



Communication and Artificial Intelligence in Higher Education: Between Knowledge Transmission and Skills Development

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Abstract

With the emergence of generative AI, higher education is evolving, and beyond the traditional method of lecture-based teaching, universities are now emphasizing how students communicate and express their ideas. At the same time, there is a persistent gap between theoretical learning and the expectations of the workplace. In this perspective, AI offers new opportunities to renew pedagogical practices, mainly through the creation of interactive learning environments that respond to students' needs and make learning more engaging. However, its integration raises crucial challenges in educational practice, such as academic honesty, verifying information accuracy, and critical thinking skills. This paper examines how AI improves communication skills while studying its pedagogical, cognitive, and ethical limitations. In addition, it examines the potential risks and challenges of using generative AI across different fields, as students may sometimes rely on it too much or struggle to think independently, which highlights the need to balance technological innovation with critical thinking. As a result, the discussion provides a balanced perspective on the role of AI in the digital transformation of higher education. Overall, it suggests that the ethical as well as careful integration of AI cannot replace the teacher, but can be a tool that supports the learning process in a meaningful way.

Introduction

The trajectory of modern technological transformation can be traced back to the Industrial Revolution, which marked a shift from reliance on human and animal labor to machine-driven processes. Building on this historical foundation, contemporary societies are now experiencing a new phase of technological transformation, often conceptualized as a “second machine age” characterized by digital technologies and artificial intelligence (Brynjolfsson & McAfee, 2014, p. 4). Unlike the earlier phase, which mainly enhanced physical productivity, this new era increasingly emphasizes cognitive capabilities and how knowledge is produced and applied.

Such transformations influence the institutions that produce and share knowledge. Higher education has traditionally focused on the production and circulation of scientific knowledge and the intellectual training of students. Nevertheless, economic, technological, and social transformations have profoundly altered expectations of academic institutions. Universities must go beyond the transmission of theoretical knowledge and prepare students to thrive in a professional environment characterized by the globalization of exchanges and the acceleration of innovations. In this context, transversal skills, often referred to as soft skills, are increasingly becoming part of university training programmes. Among these, communication appears as a fundamental skill, which allows individuals to exchange information, share ideas, negotiate solutions, and build effective professional relationships.

However, despite the importance of communication competence for professional success, its teaching in higher education remains frequently dominated by an essentially theoretical approach. Students learn the fundamental models and concepts of communication, but have limited opportunities to develop these achievements in practical situations close to professional reality. This gap between academic knowledge and operational skills is regularly highlighted in university pedagogy (Dede, 2014).

At the same time, recent advances in digital technologies, and more specifically artificial intelligence, open up new perspectives for teaching and learning. AI technologies make it possible to design interactive educational environments, analyze learning behaviors, and offer personalized educational experiences (Luckin et al, 2016). In the field of communication, these technologies can notably simulate professional situations, analyze students' verbal or written interactions, and provide immediate feedback on their performance. They thus offer opportunities to reduce the gap between the acquisition of theoretical knowledge and the development of practical skills. However, their integration also raises crucial challenges, particularly regarding academic honesty, information accuracy, critical thinking, and intellectual autonomy.

In this perspective, the manuscript is part of a broader reflection on the transformation of pedagogical practices in higher education in the digital age. It aims to analyze the role of communication in university education and examine the possibilities offered by artificial intelligence to improve the learning of communication skills. This study tries to answer the following questions:

What is the place of communication in higher education?

Why is there a gap between the theoretical teaching of communication and its practical application?

To what extent can artificial intelligence contribute to transforming communication teaching in universities?

To answer these questions, the paper adopts an analytical approach based on a review of the scientific literature related to communication, university pedagogy, and educational technologies.

I. Definition of the Concept of Communication

The concept of communication refers to a complex process that goes far beyond the mere transmission of information. It involves not only the exchange of messages, but also the construction of social relationships and the production of shared meanings between individuals. For Dominique Wolton, communication is based on a relational dynamic made of both connections and tensions. A simple conversation supposes both mutual identification and opposition, fusion and distinction, inclusion and exclusion (Wolton, 2009, p. 17). From this perspective, communication can be defined as a process by which individuals or groups exchange information, ideas, or representations in order to produce meaning and coordinate their actions.

