strategies and approaches to developing language competence. In this context, there is a growing need to rethink the methodology of foreign language teaching. The central question is no longer whether technology should be used, but how it can be integrated in a way that preserves pedagogical coherence and enhances effective learning (Luckin, 2022). The transition from adaptive technologies to intelligent language learning requires new approaches that combine technological innovation with pedagogical expertise (Holmes et al., 2022). Particular importance is placed on the interaction between the human factor and technological systems. Despite the increasing capabilities of artificial intelligence, learning remains a process deeply influenced by motivation, emotional engagement, and social interaction (Selwyn, 2020). It is within this framework that the role of the teacher becomes especially significant—as a mediator, organizer, and interpreter of the learning process, who gives meaning and direction to the

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use of technology. This paper aims to examine this transition—from adaptive technologies to intelligent educational models—and to explore contemporary practices in AI-supported foreign language learning. The focus is placed on how technology can be effectively integrated into the pedagogical process while preserving its human-centered and social nature (UNESCO, 2023). In this sense, the study seeks to outline both the opportunities and the limitations of intelligent learning, as well as the evolving role of the teacher in the modern educational environment (Kasneji et al., 2023).

## 2. FROM ADAPTIVITY TO INTELLIGENCE IN LEARNING

The transition from adaptive technologies to intelligent educational systems represents a key stage in the development of modern education, particularly in the field of foreign language learning (Holmes et al., 2022). This process reflects not only technological progress but also a shift in the understanding of the learning process itself—from standardized knowledge transmission to a dynamic, individualized, and context-oriented educational environment (Williamson, 2024). Adaptive technologies can be considered the first step toward the personalization of learning. Their primary function is to collect and analyze data on learners' performance—such as test results, time spent on tasks, and frequency of errors—and, based on this data, to regulate the learning process. For example, if a student consistently makes mistakes in a grammatical structure such as verb tenses in English, the system can automatically provide additional exercises targeting that specific area. If the learner performs well, the system increases the level of difficulty or introduces new material. This type of adaptation is widely used in digital language learning platforms, where tasks are adjusted according to individual progress. For instance, when acquiring new vocabulary, the system may repeat words that were previously answered incorrectly, thereby supporting retention. Despite these advantages, adaptive technologies remain limited to responding within predefined behavioral patterns. They do not generate new content, nor can they interpret the deeper context of learning. With the emergence of artificial intelligence, a qualitative shift in this paradigm can be observed. Intelligent systems not only analyze data but also interpret it within a broader context, generating new content and adapting instruction in real time. Unlike adaptive technologies, which follow predefined scenarios, AI enables more flexible and dynamic interaction between the learner and the system (UNESCO, 2023).

One of the clearest examples of this is the use of intelligent chatbots in foreign language learning. These systems allow learners to engage in dialogue in the target language within environments that simulate real-life communication. For example, a learner may participate in a conversation related to everyday situations such as ordering food in a restaurant or making a hotel reservation. The system not only evaluates the correctness of the learner's responses but also suggests alternative expressions, explains mistakes, and guides the conversation based on the learner's input (Kasneji et al., 2023). This creates a sense of authentic communication and supports the development of communicative competence (Kessler, 2020). Another example is the use of systems capable of automatically generating texts and exercises. These systems can create personalized learning tasks tailored to the learner's interests and proficiency level. If a student shows interest in a particular topic—such as travel or technology—the system can generate texts, dialogues, or questions related to that topic. This increases motivation and engagement, as learning becomes more relevant and meaningful for the individual (Ivanova, 2022). Intelligent systems also provide a more advanced form of feedback. Instead of simply marking an answer as correct or incorrect, they can explain the reasons behind errors, suggest corrections, and guide learners toward additional resources (UNESCO, 2023). For example, in a writing task, the system can analyze not only grammar but also style, structure, and coherence, offering detailed suggestions for improvement (Williamson, 2024). Simulations and virtual environments represent another important dimension of intelligent learning. Through these tools, learners can immerse themselves in realistic language situations without leaving the classroom. For instance, a virtual environment may simulate an international meeting, a job interview, or a cultural event in which the learner is required to actively use the target language. This type of learning combines theory and practice, supporting the development of both linguistic and social skills (Todorova, 2021). Despite these advantages, the transition toward intelligent learning does not imply full technological autonomy. Intelligent systems expand the possibilities of education, but their effectiveness depends on how they are integrated into the pedagogical process (Selwyn, 2020). They create conditions for deeper learner engagement but cannot replace the role of the teacher as organizer and interpreter of the learning experience. In this sense, the shift from adaptive learning to intelligent learning should be understood as an evolutionary process in which technologies gradually expand their functions while remaining part of a broader pedagogical framework (Luckin, 2022). This process opens new opportunities for foreign language learning by combining personalization, interactivity, and communicative orientation, ultimately

