

Received 20 /05/2024

Accepted: 10/08/2024

Published: 20/08/2024

Artificial Intelligence in Higher Education: EFL Teachers' Perspectives on Challenges and Opportunities

Bouchra SI-MOHAMMED¹,

University of Batna-2, Algeria

b.simohammed@univ-batna2.dz

Abstract

Rapid advancements in Artificial Intelligence (AI) are reshaping higher education frameworks globally. As universities are integrating AI technologies, examining educator adoption, perceived benefits, and localized challenges is essential. This study employed a quantitative descriptive survey design to investigate the perspectives of EFL educators at the Department of English Language and Literature, Batna-2 University. Data were collected via a structured questionnaire. The findings reveal a high level of theoretical awareness among educators; however, a significant discrepancy exists between this awareness and the practical implementation of AI tools in instructional settings. Despite that participants acknowledge AI's potential to enhance pedagogical efficiency and personalized learning, they face significant barriers, most notably a deficit in professional training, ethical apprehensions, and infrastructural constraints. The study concludes that while teacher readiness and attitudes are generally positive, successful integration remains contingent upon systematic professional development, the establishment of solid ethical guidelines, and the resolution of existing technical limitations.

Keywords: Artificial intelligence, higher education, EFL teachers, pedagogical integration, AI-readiness.

Introduction

The rapid proliferation of Artificial Intelligence (AI) technologies is transforming higher education, offering novel tools for teaching and learning. Considering the perspectives and readiness of the educators who will use these technologies may assist in their successful integration. This study aims to provide an overview of university educators' perceptions and readiness concerning the integration of AI in teaching and assessment processes by investigating the current adoption of AI within the English as a Foreign Language (EFL) context at Batna-2 University.

¹ Auteur correspondant : Bouchra SI-MOHAMMED, b.simohammed@univ-batna2.dz

Artificial Intelligence's inclusion into higher education represents a technological upgrade; it is a significant shift in the pedagogical landscape. Traditional E-learning frameworks, despite focusing on the digital delivery of content, AI introduces adaptive environments where the software responds to the unique cognitive pace of the learner. In the field of English as a Foreign Language (EFL), this transition is of great significance as it offers potential solutions to long-standing challenges in personalized feedback and large-scale language assessment.

In Algerian higher education, it seems that there is a growing emphasis on digital transformation and the modernization of university frameworks. Yet, the challenge lies in bridging the gap between a high theoretical awareness of these tools and their actual, effective implementation within the classroom.

One of the most complex aspects of this integration is the tension between technological efficiency and ethical, human-centered instruction. EFL educators generally find themselves at a crossroads. Differently put, recognizing power of artificial intelligence to reduce administrative burdens on one hand, and simultaneously fearing its impact on students' critical thinking and the authentic human interaction essential for language acquisition on the other hand. This study, therefore, seeks to explore these internal contradictions among teachers who are ready for change but hindered by infrastructure and a lack of specialized training. AI in higher education is a documented global shift in pedagogical frameworks. Empirical studies have demonstrated that AI's capacity for adaptive learning can significantly improve student engagement (Chen et al., 2020). However, a significant research gap remains concerning the North African and specifically the Algerian EFL context. despite that extensive research has focused on AI readiness in highly digitalized academic environments (Jaschik & Lederman, 2019b), there is a lack of empirical insights regarding educators in developing frameworks who face unique infrastructural and training challenges (Long & Magerko, 2020). This study addresses this void by providing a localized analysis of EFL teachers at Batna-2 University. The research is guided by three questions:

- ◆ To what extent are EFL teachers at Batna-2 University aware of the potential pedagogical applications of AI in higher education?
- ◆ How do these teachers currently utilize AI tools within their instructional and administrative practices?

- ◆ What are the barriers that hinder the integration of AI tools in the Algerian EFL context according to teachers?

By addressing these questions, the findings of this research are expected to provide insights into the perceptions of EFL teachers within the Algerian higher education system, serving as a resource to improving the adoption of AI in Algerian higher education based on empirical research findings. The study highlights critical areas for institutional support, particularly in professional development and infrastructure, and contributes to a more informed and strategic approach to integrating AI. Therefore, ensuring that pedagogical effectiveness and ethical considerations remain paramount.

