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Artificial Intelligence in French Language Education: Enhanced Effectiveness and Personalized Learning

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Abstract. This study explored the influence of AI-powered language learning tools and its implications on teacher training and professional development. The Sociocultural Theory was adopted to explain how language, culture, and interaction enhance language acquisition and learners' development. An exploratory research method was adopted for the relevant information. Insights from literature revealed that French learning is boosted through Chatbots for adaptive exercises, personalized paths, and instant feedback on pronunciation and grammar, which improves learners' outcomes with positive engagement. It further revealed prospect for teachers and professional development which also involves the use of AI by teachers in developing required methodologies for prompt speaking and writing, analyzing students' performance, and improving French learning skills in real-time. The key insights from this showed that the sustainability of AI and data-driven models should ensure that teachers are aligned with pedagogic trends that would revolutionize French language learning. Its implication for French language education includes the prospect of personalized education which would be enhanced through the use of chatbots for adaptive exercises and instant feedback on pronunciation and grammar to improve learners' outcomes with positive engagement. The use of AI by teachers would help develop methodologies for speaking, writing, and analyze students' performance, and ultimately improve French learning skills in real-time.

Keywords: Artificial Intelligence, French Language Education, Enhanced Effectiveness and Personalized Learning.

1. Introduction

Today, technology, especially, Artificial Intelligence (AI) has revolutionized French language education. In education, the emergence of artificial intelligence (AI) in French language learning has revolutionized and supported French language proficiency. The advancement of AI has continuously proffered potential learners the capability to effectively learn the French language. The capacity development and professional growth of educators in the digital era have influenced the use of AI for adaptive mentoring and customized learning experiences to enable teachers to align with pedagogy. As this creates diplomatic opportunities; the goals of adaptive and personalized learning have been a strategic factor that drives the need for AI to serve French language education (Osawaru & Unachukwu, 2024). (Blaz, 2022; Fakhar et al., 2024) Say that, professional development is continuously revolutionized through AI-based monitoring of teachers and AI-based intelligent system for French tutoring, this has not only enhanced teaching, it has also motivated teachers to effectively interact with the learners.

Sustainably, the service of French language education involves assessing AI-powered language learning tools and the influence of AI on teacher training and professional development. For instance, the use of AI-

powered language learning tools involves the use of tools such as AI-powered language tutors which involves conversational agents like ChatGPT and Chatbots permit dialogues with learners. The adaptive learning system involves the use of machine learning algorithms. Mondly, and Memrise help to analyze the performance of learners based on specific needs. The AI powered language speech recognition technology improves French language learning for learners to become fluent. The influence of AI on teacher training and professional development involve the use of real-time feedback, personalized learning, AI chatbots, and ethical considerations, which have influenced French language educators' training in developing skills for contemporary classroom lesson planning and management.

The prospects for effective and personalized education relates to learners' needs, and their progress on adaptive learning and personalized learning experience. Through Babble Duolingo platforms, the prospect for effective and personalized learning has contributed to the fast-changing landscape in French education. The use of these apps has exposed the use of technology in the classroom to address needs and tackle students' complex issues while enhancing their professional development. Teachers' professional development demands the provisions of opportunities for peer-to-peer learning and personalized learning experiences. Hence, the prospects for more effective and personalized education are by sustaining the data-driven teaching models to ensure that teachers are aligned with pedagogic trends that can revolutionize French language learning across the educational sector. With these realities, this study explored the extent to which the prospects for more effective and personalized education are influenced by artificial intelligence in the service of French language education

1.2 Statement of the Problem

Teachers' effective use of AI in French language education remains limited due to inadequate training, lack of access, and technical challenges. In particular, insufficient teachers' preparation affects the implementation of personalized French language learning preventing AI from achieving its full potentials in improving teaching quality and students' outcomes.

However, the impact of artificial intelligence in the service of French language education is undermined by the inability to adequately assess the effects of AI-powered language learning tools on French language learning outcomes, and the lack of commitment to explore the implications of AI on teacher training and professional development. The challenges associated with AI's impact on French learning, despite AI capabilities for personalized practices such as vocabulary, and pronunciation, is because of the inability to replicate human interactions, which requires learning models that blend AI merits with teachers' authentication and guidance for true proficiency. Also, the issue of the lack of commitment to explore the influence of AI on teacher training and professional development could be attributed to ethical concerns facing teachers' training, readiness, data privacy, pedagogical shifts, and fear of job displacement, which affect critical thinking to blend technology with human teaching skills.

