

Pedagogical suggestions for an effective application of artificial intelligence (AI) in teaching reading skill a case study of students from french faculty at Hanoi National University of Education (HNUE)

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Abstract: The integration of Artificial Intelligence (AI) in education is revolutionizing the teaching and learning process, particularly in foreign language acquisition. This study explores pedagogical strategies for effectively utilizing AI to enhance reading skills among French learners at the French Faculty of Hanoi National University of Education (HNUE). AI tools such as personalized learning platforms, intelligent tutoring systems, and natural language processing (NLP) offer tailored learning experiences and real-time feedback that support individual student needs. The paper highlights key AI applications in reading instruction, including adaptive learning, scaffolded support, and formative assessment. Additionally, it addresses the challenges of AI implementation, such as digital literacy, teacher training, and the balance between AI and human interaction. By adopting these pedagogical strategies, educators can optimize the use of AI to improve reading comprehension and foster autonomous learning among French language students.

Keywords: AI, personalized learning, French foreign language (FFL), reading skill, digital literacy

1. Introduction

The digital revolution has profoundly transformed education, with Artificial Intelligence (AI) emerging as a pivotal tool in reshaping traditional pedagogical methods. In the realm of language learning, AI has demonstrated immense potential, particularly in enhancing students' reading skills. The French Faculty at Hanoi National University of Education (HNUE) is uniquely positioned to harness AI in its curriculum, particularly to address the challenges posed by diverse proficiency levels. However, integrating AI into teaching reading comprehension goes beyond adopting new technology; it requires a thoughtful pedagogical framework to ensure the technology aligns with educational goals and fosters improved learning outcomes.

This study explores how AI can be effectively integrated into teaching reading skills to French learners at HNUE. It examines various AI tools, strategies, and the necessary pedagogical adjustments to support optimal learning, while also addressing potential challenges in implementing these technologies. The objective is to present a framework where AI not only supplements but enhances the pedagogical process, tailoring learning experiences to individual student needs and facilitating a more adaptive, personalized learning environment.

2. Development

2.1. The Importance of Reading Skills in Language Learning

Reading is an essential skill in language acquisition, as it serves as the foundation for developing other language competencies such as writing, speaking, and listening. In foreign language education, especially in French, reading comprehension plays a crucial role in building vocabulary, understanding syntax, and fostering overall language proficiency (Chevalier, 2019). At HNUE, the emphasis on reading is particularly significant during the first five semesters, where students are expected to establish a solid base in comprehension before advancing to more complex linguistic tasks.

However, one of the key challenges in teaching reading is the varying levels of student proficiency. Some students enter university with prior knowledge of French, while others are complete beginners. The disparity in their reading abilities can hinder group instruction and limit the effectiveness of traditional teaching methods (Lemoine, 2021). To address this, AI offers the possibility of tailoring reading materials and exercises to individual student levels, thus ensuring that each learner can progress at an appropriate pace.

2.2. AI Tools for Enhancing Reading Skills

AI's potential in education stems from its ability to provide personalized, data-driven learning experiences. Several AI tools have proven effective in enhancing reading skills by addressing individual learning needs and providing real-time feedback.

Personalized Learning Platforms: Personalized learning platforms powered by AI, such as *Lingvist* and *Duolingo*, have become valuable resources in language instruction. These platforms analyze students' learning patterns, adapt content based on individual proficiency levels, and provide targeted reading exercises to address specific weaknesses. For instance, if a student struggles with certain vocabulary or sentence structures, the platform adjusts by offering additional exercises to reinforce those areas before advancing to more complex tasks (Brunel, 2018). This adaptive feature ensures that all students, regardless of their starting proficiency, receive the appropriate level of support and challenge.

Intelligent Tutoring Systems (ITS): Intelligent Tutoring Systems (ITS), such as Knewton and ALEKS, act as virtual tutors, offering individualized feedback and guiding students through reading comprehension exercises. These systems not only assess student performance in real time but also provide explanations for incorrect answers, offering opportunities for self-correction and learning (Chevalier, 2019). By simulating one-on-one tutoring, ITS can cater to the diverse needs of large classrooms, ensuring that each student receives personalized attention

Natural Language Processing (NLP) Tools: Natural Language Processing (NLP) tools such as Grammarly and ReadTheory are integral to AI's role in language instruction. These tools leverage AI to analyze text input, detect patterns in student reading comprehension, and suggest vocabulary or grammar improvements. NLP tools are particularly useful for non-native French learners, as they provide real-time corrections and explanations, helping students grasp the more nuanced aspects of the French language (Leclerc, 2020). By breaking down complex texts into understandable segments, NLP tools enhance comprehension and retention.