1. Literature Review

1.1. The Evolution of Adaptive Learning Environments

The shift from static E-learning platforms to AI-driven adaptive learning represents a milestone in educational technology. Traditional systems offer one-size-fits-all approach. However, modern AI tools use machine learning algorithms to analyze student performance in real-time with the purpose of adjusting the difficulty and nature of content accordingly. This capability may be perceived as transformative in EFL contexts. In that, when students possess varying levels of proficiency within a single classroom, the AI tailors its output accordingly. According to Mousavinasab et al., 2021, the integration of intelligent tutoring systems allows for a degree of personalization that was previously impossible in high-enrollment university settings. Furthermore, Chen et al. (2020) and Galán-Rodríguez et al. (2025) state that these adaptive frameworks improve student engagement as well as alleviating the burden on educators to provide individualized feedback, thereby allowing them to focus on higher-order pedagogical tasks.

1.2. The Intersection of AI Literacy and Teacher Readiness

The technical capabilities of AI, despite being in a continuous advancement, the successful implementation of these tools is to a great extent tied to the AI literacy of the teaching staff. Educator readiness is not merely a matter of technical proficiency; it involves a conceptual understanding of how AI can be ethically and effectively integrated into a language curriculum. Jaschik and Lederman (2019) maintain that a significant portion of the adoption

gap in higher education stems from a lack of formal professional development tailored to the specific needs of humanities faculty. Within the same lines, Long & Magerko (2020) suggest that without a solid framework for training, teachers may view AI as a threat to their professional autonomy rather than a collaborative partner. Consequently, institutional support must move beyond providing software to fostering a culture of continuous digital upskilling. The concept of infrastructure is theoretically grounded in the Unified Theory of Acceptance and Use of Technology (UTAUT) as Facilitating Conditions (Venkatesh et al., 2003). This construct refers to the degree to which an individual believes that an organizational and technical infrastructure exists to support the use of the system. In the context of Batna-2 University, infrastructure is a primary determinant of technology adoption, as technical constraints moderate the relationship between behavioral intention and actual usage. As far as readiness is concerned, teacher "Readiness" is grounded in the Technology Acceptance Model (TAM) through the constructs of Perceived Usefulness (PU) and Perceived Ease of Use (PEOU) (Davis, 1989). Furthermore, it aligns with Bandura's (1977) Theory of Self-Efficacy, which posits that a teacher's belief in their capability to execute a task. Therefore, measuring readiness is essential to understanding why high awareness does not automatically result in high implementation

1.3. Ethical Implications and the Preservation of Critical Thinking

As AI tools like Large Language Models (LLMs) become ubiquitous, the academic community has grown concerned with their impact on the cognitive development of students. In the context of EFL, there is a balance between using AI as a linguistic scaffold and ensuring that students do not become overly dependent on automated outputs for their writing and analysis. (Sullivan et al., 2023) highlight that the risk of algorithmic bias and the potential for plagiarism necessitate a complete re-evaluation of assessment strategies in higher education. Additionally, it should note that the human element of language, which is the nuances of culture, emotion, and context, remains something that AI cannot fully replicate. Therefore, the literature suggests that AI should serve as a supplementary tool that enhances, rather than replaces, the critical inquiry and interpersonal communication central to university education.

Research has highlighted AI's capacity to enhance personalized learning experiences (Al Nabhani et al., 2025; Joshi, 2024), improve administrative efficiency (Khairullah et al., 2025), and provide sophisticated analytical insights into student performance (Baker & Inventado,

2014). For instance, AI-powered tutors can adapt to individual student paces and learning styles, offering targeted support that was previously unscalable (Park University, 2025).

Alongside the opportunities, however, significant challenges and concerns have been documented. Studies have frequently cited a lack of technical skills and professional development opportunities as a major barrier to adoption among educators (Chiu et al., 2023; Dalello et al., 2025). Ethical considerations, such as data privacy, algorithmic bias, and the potential for a decline in human interaction and critical thinking, are also prominent themes in the discourse (Khairullah et al., 2025). Research by Roll and Wylie (2016) has suggested a digital divide among faculty members, with younger, technologically proficient educators being more open to AI integration than their more experienced counterparts. The existing literature, while extensive, seems to lack specific insights from the context of English as a Foreign Language (EFL) instruction, particularly in the Algerian educational setting. This study aims to fill this gap by providing a targeted analysis of the perceptions of EFL teachers in Batna-2 University.