leading to more effective and engaging language acquisition (Chen et al., 2020).

### 3. PRACTICES IN INTELLIGENT LANGUAGE LEARNING

Contemporary educational practices increasingly incorporate artificial intelligence (AI) in ways that fundamentally transform foreign language teaching and learning (Holmes et al., 2022). These practices extend beyond simple digital support and move toward the creation of intelligent, responsive, and learner-centered environments (Williamson, 2024). At the core of this transformation is the ability of AI-driven systems to combine data analysis, real-time interaction, and content generation, thereby enabling more effective and personalized language acquisition. One of the most significant developments in this area is the use of intelligent learning platforms that support the creation of individualized learning trajectories. Unlike traditional linear curricula, these platforms continuously adapt to the learner's level, pace, and preferences (Luckin, 2022). For example, a learner at an intermediate level of English B1 may receive a sequence of tasks that gradually increase in complexity, while another learner at the same nominal level but with different strengths—such as strong vocabulary but weaker grammar—may be guided through a different set of activities. The system dynamically adjusts content based on performance indicators such as accuracy, response time, and consistency, ensuring optimal engagement and progression (Kessler, 2020). Automated feedback represents another crucial component of intelligent language learning practice. In traditional settings, feedback is often delayed and limited by time constraints, whereas AI systems can provide immediate, detailed, and continuous responses (UNESCO, 2023). For instance, when a learner completes a writing task, the system can instantly identify grammatical errors, suggest lexical improvements, and offer alternative sentence structures. In speaking exercises, speech recognition technologies can analyze pronunciation, intonation, and fluency, providing learners with specific guidance on how to improve. This immediacy supports self-directed learning, as students are able to reflect on their performance and make corrections in real time (Ivanova, 2022). Interactive environments and simulations play a particularly important role in the practical application of language skills. These environments allow learners to engage in realistic communicative scenarios that mirror everyday situations. For example, a virtual simulation may place the learner in the role of a traveller navigating an airport, requiring them to ask for directions, respond to announcements, or interact with service staff. In another scenario, learners might participate in a simulated job interview, where they must answer questions, describe their experience, and respond appropriately to follow-up prompts. Such activities not only develop linguistic competence but also enhance pragmatic and sociocultural awareness. AI-powered chatbots further expand opportunities for interaction by enabling continuous conversational practice (Kasneci et al., 2023). Unlike static exercises, chatbots can sustain dialogues, respond to unpredictable input, and adapt the conversation to the learner's level. For instance, a beginner learner might engage in simple exchanges such as greetings and basic questions, while an advanced learner could participate in discussions on abstract topics like environmental issues or cultural differences. The system can correct errors subtly within the conversation, suggest more natural expressions, and encourage the learner to elaborate their responses, creating a more natural and engaging learning experience (Kessler, 2020).