Content Generation Systems: AI-driven content generation systems such as *QuillBot* or *Scribendi* allow for the creation of customized reading materials. These tools can generate or summarize texts at varying levels of difficulty, catering to the needs of both beginners and advanced learners

(Lefevre, 2021).

2.3. Pedagogical Strategies for Effective AI Integration

While AI offers numerous advantages in enhancing reading instruction, its successful application requires a robust pedagogical framework that aligns with the educational context at HNUE. The following strategies are proposed for the effective integration of AI into the teaching of reading skills at the French Faculty.

2.3.1. Blended Learning Approach

Blended learning, which combines traditional face-to-face instruction with AI-enhanced digital learning, is a model that can effectively integrate AI into reading instruction (Bouvier, 2020). This combination allows for both teacher-led instruction and self-directed learning, ensuring that students engage with reading material both inside and outside the classroom.

For example, students could complete AI-based reading comprehension activities using platforms such as *Newsela* or *Khan Academy*. The data generated from these exercises would provide teachers with insights into student performance, enabling them to tailor subsequent lessons to address common reading challenges (Durand, 2019).

2.3.2. Differentiated Instruction with AI

Differentiated instruction is an educational strategy that involves tailoring learning activities to meet the diverse needs of students. In a language learning context, especially in a setting like HNUE where students enter with varying levels of French proficiency, this approach is crucial.

Platforms such as *ReadTheory* or *Raz-Kids* use AI to categorize students based on their reading comprehension skills, offering texts and questions that are appropriate for their level of understanding. This ensures that advanced learners are not held back by simpler material, while struggling students are not overwhelmed by texts that are too complex (Chauvet, 2018). AI also provides real-time feedback, allowing students to track their own progress and giving teachers the data, they need to adjust lesson plans and provide targeted support.

2.3.3. Scaffolded Learning with AI Support

Scaffolded learning is a teaching approach where learners are provided with temporary support structures as they acquire new skills, and these supports are gradually removed as learners become more competent. In the context of reading

comprehension, scaffolding can include breaking down complex texts, pre-teaching key vocabulary, or guiding students through the process of analyzing a text step by step. AI tools play a crucial role in enhancing scaffolded learning by offering personalized, just-in-time support tailored to each student's progress (Durand, 2019).

AI-powered platforms such as *Pearson's MyLab* or *Edmodo* can adaptively adjust the level of scaffolding based on a student's performance. For instance, students struggling with identifying the main idea in a text can be provided with additional prompts, simpler texts, or vocabulary aids, while students showing proficiency can receive more challenging tasks that require deeper analysis of the text. This dynamic adjustment ensures that learners receive the right amount of support at each stage of their learning journey, fostering confidence and competence in reading comprehension.

2.3.4. Formative Assessment and Feedback

Formative assessment is a crucial aspect of education that involves monitoring student progress during the learning process and providing feedback to improve performance. AI tools significantly enhance the effectiveness of formative assessment by offering real-time, personalized feedback that can be immediately acted upon by both students and teachers. Unlike traditional assessments, which often provide feedback after a long delay, AI allows for continuous assessment, ensuring that students receive timely guidance as they engage with reading tasks (Girard, 2021).

AI-driven platforms such as *Achieve3000* and *Socratic* automatically evaluate students' reading comprehension, tracking their progress through quizzes, comprehension questions, and interactive exercises. These platforms not only flag areas where students are struggling but also suggest targeted exercises to help address specific weaknesses. For example, if a student consistently misunderstands certain grammatical structures or struggles with inference, the AI system will generate tailored reading activities that focus on these skills.

For teachers, AI platforms provide detailed analytics on class performance, highlighting trends and areas where students may require additional support. This data-driven approach allows educators to intervene early, addressing learning gaps before they become more significant obstacles to academic success.