In the field of education, communication plays a central role. It is the main vehicle for transmitting knowledge between teachers and students, while promoting active participation by learners. Through interactions, discussions, and collaborative activities, it contributes to the collective construction of knowledge. Contemporary approaches to pedagogy emphasize the importance of interaction in the learning process. According to these perspectives, students learn more effectively when they actively participate in pedagogical activities and are engaged in meaningful exchanges with their peers and teachers (Vygotsky, 1978).

Thus, educational communication is not limited to the mere dissemination of knowledge by the teacher. It is based on a set of dynamic interactions that stimulate participation, encourage critical thinking and promote the progressive construction of knowledge. In the professional context, communication also has a strategic dimension. Organizations operate through permanent interactions between different actors, whether managers, employees,

partners or clients, in order to coordinate their activities, prevent conflicts and strengthen cooperation.

II. Methodology of the Literature Review

This paper adopts an analytical approach based on a review of the scientific literature related to communication, higher education, university pedagogy, and educational technologies. The literature reviewed includes academic books and scholarly articles dealing with communication in higher education, skills development, active and blended learning, digital technologies, and artificial intelligence in education. The selection of these sources was guided by their relevance to the main questions addressed in this study and by their contribution to understanding the relationship between theoretical knowledge, practical skills, and technological transformation in higher education.

The sources were selected according to their relevance to the main themes of the study. Particular attention was given to publications addressing the role of communication in education, the development of practical and transversal skills, the integration of digital technologies into teaching and learning, and the potential and limitations of artificial intelligence in higher education. Sources that were not directly related to these themes or that did not contribute to the objectives of the study were not considered. The review therefore brings together different scholarly perspectives in order to provide a broader understanding of the role of artificial intelligence in the transformation of pedagogical practices.

This review has some limitations. It does not constitute a systematic review and does not aim to cover all the existing literature on artificial intelligence and higher education. The selection of academic books and articles was based primarily on their relevance to the objectives and themes of the present study. Consequently, some relevant publications may not have been included. Nevertheless, the literature reviewed provides a theoretical basis for examining the role of communication in higher education and the possibilities and challenges associated with the integration of artificial intelligence into teaching and learning.

III. Theoretical Framework: Communication, Learning, and Educational Technologies

The analysis of the integration of artificial intelligence in communication teaching is part of several theoretical perspectives from education and communication sciences. First of all, socioconstructivist approaches to learning highlight the importance of social interactions in the development of knowledge and skills. According to Vygotsky, learning is built through exchanges between individuals and their social environment (Vygotsky, 1978). In this perspective, communication is a central element of the educational process.

Furthermore, research on active pedagogies highlights the importance of student engagement in the learning process. Pedagogical approaches based on project-based learning, simulations, and case studies foster the development of practical skills and enable learners to apply their knowledge in authentic contexts. According to the principle of **constructive alignment**, learning activities and assessment should be aligned with intended learning outcomes to promote meaningful and active learning (Biggs & Tang, 2011). In this context, digital technologies play a significant role in facilitating interactive and collaborative learning environments. Digital learning environments support communication among learners, provide access to diverse educational resources, and enable continuous guidance throughout the learning process (Laurillard, 2012). More recently, the emergence of artificial intelligence (AI) in education has opened new perspectives for personalizing learning and enhancing educational practices. Adaptive learning systems, intelligent tutoring systems, virtual teaching assistants, and learning analytics tools make it possible to tailor educational content to learners' individual needs while providing insights into their cognitive processes (Luckin et al, 2016). A systematic review of AI applications in higher education also emphasizes the growing potential of AI to

support teaching and learning, while highlighting the need for greater educator involvement in the design and implementation of these technologies (Zawacki-Richter et al., 2019).