Another important practice involves the use of AI for content generation and contextualized learning (Chen et al., 2020). Intelligent systems can create texts, dialogues, and exercises tailored to specific themes, professional domains, or learner interests (UNESCO, 2023). For example, a student studying business English may receive email and negotiation scenarios relevant to corporate communication, while a learner interested in tourism might work with dialogues related to travel planning and customer interaction. This contextualization increases the relevance of learning materials and strengthens the connection between language use and real-world application (Ivanova, 2022). Data analytics also plays a central role in intelligent language learning. By collecting and processing large amounts of learner data, AI systems can provide detailed insights into progress, strengths, and areas for improvement (Richter et al., 2020). Teachers can access dashboards that display patterns such as frequently made errors, time spent on specific tasks, or levels of participation. For example, if a group of learners consistently struggles with listening comprehension, the teacher can introduce targeted activities to address this difficulty. Similarly, individual learners can receive personalized reports that help them understand their own learning patterns and set specific goals for improvement. Moreover, intelligent systems support formative assessment by continuously monitoring performance rather than relying solely on summative evaluation (UNESCO, 2023). This allows for a more nuanced understanding of learning development and enables timely pedagogical intervention. Instead of waiting for final tests, teachers can identify issues early and adjust instruction accordingly. Despite these advancements, it is important to recognize that the effectiveness of these practices depends on their thoughtful integration into the pedagogical process. AI tools provide

powerful support, but they do not replace the need for structured guidance, meaningful interaction, and professional judgment. The teacher remains essential in selecting appropriate tools, interpreting data, and ensuring that technological applications align with educational objectives (Todorova, 2021). In conclusion, practices in intelligent language learning demonstrate a shift toward more personalized, interactive, and data-informed education. Through intelligent platforms, automated feedback, simulations, conversational agents, and analytics, learners are provided with richer and more flexible opportunities to develop their language skills (Kasneji et al., 2023). At the same time, these innovations highlight the importance of maintaining a balanced approach in which technology enhances, rather than replaces, pedagogical practice (Selwyn, 2020).

#### 4. NEW MODELS OF LEARNING

The integration of artificial intelligence (AI) into education has led to the emergence of new learning models that can be defined as hybrid, combining technological innovation with pedagogical guidance (Luckin, 2022). These models represent a shift from traditional, linear forms of instruction toward more dynamic, flexible, and responsive educational environments (Williamson, 2024). Rather than replacing existing pedagogical frameworks, AI contributes to their transformation by expanding the ways in which teaching and learning can be organized and experienced (Selwyn, 2020).

At the core of these new models is the concept of intelligent learning environments, where the educational process is no longer structured as a fixed sequence of activities but evolves through continuous interaction between the learner, the technology, and the teacher (Chen et al., 2020). In such environments, learning becomes a non-linear and adaptive process. Learners do not follow identical paths; instead, their progression is shaped by their individual needs, performance, and engagement. For example, two students studying the same foreign language may encounter entirely different sets of tasks, resources, and feedback mechanisms depending on their level of proficiency, learning pace, and areas of difficulty. This shift toward non-linearity allows for a higher degree of personalization (Kessler, 2020). Intelligent systems can dynamically adjust content, propose alternative learning strategies, and provide targeted support (UNESCO, 2023). At the same time, this personalization does not eliminate the social dimension of learning. On the contrary, hybrid models aim to preserve and even enhance interaction, collaboration, and communication among learners. For instance, digital platforms may combine individual learning modules with group activities such as collaborative projects, peer feedback sessions, or virtual discussions. In this way, learners benefit from both individualized instruction and collective learning experiences (Ivanova, 2022). A key feature of these models is the integration of synchronous and asynchronous learning modes. Students may engage with AI-supported tasks independently—such as completing exercises, interacting with chatbots, or reviewing feedback—while also participating in real-time sessions led by the teacher. This blended structure allows for greater flexibility, as learners can control the timing and pace of certain activities, while still benefiting from direct pedagogical support and interaction. For example, a learner might practice vocabulary and grammar through an intelligent platform before participating in a live discussion session where these elements are applied in communicative contexts. Another important aspect of hybrid learning models is the redistribution of roles within the educational process. The learner becomes a more active participant, taking responsibility for their own progress and engaging in self-regulated learning. AI tools support this autonomy by providing continuous feedback, learning recommendations, and opportunities for independent practice (Kasneji et al., 2023). However, this increased learner autonomy does not diminish the role of the teacher. Instead, it redefines it. The teacher acts as a designer of learning experiences, a facilitator of interaction, and a mediator who ensures that technology is used effectively and meaningfully (Todorova, 2021). For example, in a foreign language classroom, an intelligent system may identify that a group of learners struggles with listening comprehension. Based on this data, the teacher can design targeted activities, such as guided listening exercises, group discussions, or contextual tasks that reinforce understanding (Richter et al., 2020).