2.3.5. Fostering Autonomous Learning

AI has the potential to significantly promote autonomous learning by enabling students to take greater control of their educational journey. Through AI-powered tools like *Lingvist* or *Rosetta Stone*, students can independently access personalized reading materials, set their own learning goals, and track their progress in real-time. These platforms offer tailored reading challenges, adapt to student performance, and motivate learners by providing instant feedback and rewards for completing tasks (Moreau, 2019). Additionally, AI encourages self-paced learning, allowing students to practice reading comprehension outside the classroom at times that suit their individual schedules. By fostering autonomy, AI helps students build self-discipline, develop critical thinking skills, and become more independent, engaged learners, preparing them for lifelong learning.

2.4. Challenges of Implementing AI in Reading Comprehension Classes

While the benefits of AI in reading instruction are numerous, several challenges must be addressed to ensure successful implementation at the French Faculty of HNUE.

2.4.1. Digital Literacy and Accessibility

One of the primary barriers to the effective use of AI in education is the level of digital literacy among both students and teachers (Perrin, 2020). At HNUE, it is essential to ensure that all stakeholders are proficient in using AI tools for reading instruction. This may require offering digital literacy workshops to students and providing teachers with professional development opportunities to enhance their AI literacy.

Additionally, access to AI technology may be limited for some students due to socioeconomic factors. Ensuring equitable access to devices and reliable internet connectivity is crucial for creating an inclusive learning environment where all students can benefit from AI-enhanced reading instruction.

2.4.2. Teacher Training and Support

For AI to be effectively integrated into reading instruction, teachers must be adequately trained and supported (Lemoine, 2021). Professional development programs should focus on equipping teachers with the skills needed to use AI tools confidently in their classrooms, as well as strategies for integrating AI into their pedagogical practices. Ongoing technical support will also be necessary to

help teachers troubleshoot issues that arise during AI implementation. This may involve establishing a dedicated IT support team within the university to provide guidance and assistance.

2.4.3. *Balancing AI and Human Interaction*

Although AI offers significant advantages in reading instruction, it is crucial to maintain a balance between AI-driven learning and human interaction. Teachers play an indispensable role in fostering critical thinking, guiding discussions, and providing emotional and intellectual support to students. AI tools should not be viewed as a replacement for the teacher but rather as a complementary resource that enhances traditional teaching methods (Durieux, 2021).

For example, while AI can help students practice reading comprehension and provide real-time feedback, it cannot replicate the nuanced feedback, encouragement, and deeper discussions that come from teacher-student interactions. The optimal approach to integrating AI into reading instruction at French Faculty of HNUE would involve using AI to support routine exercises and assessments, while teachers focus on more complex, interactive aspects of learning, such as text interpretation, discourse, and critical analysis.

Before delving into the conclusion, it is important to acknowledge the broader implications of integrating AI into reading instruction at HNUE. The potential of AI goes beyond improving reading skills; it fosters a more personalized, student-centered learning environment. By leveraging AI, teachers can bridge learning gaps, address diverse student needs, and provide an adaptive learning experience that traditional methods may not offer. However, careful planning and support are essential to ensure successful implementation.

3. Conclusion

The integration of AI in teaching reading skills at the French Faculty of HNUE presents unparalleled opportunities for personalized, data-driven learning that can significantly enhance student engagement and comprehension. AI tools such as personalized learning platforms, intelligent tutoring systems, natural language processing applications, and content generation systems provide students with tailored experiences that adapt to their specific needs and offer real-time feedback to guide their progress.

However, for AI to be effectively implemented in reading instruction, it is essential to adopt a robust

pedagogical framework. This includes employing blended learning approaches, differentiated instruction, scaffolded learning, formative assessments, and fostering autonomous learning, all while addressing potential challenges related to digital literacy, accessibility, and the need for ongoing teacher training. Additionally, a balance must be maintained between AI and human interaction to ensure that the relational and cognitive aspects of teaching are not overshadowed by technology.

By adopting these strategies and recognizing both the potential and the limitations of AI in education, teachers can successfully integrate AI into its reading curriculum, thus enhancing the learning outcomes for students of French. With thoughtful planning and appropriate support systems, AI can serve as a powerful tool for improving reading comprehension and fostering a more interactive, personalized, and effective learning environment.

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