However, these technologies also raise important questions about their impact on students' cognitive processes and the nature of pedagogical interactions. While artificial intelligence offers significant opportunities to enhance learning, it also challenges traditional educational practices and teachers' roles. Several scholars argue that AI should be integrated into education critically and reflectively, ensuring that technological innovation complements rather than replaces the human dimensions of teaching and learning. In particular, teachers should remain central to providing pedagogical guidance, fostering critical thinking, and supporting students' social and emotional development (Selwyn, 2019). From this perspective, the study of artificial intelligence in communication education should not be viewed merely as a process of technological substitution, but rather as part of a broader transformation of pedagogical practices, communication processes, and learning environments.

IV. Higher Education: Between Knowledge and Competence

Higher education has long been based on a traditional conception of education focused on the transmission of knowledge and the dissemination of scientific research. This conception is part of an old academic tradition, notably inherited from the Humboldt model of the university, which emphasizes scientific research and the intellectual training of students (Hohendorf, 1997). In this context, the quality of teaching is often evaluated according to the depth of theoretical knowledge transmitted (De Meulemeester, 2012). The university must also be a general knowledge institution, bringing together all disciplines without seeking to provide any semblance of professional training (Hohendorf, 1997).

However, in recent decades, this view has been progressively challenged. The evolution of the labor market and economic transformations have led to a redefinition of the role of higher education. Companies thus expect young graduates not only with technical expertise in their field, but also with transversal skills such as communication, collaboration, creativity or even the ability to solve problems. This evolution has led many universities to rethink their pedagogical approaches. Thus, the notion of skills development has become central to discussions about the evolution of higher education.

In this context, new learning methods, such as project-based learning, case studies, simulations, and even internships, have been gradually integrated into training programs in order to bring academic education closer to professional realities (Dede, 2014). Nevertheless, despite these changes, the transition to a competency-based educational model remains incomplete in many institutions. University structures, evaluation methods, and teaching practices often remain strongly influenced by the academic tradition based on the transmission of knowledge. From this perspective, the integration of digital technologies, and more particularly artificial intelligence, appears as an opportunity to support this educational transformation and foster the development of practical skills among students.

V. Communication in Higher Education: Knowledge without Practice

In many university programs devoted to communication, students benefit from a relatively thorough theoretical education. They learn the main communication models, acquire specialized vocabulary, and develop writing skills through various academic exercises. However, this approach has some limitations when it comes to training students capable of communicating effectively in complex professional contexts. Indeed, communication is above all a skill that develops through experience and practice. Yet, in academic environments, the opportunities for practicing oral communication often remain limited. Time constraints, the large number of students and assessment systems mainly focused on written production reduce opportunities for oral communication. Simulations, where they exist, are sometimes brief and do not allow for in-depth repetition or significant variation of the scenarios.

This gap between academic knowledge and operational skills is regularly highlighted by employers, as some graduates have theoretical training but experience difficulties in communicating effectively in professional environments.

Faced with this observation, several researchers argue for a transformation of the methods of teaching communication through blended learning in higher education. In particular, they recommend the adoption of active pedagogies that place students at the center of the learning process and promote their participation in practical and collaborative activities (Garrison & Vaughan, 2008). These pedagogical approaches are based on the idea that students learn best when engaged in practical activities and when confronted with real or simulated situations. In this context, the teaching of communication must include activities allowing students to develop and test their skills in various contexts.

Business Communication: From Theoretical Knowledge to Practical Competence

The concept of business communication is precisely in line with this perspective, which aims to bring academic education closer to professional realities. It refers to all communication practices used within organizations in various contexts such as management, marketing, public relations or human resources management. Contrary to the traditional academic approach, Business communication emphasizes the practical application of communicational skills in a professional environment. It aims to prepare students to communicate effectively in their future professional activities.

Business communication encompasses several essential dimensions, notably written communication, such as the drafting of reports, professional emails or commercial proposals. It also includes oral communication, through presentations, meetings, negotiations and interactions with clients or partners. However, the implementation of these pedagogical approaches often requires significant resources and specific pedagogical supervision. In this context, digital technologies, and in particular artificial intelligence, can help facilitate the creation of interactive and immersive learning environments.

VI. Potential of Artificial Intelligence

Artificial intelligence and its dedicated platforms are no longer satisfied with automating repetitive tasks; they now open up unprecedented opportunities for creation and analysis. True multitasking assistant, the AI adapts to all professional needs thanks to a wide range of integrated functions.