In this way, technology informs pedagogical decisions, but it is the teacher who interprets the data and translates it into appropriate instructional strategies. Furthermore, hybrid models often incorporate elements of experiential and scenario-based learning. Through simulations, role-playing activities, and virtual environments, learners can engage in authentic communicative situations (Kessler, 2020). These experiences bridge the gap between theoretical knowledge and practical application. For instance, learners may participate in a simulated international meeting, negotiate in a business context, or collaborate on a project with peers from different cultural backgrounds. Such activities not only develop language skills but also enhance intercultural competence and real-world communication abilities (UNESCO, 2023). An essential characteristic of these new models is that technology does not replace the teacher but extends the

teacher's capacity to support learning. AI tools can handle repetitive tasks, provide immediate feedback, and offer individualized resources, thereby allowing teachers to focus on higher-level pedagogical functions such as guiding discussions, fostering critical thinking, and supporting emotional and social development (Holmes et al., 2022). This complementary relationship ensures that the human dimension of education is preserved while benefiting from technological innovation. At the same time, the implementation of hybrid models requires careful pedagogical planning and critical awareness. The effectiveness of these models depends not only on the availability of technology but also on how it is integrated into the curriculum and aligned with educational goals (Ministry of Education and Science, 2024). Teachers must be able to evaluate the relevance of technological tools, adapt them to specific contexts, and maintain a balance between digital and human interaction. In conclusion, the emergence of new learning models shaped by artificial intelligence reflects a broader transformation of education toward more flexible, personalized, and interactive approaches. These hybrid models create opportunities for combining the strengths of technology with the irreplaceable value of human teaching. By fostering continuous interaction between learners, technology, and educators, they support the development of more effective and meaningful learning experiences while maintaining the central role of the teacher in the educational process (Chen et al., 2020).

## 5. THE ROLE OF THE TEACHER

In the context of intelligent learning environments, the role of the teacher undergoes a significant transformation, yet it remains fundamentally central to the educational process (Holmes et al., 2022). The integration of artificial intelligence and digital learning systems does not reduce the importance of the educator; instead, it redefines their responsibilities, expanding them into new dimensions that are essential for ensuring meaningful and effective learning. The teacher is no longer positioned primarily as the sole source of knowledge. Instead, they assume a multifaceted role that includes being an organizer, facilitator, and interpreter of the learning process (Luckin, 2022). As an organizer, the teacher structures the educational experience, selecting appropriate content, sequencing learning activities, and ensuring coherence between learning objectives and instructional methods. In AI-supported environments, this also involves choosing suitable technological tools and integrating them into pedagogical practice in a purposeful way (Ministry of Education and Science, 2024).

As a facilitator, the teacher supports learners in actively engaging with knowledge rather than passively receiving it (Ivanova, 2022). This includes guiding students through problem-solving tasks, encouraging collaboration, and fostering independent learning strategies. In foreign language education, for example, the teacher may design communicative activities where students use AI tools for preparation but rely on human interaction to develop fluency, spontaneity, and confidence in real communication. Equally important is the teacher's role as an interpreter of the learning process. While artificial intelligence systems can generate data, analytics, and automated feedback, this information requires pedagogical interpretation (Chen et al., 2020). The teacher must evaluate whether the data reflects meaningful learning progress, identify underlying difficulties, and translate technological outputs into actionable instructional decisions (Richter et al., 2020). For instance, if an AI system indicates repeated errors in listening comprehension, the teacher must determine whether the issue is related to vocabulary gaps, pronunciation difficulties, or a lack of contextual understanding, and then adjust the teaching strategy accordingly. Another critical aspect of the teacher's role is ensuring balance between technological tools and pedagogical objectives. In intelligent learning environments, there is a risk that technology may become overly dominant, shifting attention away from educational goals toward technical efficiency (Selwyn, 2020). The teacher acts as a mediator who prevents this imbalance by ensuring that all technological applications serve a clear pedagogical purpose (UNESCO, 2023). This involves continuously evaluating the relevance, effectiveness, and appropriateness of digital tools in relation to learner needs and curriculum goals. The teacher also plays a crucial role in maintaining the human dimension of education. While AI can simulate interaction and provide automated responses, it cannot fully replicate the emotional, social, and ethical aspects of teaching and learning. The educator contributes empathy, motivation, encouragement, and personal connection—elements that are essential for student engagement and development. In foreign language learning in particular, the teacher supports learners in overcoming communication anxiety, building confidence, and developing intercultural awareness (Todorova, 2021). Furthermore, the teacher is central to the development of higher-order skills such as critical thinking, creativity, and value-based reasoning. These competencies require reflection, discussion, and guided interpretation, which cannot be fully automated. The teacher encourages learners to question information, evaluate different perspectives, and construct meaningful understanding beyond surface-