Based on these setbacks, this study is undertaken to explore the influence of artificial intelligence in the service of French Language Education. The specific objectives are:

- To explore the influence of AI-powered language learning tools on French Language learning outcomes.
- To explore the influence of AI on teacher training and professional development

2. Literature Review

This study is hinged on the Sociocultural Theory (SCT) propounded by Vygotskt, (1896-1934), the theory emphasizes how language, culture, and interaction enhance language acquisition and learners' language development. One of the tenets of the theory is Zone of Proximal Development and scaffolding to guide learning in French language education, based on self-regulation and shared speech (Lantolf, 1995). The Zone of Proximal Development (ZPD) represents the distance between what a learner can do independently and what they can achieve with support from a more knowledgeable other. Whether a teacher, peer, or digital tool- provides scaffolding to bridge the gap.

The key assumptions of SCT in language learning are that learning is socially mediated, implying that the acquisition of the French language is not a purely mental process, but rather one that occurs through collaboration with peers, teachers, and others, and through talking and negotiation (Lantolf, 1995). It assumes language as a key tool to shape thoughts and learning through visuals and gesture. The justification for this study's theory is that it supports the use of AI-powered language learning tools to achieve French language learning outcomes. It addresses the implications of AI on teacher training and professional development. Hence, the theory considers learning as a cultural process and a dynamic where French students are developed to become competent through interaction with the teachers

3. Conceptual Framework

The conceptual framework on artificial intelligence in the service of French language education consists of AI-powered language learning tools and the implications of AI on teacher training and professional development, as shown below:

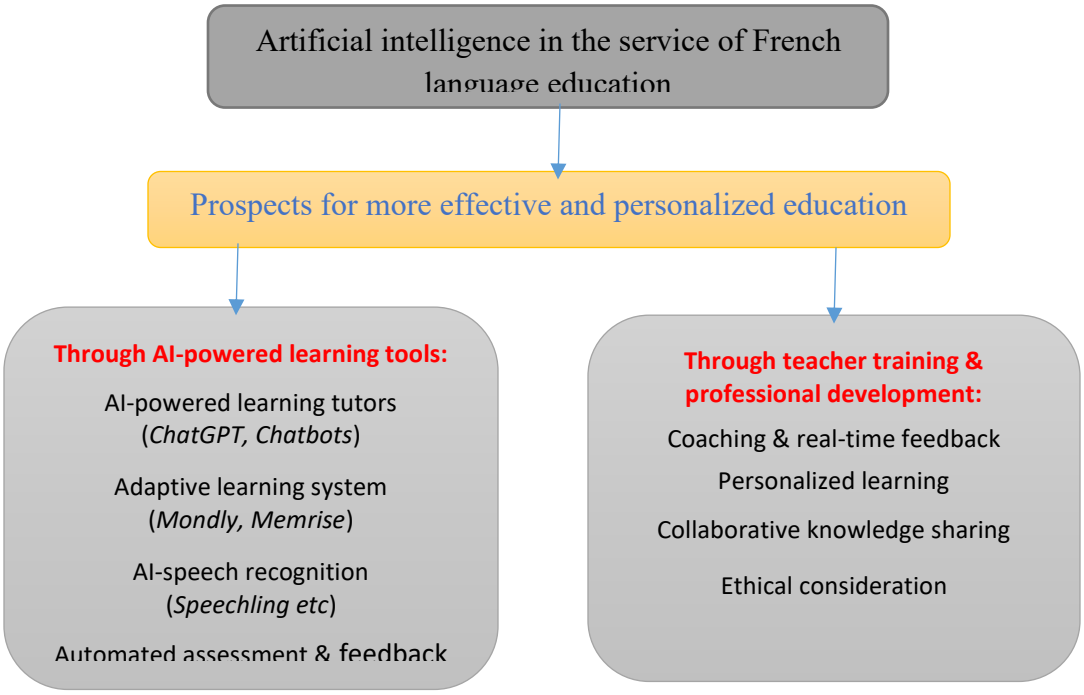

Fig. 1: Artificial intelligence in the service of French language education

Source: *Author 2025*

4. AI-powered language learning tools for French Language learning outcomes.

In French language education, artificial intelligence (AI) enhances customized practices by supporting writing, and oral skills through real-time feedback and correction. This support helps to reduce teachers' workload while ensuring that learners receive adequate and timely support. As learning becomes increasingly transformed through AI driven approaches, effective learning outcomes are promoted by providing opportunities for personalized and accessible learning experiences.

Effective French language learning is further enhanced through AI-powered tools, which provide instant feedback to improve learners' grammar, writing, and speaking skills (Jaja, 2025). These tools facilitate continuous learners' practices, learners' autonomy and engagements thereby contributing to improved proficiency in the French language. The use AI Chatbots facilitates interactive dialogue with learners. The use of AI-powered language tutors involves conversational agents such as ChatGPT and AI Chatbots, for language learning facilitate dialogues with learners.