Communication and Writing: AI facilitates the writing and reformulation of complex documents (emails, reports), while ensuring instant translation in more than 100 languages.

Analysis and Structure: Summarize large documents in seconds and generate ready-to-use professional presentations.

Multimedia Creation: Creation of original videos with synchronized audio, music composition

Technical Optimization: Generate unique images from a textual description or retouch photos with one click, Development of applications without any programming knowledge.

In short, artificial intelligence is no longer a simple technological option but a real lever for simplifying administrative workflows or for investing in multimedia creation. These tools allow you to focus on the essential: vision and decision-making, and have the opportunity to transform each idea into a concrete project, in record time and with almost perfect precision. However, AI should be seen as an extension of human capabilities, rather than a replacement. It refers to the set of techniques that allow computer systems to perform tasks that usually mobilize human intelligence, such as learning, pattern recognition, decision-making or understanding natural language.

In higher education, it is gaining increasing attention because of its capacity to transform teaching and learning methods (Luckin et al, 2016). Universities are thus exploring the possibilities offered by these technologies to improve pedagogical efficiency and enrich

students' learning experience. Among the most widely used applications are adaptive learning systems, which analyze learners' performance in order to propose personalized educational pathways that are better adapted to the diversity of academic profiles.

Artificial intelligence also makes it possible to develop virtual teaching assistants capable of providing additional explanations and supporting students in their progress. In the field of communication, these tools can analyze students' written or oral productions, assess the structure of their arguments and appreciate the clarity of their speeches, thus offering rapid and personalized feedback that promotes the gradual improvement of skills.

Furthermore, artificial intelligence can be combined with immersive environments, notably thanks to virtual reality or extended reality, making it possible to simulate professional situations such as company meetings, international conferences or multicultural interactions. These devices offer students a safe learning space where they can experiment with different communication strategies, make mistakes and receive constructive feedback on their performance. Despite the many opportunities offered by artificial intelligence in higher education, its integration into teaching practices is not without raising certain questions and challenges. A comprehensive analysis of its role in education therefore also requires examining the limitations and drawbacks associated with its excessive use.

VII. Limits and Disadvantages of Generative Artificial Intelligence in Higher Education

Artificial intelligence has emerged as a powerful tool thanks to its speed of processing and its ability to analyze large volumes of complex data in record time. In higher education, it facilitates certain tasks in writing reports or managing transactions with great precision. However, AI has minor technical imperfections—such as syntax, agreement, or punctuation errors—that remain negligible compared to its overall utility.

Beyond these technical aspects, and despite its contribution to human action, AI remains completely devoid of consciousness, intuition, empathy, or moral reasoning. This lack of judgment raises major risks, including excessive autonomy where systems act unpredictably or biasedly, making human oversight indispensable to ensure accountability for results.

Generative AI Hallucinations

One of the main flaws of generative AI lies in its tendency to "hallucinate," that is, to make up facts or lie with misleading insurance. This behavior generates inaccurate analytics and negative biases that affect user trust. To cope with it, it is crucial to develop a "mental hallucination detector" among students and teachers by evaluating strict criteria:

- The verification of specific details and dates.
- Vigilance in the face of obscure subjects or an overly perfect coherence.
- The identification of a lack of nuance or a lack of reliable sources.

At the system level, permanent human control is required to study the results and improve the reliability and consistency of the content produced by AI.

Framing Systems: The Approach of Constitutional AI

To reduce the excesses related to the autonomy of machines, organizations such as Anthropic are developing solutions to control the behavior of AI models, notably through the *Claude* project, which consists of training models in terms of identity, character, values, and personality, with the objective of "being a good AI." This concept, known as **Constitutional AI**, is based on a set of principles and values, such as being helpful, avoiding harm, and preventing discrimination. This approach involves training AI models to analyze and correct their own behavior according to these principles in order to produce safer and more ethical responses. Through interpretation techniques and audits, models are also used to detect problematic behaviors such as deception, manipulation, or power-seeking (Amodei, 2025).