2. Methodology

This study adopted a quantitative descriptive survey design, meaning a framework chosen for its efficacy in systematically gathering and analyzing the perspectives of a specific demographic at a single point in time. The primary objective of this design was to provide a comprehensive exploration of the perceptions and attitudes held by university educators concerning the integration of Artificial Intelligence (AI) within academic contexts. The target population for this inquiry comprised teachers within the Department of English Language and Literature at Batna-2 University.

To recruit a sample, the researcher employed a non-probability convenience sampling method. This approach was selected owing to its practical advantages, as it allowed for the recruitment of educators who were most readily accessible and available to participate within the established timeframe of the study. Despite rigorous efforts to encourage participation, the final sample size was restricted to 15 participants as a result of the voluntary response rate.

Despite that the data provide valuable localized insights into the departmental context regarding AI, it is essential to acknowledge the methodological limitations. In other words,

the small and non-representative nature of this sample significantly constrains the external validity of the results. That is to say, the findings cannot be generalized to the broader population of university teachers in Algeria or elsewhere. Instead, these results should be interpreted as an intensive, site-specific case study intended to serve as a baseline for future, more extensive investigations.

2.1. Data Collection

Data were collected through a structured questionnaire. It was divided into four main sections:

1. **Demographics:** Basic information about the participants, including age, gender, years of experience, and highest academic degree.
2. **Awareness and Engagement:** Questions about educators' knowledge of AI concepts and their current use of AI tools for teaching, research, and assessment.
3. **Perceptions of Benefits and Barriers:** A series of Likert-scale questions assessing perceived advantages and challenges of AI integration.
4. **Future Attitudes and Ethical Concerns,** i.e., views on the future role of AI and concerns about its ethical implications.

2.2. Data Analysis, Interpretation, and Discussion

The collected data were analyzed using descriptive statistics. The analysis focused on calculating frequencies and percentages to summarize the quantitative data. The analysis aimed to identify common trends, differences in perceptions across demographic groups, and key areas that require institutional attention. A total of 15 educators completed the survey, resulting in a response rate of 30%. The findings provide a clear picture of the current perceptions of EFL teachers in the department of English at Batna-2 university regarding AI integration.

Participant Demographics

The sample of 15 educators was composed of 6 males (40%) and 9 females (60%). The majority of the participants had over 10 years of experience teaching in higher education. The academic degrees held by the participants included magister degrees and PhDs.

Table 1: Gender Distribution

Gender	Percentage
--------	------------

Male	40%
Female	60%

Awareness and Current Engagement

The survey found that general awareness of AI is notably high among educators, with 86.7% of respondents (n=13) reporting at least a basic understanding of AI concepts. However, a significant gap was identified between awareness and practical application. Only 20% of educators (n=3) reported regular use of AI for pedagogical purposes. The most frequent use (53.3%) was for basic tasks such as quick information retrieval (e.g., using AI chatbots for factual queries). The use of AI for more complex tasks, such as automated grading or personalized learning modules, was reported by less than 7% of the sample.

Table 2: AI Awareness vs. Practical Application

Category	Metric	Percentage	Sample Size (n)
General Awareness	Basic understanding of AI concepts	86.7%	13
Frequent Tasks	Quick info retrieval (e.g., chatbots)	53.3%	8
Regular Application	Use for pedagogical purposes	20%	3
Advanced Use	Complex tasks (e.g., grading, personalized modules)	< 7%	1

The relationship between theoretical knowledge and classroom implementation is detailed in Table 2. The data indicates that while foundational awareness of AI is high among the surveyed educators, there remains a significant discrepancy regarding its actual application in pedagogical settings.