Through AI-based tutors, learners receive immediate feedback on vocabulary, sentence's structure, and grammar which support the development of real-time language, skills (Delgado et al., 2020). Learners with busy schedules are able to practice writing and speaking using AI-based tutors at their own pace. In one area of speaking and pronunciation, simulated practice through conversational chatbots and pronunciation tools has been shown to improve oral skills by providing real-time corrective feedback. The tools enable immediate feedback on errors for correction to enhance language learning efficiency.

The need to use AI to achieve an interactive and immersive experience has empowered effective learning in a tailored and unimaginable manner that enables learners to have autonomy and flexibility to

assess learning anywhere and anytime. Regular speaking and pronunciation also contribute to refinement of accents. Tools such as Turboscript helps learners to access accurate pronunciation through a text-to-speech features delivered in native voices. In writing and grammar instruction, the use of ChatGPT promotes the evaluation of written work by providing feedback on spelling and grammatical accuracy, offering constructive suggestions, and encourages learners to engage in more confidently language production. Hence, an effective classroom lesson is practiced by teachers through the use of virtual classrooms and AI-powered chatbots. The educators can address situations associated with students in an environment that supports students' learning.

Adaptive learning system involves the use of machine learning algorithms, Mondly, and Memrise are used to analyze the performance of learners based on specific needs. Through adaptive learning platforms, a learner can prioritize targeted exercises such as verb conjugation, thereby supporting personalized learning for building confidence and enabling learner progress at their own pace (Gligorea et al., 2023). These platforms are content-based and adjusted to suit learners' proficiency levels allowing individual learning and challenges to be effectively addressed (Osawaru & Gbenedio, 2020).

The AI-powered language learning tool, particularly speech recognition technology, improves French language learning by supporting the development of learning fluency. Speech recognition applications, such as Speechling and Elsa Speak provide AI-driven feedbacks that enable learners to refine their intonation, speaking skills, and listening comprehension (Kabudi et al., 2021) Continuous learner engagement in interactive exercises facilitate both active and passive communication, thereby improving overall comprehension of spoken language.

Automated assessment and feedback systems function as evaluative tool that support the assessment of spoken and written tasks while providing instant feedback to enhance vocabulary usage and accuracy. According to Amin (2023), these systems assess learner's strengths and weaknesses and offer appropriate insight into clarity, pronunciation, fluency, particularly in French language learning contexts. The use of automated systems help instructors to reduce their workload, reduces consistency, and also foster motivation and achievement of French learning with continuous improvement

These AI-powered language learning tools have increased access to language education, online platforms, and mobile applications that provide high-quality learning resources. These technologies have made French language learning more accessible to learners from diverse backgrounds. Notably, learners with disabilities are supported through speech-to-text and text-to-speech interfaces thereby promoting inclusive language education that meets diverse learning needs. (Fitrianto, 2024). Furthermore, Alshahrani and Qureshi (2024) identified the importance of scalability associated with AI-powered language learning tools particularly for institutions and French language programs on a large scale. Challenges such as instructor unavailability and limitation in physical learning spaces are significantly reduced through the use of AI-enhanced tools, which can accommodate large numbers of learners. Simultaneously, immersive experiences through rewards and progressive tracking features are motivating factors which endeavor learners' engagement in achieving academic goals. Kabudi et al. (2021) further demonstrate scenario-based activities and role-playing contribute to active participation of learners in French language education. This is largely driven environments that foster AI dynamic learning environment through instant feedback, allowing learners to receive the corrective input without fear of making mistakes. Supportive learning conditions further increase and improved interactions among learners (Ravshanovna, 2024).

5. Implications of AI on teacher training and professional development

The implications of AI on teacher training and professional development include the existence of real-time feedback, personalized learning pathways, AI chatbots, and ethical considerations that shape educators' professional practice. These developments have significantly influence French language teachers' education in the development of skills for contemporary classroom lesson planning and management. In recent times, students' learning outcomes have been improved through the ethical and pedagogically sound use of AI by teachers to support adaptive instruction and professional development. For example, tailored instructional modules can be developed using AI to analyze teachers' performance and instructional practices, thereby supporting personalized professional learning and improve the training methods.

A study by Shezad et al. (2025) supports the view that AI driven approaches enhance teacher training by promoting effective and continuous professional

learning. Traditional professional development programs often adopt a one-size-fits-all approach, which limits their ability to respond effectively to the diverse strengths and weaknesses of teachers. Skalka et al. (2024) argue that effective development of customized training plans is enhanced by AI-driven adaptive learning platforms for educators. These platforms allow the integration of machine learning techniques with best practices, targeted training modules, and instructional resources thereby improving the quality of teacher training. Similarly, Jenkins and Khanna (2025) reveal that educators' pedagogical strategies can be strengthened through virtual assistance and AI-powered chatbots. Technologies such as augmented reality (AR) and virtual reality (VR) further enhanced personalized learning, by enabling teachers to improve lesson delivery and classroom interactions (Yangyang, 2023). These developments indicate that well structure professional development initiatives sharpen teachers' skills and supported by AI enhance their engagement.

