



Evento: XXX Jornada de Pesquisa ▾

THE USE OF AI IN LANGUAGE TEACHING AND THE CURRICULAR STRUCTURE IN SENEGAL, ENGLAND, AND BRAZIL ON ICT AND AI¹

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INTRODUCTION

The use of Artificial Intelligence (AI) in language teaching has become a central theme in discussions on educational innovation. AI-based tools, such as chatbots and automatic feedback systems, are reshaping the way students learn and interact with new languages, offering a more personalized and efficient learning experience. However, the impact of these technologies is not limited to teaching methodologies, but also extends to curricular structures and educational policies in different countries. This paper aims to analyze the integration of AI in language teaching and learning, based on a literature search and analysis of official curricular documents from Brazil, Senegal, and England. The study aims to understand the perspectives and challenges faced by these countries when incorporating Information and Communication Technologies (ICTs), with an emphasis on the use of AI as a pedagogical tool. Based on this analysis, we aim to identify the opportunities that AI offers to enrich language learning, as well as the limitations and challenges that still need to be overcome for an effective and ethical implementation of these technologies. This study is in line with the United Nations 2030 Agenda, especially Sustainable Development Goals (SDGs) 4. Quality education, promoting a more equal education aligned with the evolution of technologies.

METHODOLOGY



This study uses bibliographic research as methodology, with the aim of analyzing the use of AI in language teaching through reading and understanding academic productions and official curriculum documents from different contexts. Gil (2010) explains that bibliographic research is essential for the construction of a consistent theoretical framework, as it "allows the researcher to situate his/her research within a broader context, identifying the main theories and concepts discussed previously" (Gil, 2010, p. 45, our translation). In this sense, we seek to analyze the selected texts and extract the results to understand this moment in which ICTs and AI are definitively entering educational spaces. The research will be divided into three main stages: (1) analysis and discussion of texts worked on in a master's/doctorate discipline together with texts from the CAPES portal, (2) critical analysis of curricular guidance documents from Senegal, England and Brazil (3) synthesis of information, to understand how AI is being incorporated into educational curricula and language teaching and its implications based on relevant authors in the research area.

The first two texts were studied in a Science Education post-graduate course. To expand the research, we searched the CAPES journal portal (2019-2024) using descriptors like 'Education', 'Artificial Intelligence', and 'Language Teaching'. This search yielded two of the three final articles; a third was excluded for being an abstract, and another for being outdated. Furthermore, to enrich the study, we analyzed how AI is integrated into the curricula of Senegal, England, and Brazil. This choice was motivated by the international composition of our research team, which includes two Brazilians, one Senegalese, and one English student.

FINAL CONSIDERATIONS

To structure the research, the study first analyzed texts from the discipline of Artificial Intelligence and Education alongside CAPES articles on education, AI, and language teaching. It then examined the curricular structures of three countries from different continents and discussed the implications of integrating AI into teaching and languages, highlighting both benefits and challenges.

Research on the use of AI in teaching and learning

The article "AI, will you help?" by Krajka and Olszak (2024) explores how students use AI tools for academic writing. Their quasi-experimental study with applied linguistics students found that participants demonstrated high linguistic sensitivity in distinguishing



human from AI-generated texts. The study highlights potential advantages for educators in foreign language acquisition. Carvalho and Pimentel (2023) in “Estudar e aprender com o ChatGPT” investigate how students use ChatGPT, finding they employ it for problem-solving, translation, code correction, and as a study support tool. Their research reveals the emergence of a "generative reader" who co-authors texts with AI, concluding that education must teach ethical and critical AI use rather than prohibition.

The article “Inteligência artificial no ensino-aprendizagem de línguas.” (D'Esposito; Gatner, 2024) examines how AI enhances language education, noting its potential to support Sustainable Development Goals by addressing educational barriers and personalizing learning. AI tools revolutionize teaching through voice recognition, automated translation, and interactive chatbots. Platforms like Duolingo adapt to individual learning paces. The future involves immersive technologies like gamification and virtual reality, though ethical governance and teacher training are essential. Challenges include understanding linguistic context, handling nuanced expressions, maintaining human interaction, high costs, and unequal access. Ethical issues like data privacy and algorithmic biases must be addressed to ensure equitable deployment (D'Esposito; Gatner, 2024).

Pinto Junior (2024) in “Memória Metálica e ChatGPT” examines AI's use in foreign language education, introducing the concept of "metallic memory" where AI processes and reproduces information efficiently. The article covers AI's evolution from early technologies to modern adaptive platforms, noting its role in personalized feedback and dynamic content delivery. The concept of "metallic memory," coined by Orlandi (1996), describes digital information accumulation and replication, contrasting with human memory by prioritizing data accessibility over contextual depth. This poses challenges for cultural and emotional learning in language education, though AI supports vocabulary acquisition through repetition. Ethical concerns regarding data privacy and access must be addressed with teacher guidance (Pinto Junior, 2024).

What the official curriculum documents of Brazil, Senegal, and England address about ICT and AI

Senegal's Education for All program (Sénégal, 2020) focuses on universalizing basic education and improving quality, with emphasis on marginalized groups. ICTs play a crucial role through technological infrastructure implementation, digital device provision, and teacher



training in pedagogical technology use. While there is no direct reference to AI, the emphasis on digital technologies like educational software and online platforms may incorporate AI in future initiatives as technological integration advances (Sénégal, 2020).

England's national curriculum (Great Britain, 2024) incorporates computing from early education, teaching algorithms, programming, and responsible technology use. Students progress to complex algorithms, multiple programming languages, and understanding computing's real-world impacts, including security and privacy. AI is implicitly addressed through foundational skills like algorithm creation and computer networks, which prepare students for understanding machine learning and neural networks. The curriculum aims to create technology creators rather than mere consumers (Great Britain, 2024).

Brazil's National Common Curricular Base (BNCC) (Brasil, 2018, our translation) addresses digital technologies through transversal and targeted approaches, developing competencies in digital culture, technology use, and computational thinking. The 2024 Computing supplement explicitly introduces AI, defining it as systems imitating human intelligence and emphasizing the need to understand its potential, risks, and limits. From early childhood education, students engage with pattern recognition and algorithms, progressing to complex computational concepts in later stages. High school focuses on critically analyzing computational artifacts and understanding AI's ethical implications, including privacy and security concerns. The approach combines technical skills with critical reflection on technology's societal impacts (Brasil, 2024).

The three countries share common goals in ICT integration, but approach AI differently. Senegal focuses on infrastructure and digital inclusion without an explicit AI curriculum. England implicitly addresses AI through computing foundations. Brazil explicitly incorporates AI education with critical ethical analysis. All emphasize teacher training and digital skill development, but their approaches reflect different national priorities and technological readiness stages. We understand that it is important to critically incorporate new technologies and rethink education in times of AI and new digital technologies.

Keywords: Artificial Intelligence. Language Teaching. Curricular Legislation.

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