Table 3: Educators’ Engagement with AI Tools

AI Task	Regular Use	Occasional Use	No use
Material Preparation	3 (20%)	6 (40.0%)	6 (40.0%)

Student Support	1 (6.7%)	4 (26.7%)	(66.7%)
Assessment and Grading	1 (6.7%)	2 (13.3%)	12 (80.0%)
Information Retrieval	8 (53.3%)	5 (33.3%)	2 (13.3%)

Table 3 presents the specific ways in which educators engage with AI tools. The results suggest that engagement is currently concentrated on information retrieval and administrative tasks rather than deep integration into instructional design or assessment.

Perceived Benefits and Barriers

Educators expressed a strong belief in the potential of AI, as evidenced by a mean Likert-scale rating of 4.2/5 for its perceived benefits. The most highly-rated perceived benefit was the potential for efficiency gains ($\bar{x}=4.5$), particularly in terms of reducing administrative burdens and lesson preparation time. The second most-cited benefit was the potential for personalized learning ($\bar{x}=4.1$), with 73.3% of respondents ($n=11$) agreeing that AI could help tailor instruction to individual student needs.

Conversely, the most significant barriers identified were:

- **Lack of Training:** 93.3% of respondents ($n=14$) reported this as a major challenge, indicating a need for professional development programs.
- **Ethical Concerns:** 86.7% of educators ($n=13$) expressed concerns about data privacy and the potential for AI to negatively impact critical thinking skills and human interaction.
- **Infrastructure Limitations:** 73.3% of respondents ($n=11$) noted that a lack of reliable internet access and adequate technological infrastructure was a significant impediment.

Table 4: Major Challenges in AI Adoption Among Educators

Challenge	Percentage
Lack of Training	93.3%
Ethical Concerns	86.7%
Infrastructure Limitations	73.3%

Attitudes and Future Role of AI

A majority of educators (66.7%) expressed optimism about the future role of AI in higher education. They believe that AI will become a valuable supplementary tool rather than a replacement for human teachers. This optimism is contingent on institutional support, as a strong consensus emerged that professional development in AI literacy is the most pressing need. Over 93.3% of respondents (n=14) stated they would be willing to participate in training programs on AI-integrated pedagogy.

Discussion

The findings suggest some contradiction in educators' perceptions of AI. Meaningfully, they are optimistic about its potential but cautious due to significant barriers. While AI awareness is high, the actual use of AI tools for teaching is limited. This indicates a gap between theoretical knowledge and practical application. The high demand for training underscores the need for proactive institutional strategies. Universities cannot simply acquire AI technologies; they must invest in equipping their faculty with the skills and knowledge to use them effectively. The ethical concerns raised by the educators are a crucial takeaway. Their fears about the impact on critical thinking and human interaction are valid and reflect a deeper understanding of pedagogical values. This suggests that AI integration should not be a purely technological process but a pedagogical one that prioritizes a human-centered approach. Instead of simply replacing traditional methods, AI should be seen as a tool to enhance them.

The findings of this study suggest that EFL teachers at Batna-2 University share several key perceptions with the global academic community, particularly regarding the adoption gap. The high level of awareness (86.7%) contrasted with limited pedagogical use (20%) seems to align with the findings of Jaschik and Lederman (2019), who noted a persistent implementation gap in humanities departments despite general interest. Furthermore, the primary barrier identified in this context (a lack of specialized training (93.3%)) is a nearly universal finding in AI in Education (AIEd) research, corroborated by Chiu et al. (2023) and Delello et al. (2025). However, a notable divergence occurs in the area of infrastructure; while international literature often focuses on complex ethical biases, the Algerian context remains significantly hindered by fundamental access issues (73.3%), such as reliable internet

connectivity. This highlights that while pedagogical readiness is high, institutional facilitating conditions must be prioritized to bridge the gap between theory and practice.

Conclusion

This study attempted to provide a snapshot of the current state of AI integration in Algerian higher education from the perspective of English language and literature teachers. The findings highlight that while there is a readiness and a positive attitude toward AI, the path to successful integration is fraught with challenges, primarily the need for comprehensive training and addressing ethical concerns. Based on these findings, we recommend the following for policymakers and institutional decision-makers:

- Investing in Professional Development: Develop and implement mandatory and ongoing professional development programs focused on AI literacy and AI-integrated pedagogy.
- Addressing Infrastructure Gaps: Ensure that the necessary technological infrastructure, including high-speed internet and accessible platforms, is in place to support AI tools.
- Establishing Ethical Guidelines: Create clear, institution-wide policies on the ethical use of AI, including guidelines on data privacy and academic integrity.
- Promoting a Human-Centered Approach: Encourage the use of AI as a supplementary tool to enhance, not replace, human-led instruction and interaction.