Despite the advantages of personalized learning, teacher development remains constrained by challenged such as disparities in digital literacy among educators. Consequently, inadequate training, the reluctance to adopt AI-based constructional practices, and the inability to learn new tools hinder the effective use of AI-powered tools in French language education (Metaverse, 2025). AI provides coaching, real-time feedback, and data-driven tools that aid teachers in decision-making; administrative tasks are automated through AI for teachers' training and mentoring.

The evaluation of teachers is successful through data-driven feedback, and these offsets limitations associated with subjective observation and testing based on the traditional method. In support of the real-time feedback, the use of classroom analytics, machine learning, and natural language processing is an AI-based system for effective assessment of teaching activities with accuracy and active student engagement (Meylani, 2024). Hence, precise and instructive feedback is obtained to improve French teaching, and data-driven adjustment helps in tracking the performance of French educators through the ethical application of AI in evaluating teaching performance. From the perspective of the analysis of classroom data, Fatima (2025) stressed that educators can refine pedagogical methods through AI-powered apps that improve interactions between teachers and students

Teachers are increasingly connected globally through AI platforms that facilitate collaborative knowledge sharing and peer learning. Prokopenko et al. (2024) further stress that collaboration among teachers is possibly influenced by AI, as it improves professional learning and supports continuous development programs. Through the AI-powered peer review platforms, educators' recourse constructive feedback that informs instructional practices. AI-collaboration also promotes translation as educators with different linguistic backgrounds can learn without constraint.

However, there is also the need to address the issue of misinformation in AI networks caused by a lack of digital accessibility to ensure that inclusive French learning is effective and professional (Kayaalp et al., 2025). Alam (2021) stressed that cooperation between educators can be enhanced through a website known as AI-supported peer review. This enables educators to obtain relevant feedback through pedagogy, AI-enhanced assessment plans for lessons, and class recording. Novawan et al. (2024) observe that collaborative work is possible when barriers to the French language are removed to facilitate idea sharing and exchange of experiences. Consequently, the success of AI in collaborative professional learning among teachers lies in its capacity to address infrastructure accessibility challenges related to information sharing. This enhances professional learning services and ensures effective dissemination of French language pedagogy supported by AI networks for the professional development of teachers

Nevertheless, Tusquellas et al. (2025) caution, that ethical considerations particularly advancement in AI-supported teacher training raise important issue concerning data privacy and security of AI to process instructors' performance data, cloud-based databases to store classroom recordings, and records of instructional interactions has generated concerns regarding data and unauthorized access. Therefore, an unauthorized party can assess the sensitive data concerning educators, resulting in unwanted monitoring or intrusions on the assessment of teachers' performance.

This can be resolved through the culture of monitoring, where teachers' evaluation software that is AI-enabled is used to prevent the monitoring of teachers. Another ethical issue is the algorithmic bias arising from the use of biased data, which can lead to inequalities in the evaluation of educators' professional development. Hence, educators from unequaled backgrounds are faced with unequal assessment. (Taufikin et al., 2024).

6. Findings / Emerging Themes

Based on the literature explored, the following themes emerged:

- French learning is boosted through chatbots/ChatGPT for adaptive exercises, personalized paths, and instant feedback on pronunciation and grammar, which improves learners' outcomes with positive engagement
- The prospect for teachers and professional development involves the use of AI by teachers in developing required methodologies for prompt speaking and writing, analyzing student performance, and improving French learning skills in real-time

7. Conclusion

The sustainability of AI and data-driven teaching models ensures that teachers are aligned with pedagogic trends that have revolutionized French language learning. The study reviewed the prospects for effective and personalized education through AI-powered language learning tools and the implementation of AI-enabled platforms to promote the professional development of teachers. Hence, through the Babble Duolingo platforms, etc, the prospect for effective and personalized learning has contributed to the fast-changing landscape in French education. These have informed teachers about the implementation of technology in the classroom to address needs and tackle students' complex issues while enhancing their professional development. Also, the prospect of realizing the professional development demands opportunities for peer-to-peer learning and personalized learning experiences.

8. Recommendations

Based on the findings, the study recommended the following:

- The prospect of personalized education in French should be enhanced through the use of chatbots/ChatGPT for adaptive exercises, and instant feedback on pronunciation and grammar to improve learners' outcomes with positive engagement
- The prospect of personalized education in French should be sustained with the use of AI by teachers to develop methodologies for prompt speaking, writing, and analyze student performance, and improve French learning skills in real-time.

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