The Risk of Intellectual Dependence

When AI is used as a substitute for self-reflection, academic plagiarism and cheating increase. The student who delegates his cognitive effort to the machine hinders the development of his own essential skills, such as critical analysis, argumentation and structuring ideas.

Furthermore, the reliability of information remains a major scientific challenge. As UNESCO points out, these technologies can sometimes produce "approximate or biased content." Rigorous verification is therefore required in the academic environment. Consequently, the successful integration of these tools requires that teachers acquire technical and pedagogical skills adapted to guide students toward a thoughtful, critical, and supervised use of artificial intelligence (UNESCO, 2021).

Towards a Hybridization of Pedagogical Practices

In the face of these changes, universities must rethink their educational models to align student needs with the demands of the professional world. AI should not be seen as a mere technical innovation, but as a real lever for transformation. The major contribution of AI lies in its ability to support "*adaptive and individualized learning*" by identifying the specific difficulties of each learner; it adjusts content to their level of understanding, which optimizes course efficiency and reduces performance gaps between students (Siemens, 2013)

In the field of communication, AI enriches experiential pedagogy. It allows the generation of dynamic simulations reproducing complex professional situations (company meetings, international conferences, multicultural interactions). Students can test different communication strategies in real time. However, these innovations are successful only if they are part of a coherent framework. AI will never replace human interactions, group debates and collaborative projects, which remain essential for cultivating creativity and interpersonal intelligence. This is why research advocates for hybrid pedagogical models blended learning, combining the power of digital technologies and the richness of human interactions (Garrison & Vaughan, 2008, p. 25).

Conclusion

Higher education is now facing profound transformations related to technological, economic and social changes. Faced with these changes, universities are called to rethink their teaching practices in order to better prepare students for the demands of the professional world. Within this context, communication appears as a relevant pedagogical approach to bring university education closer to the realities of the field, playing an essential role in collaboration, decision-making and relationship management within organizations. Yet, in many institutions, its teaching remains largely theoretical, which creates a persistent gap between academic knowledge and the skills expected in professional practice.

The emergence of artificial intelligence opens up new opportunities to close this gap. AI technologies make it possible to develop interactive learning environments, customize educational pathways and offer professional simulations that promote the acquisition of practical skills. In the field of communication, for example, students can use AI to simulate company meetings, professional interviews, negotiations and multicultural interactions, and receive immediate feedback on their performance. However, these activities should remain part of a broader pedagogical framework in which students continue to prepare their own ideas, interact with teachers and peers, verify information provided by AI, and critically evaluate its responses. In this way, AI can support the learning process without replacing the student's own cognitive effort or human interaction.

At the institutional level, universities should establish clear guidelines for the appropriate use of artificial intelligence in teaching and assessment. Teachers should also be provided with appropriate technical and pedagogical training to guide students toward a thoughtful, critical and supervised use of these technologies. In communication education, AI-supported activities

should therefore be combined with human interactions, group debates, presentations, collaborative projects and practical activities. Such practices can help universities benefit from technological innovation while preserving intellectual autonomy, academic integrity and the quality of training.

Nevertheless, this paper has some limitations. It is based on an analytical review of academic books and scholarly articles and does not include empirical data collected from students, teachers or higher education institutions. It therefore discusses the possibilities and challenges of AI integration without directly measuring its impact on students' communication skills. In addition, the review does not constitute a systematic review and may not cover all the existing literature related to artificial intelligence and higher education.

Future research could examine the impact of AI-supported communication activities through empirical studies involving university students and teachers. Comparative studies could also investigate the differences between traditional communication teaching and AI-supported approaches. Further research could examine whether the regular use of AI contributes to the development of communication skills or creates a risk of intellectual dependence on technological tools. Research could also focus on how universities can develop effective policies for responsible AI use while maintaining the central role of teachers and human interaction.

Consequently, the integration of these technologies in higher education must be accompanied by a thorough pedagogical and ethical reflection. Artificial intelligence should not be seen as a substitute for the teacher, but as a complementary tool to enrich existing systems. The future of higher education thus depends on the ability of academic institutions to strike a fair and rigorous balance between technological innovation and essential human support to promote the overall, ethical development of students' skills.

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Communication and AI in Higher Education

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