References

- Al Nabhani, F., Hamzah, M. B., & Abuhassna, H. (2025). The role of artificial intelligence in personalizing educational content: Enhancing the learning experience and developing the teacher's role in an integrated educational environment. *Contemporary Educational Technology*, 17(2), ep573. <https://doi.org/10.30935/cedtech/16089>
- Baker, R. S., & Inventado, P. S. (2014). Educational data mining and learning analytics. In J. Larusson & B. White (Eds.), *Learning analytics* (pp. 41–64). Springer. https://doi.org/10.1007/978-1-4614-3305-7_4
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, 84(2), 191–215. <https://doi.org/10.1037/0033-295X.84.2.191>
- Chen, L., Chen, P., & Lin, Z. (2020). Artificial intelligence in education: A review. *IEEE Access*, 8, 75264–75278. <https://doi.org/10.1109/ACCESS.2020.2988510>

- Chiu, T. K. F., Xia, Q., Zhou, X., Chai, C. S., & Cheng, M. (2023). Systematic literature review on opportunities, challenges, and future research recommendations of artificial intelligence in education. *Computers and Education: Artificial Intelligence*, 4, Article 100118. <https://doi.org/10.1016/j.caeai.2022.100118>
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319–340. <https://doi.org/10.2307/249008>
- Delello, J., Sung, W., Mokhtari, K., Hebert, J., Bronson, A., & De Giuseppe, T. (2025). AI in the classroom: Insights from educators on usage, challenges, and mental health. *Education Sciences*, 15(2), 113. <https://doi.org/10.3390/educsci15020113>
- Galán-Rodríguez, N. M., Bobadilla-Pérez, M., & Barros-Grela, E. (2025). Attitudes and perceptions: The role of artificial intelligence in the training of future secondary school foreign language teachers. *Texto Livre*, 18, e51692. <https://doi.org/10.1590/1983-3652.2025.51692>
- Jaschik, S., & Lederman, D. (2019b). *2019 survey of faculty attitudes on technology*. Inside Higher Ed. <https://www.insidehighered.com/booklet/2019-survey-faculty-attitudes-technology>
- Joshi, M. A. (2024). Adaptive learning through artificial intelligence. *International Journal on Integrated Education*, 7(2), 41–43. <https://dx.doi.org/10.2139/ssrn.4514887>
- Khairullah, S. A., Harris, S., Hadi, H. J., Sandhu, R. A., Ahmad, N., & Alshara, M. A. (2025). Implementing artificial intelligence in academic and administrative processes through responsible strategic leadership in the higher education institutions. *Frontiers in Education*, 10:1548104. <https://doi.org/10.3389/feduc.2025.1548104>
- Long, D., & Magerko, B. (2020). What is AI literacy? Competencies and design considerations. In *Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems* (pp. 1–16). Association for Computing Machinery. <https://doi.org/10.1145/3313831.3376727>
- Mousavinasab, E., Zarifsanaiey, N., Niakan Kalhori, S. R., Rakhshan, M., Keikha, L., & Ghazi Saeedi, M. (2021). Intelligent tutoring systems: A systematic review of characteristics, applications, and evaluation methods. *Interactive Learning Environments*, 29(1), 142–163. <https://doi.org/10.1080/10494820.2018.1558257>
- Park University. (2025, February 14). AI in education: The rise of intelligent tutoring systems. *Park University Blog*. <https://shorturl.at/GfSMk>

- Roll, I., & Wylie, R. (2016). Evolution and revolution in artificial intelligence in education. *International Journal of Artificial Intelligence in Education*, 26, 582-599. <https://doi.org/10.1007/s40593-016-0110-3>
- Sullivan, M., Kelly, A., & McLaughlan, P. (2023). ChatGPT in higher education: Considerations for academic integrity and student learning. *Journal of Applied Learning and Teaching*, 6(1), 31–40.
- Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly*, 27(3), 425–478. <https://doi.org/10.2307/30036540>