level responses generated by technological systems (Kasneci et al., 2023). In this sense, the role of the teacher in the era of artificial intelligence is not diminished but enriched. It shifts from information delivery toward complex pedagogical mediation, combining instructional design, technological integration, and human interaction. The teacher becomes a key figure who ensures that technology enhances rather than replaces the educational experience (Selwyn, 2020).

Ultimately, effective intelligent learning environments depend on the teacher's ability to navigate between technological innovation and pedagogical integrity (UNESCO, 2023). By doing so, educators ensure that learning remains structured, purposeful, and deeply human-centered, even in highly digitalized educational contexts (Chen et al., 2020).

## 6. CONCLUSION

The transition from adaptive technologies to intelligent language learning represents a significant milestone in the ongoing evolution of education. It reflects a broader shift in how learning processes are conceptualized, moving from technology-assisted instruction toward deeply integrated, data-informed, and interactive educational ecosystems (Holmes et al., 2022). Artificial intelligence introduces new possibilities for personalisation, real-time feedback, and enhanced learner engagement, thereby reshaping the structure and dynamics of foreign language education (UNESCO, 2023). At the same time, the integration of intelligent systems into teaching and learning processes requires careful pedagogical reflection. The effectiveness of AI-supported education does not depend solely on technological advancement, but on the way these tools are designed, implemented, and interpreted within specific educational contexts (Selwyn, 2020). Without a clear pedagogical framework, even the most advanced systems risk becoming fragmented tools that lack meaningful educational direction (Williamson, 2024). A key finding of this analysis is that the most effective learning outcomes are achieved through a balanced integration of technological innovation and pedagogical expertise. Artificial intelligence can significantly support the learning process by offering adaptive content, individualized learning paths, and immediate feedback (Richter et al., 2020). However, these functions remain supportive rather than substitutive; they enhance the learning experience but do not replace the deeper human dimensions of education. Human interaction remains an essential component of effective language learning (Kessler, 2020). Communication, motivation, emotional engagement, and cultural understanding are central elements of language acquisition that cannot be fully replicated by automated systems (Todorova, 2021). The presence of the teacher ensures that learning remains socially grounded, emotionally responsive, and pedagogically coherent (Ivanova, 2022). In this sense, the educator continues to play a decisive role in shaping the quality and direction of the learning process. Furthermore, the future of foreign language education is increasingly defined by synergy rather than substitution. The most promising educational models are those in which artificial intelligence and pedagogy operate in complementary roles. AI provides analytical power, scalability, and responsiveness, while the teacher provides interpretation, guidance, and ethical and educational orientation (UNESCO, 2023). This interaction creates a more flexible and responsive learning environment that can adapt to the needs of diverse learners while maintaining pedagogical integrity (Chen et al., 2020). In conclusion, intelligent language learning should not be understood as a replacement of traditional teaching practices, but rather as their transformation and enrichment (Kasneci et al., 2023). The teacher remains the central figure who gives meaning, structure, and direction to the learning process, ensuring that technological tools are used in ways that serve educational goals (Luckin, 2022). The future of foreign language education thus lies in a carefully balanced integration of artificial intelligence and human pedagogy, where technology enhances learning, but the educator remains its guiding force (Selwyn, 2020).

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