

Title: **Excluding the Human Element from the Educational Process: Challenges and Risks of AI in Open and Distance Education. The Case of the University of Continuing Education - Algeria**

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Abstract

As AI advances rapidly, educational technologies, including those based on AI, are increasingly being used in open and distance learning. While the use of adaptive e-learning systems, educational chatbots, AI-based guided learning, and AI-enhanced educational platforms may contribute to individualizing the educational experience and performance. This approach to AI in education raises concerns about the possibilities of student tracking, prediction of student behavior and profiling, ethical ways of student engagement, and the possible dehumanization of the educational process. The problem regarding the ethical and trustworthy use of AI in education is related not only to possible dehumanization but also to privacy, data protection, the role of teachers, and the possible replacement of them, as well as the potential power balance shift from the individual level to state and private actors. Thus, the aim of the paper is to explore an ethical and educational conversation on these dilemmas and other deep pedagogical and organizational aspects that are triggered by applying AI in open and distance education. It brings insights on whether AI really is about humans and, in particular, about teachers and the human element in education.

Keywords: Artificial Intelligence; Education; Open and distance education; educational platforms

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Introduction

One of the most transformative technologies currently affecting society is artificial intelligence (AI). Fuelled by advances in big data, sensors, and algorithms, AI is increasingly becoming a feature of everyday life, changing how we live, work, communicate, and learn. Its application to the educational realm holds the promise of benefiting all involved in the process. Teachers' activities are time-consuming and require a lot of effort. Technology-enhanced learning solutions have been proven to reduce the workload of educators. These solutions, in particular quality, have reached a level of performance that makes it a compelling and sometimes even better alternative to human teachers. It thus creates new possibilities and models for teaching and learning.

The demand for innovative technologies and learners' aversion to face-to-face teaching and learning during the pandemic have driven several educational managers and educators to reveal a newfound enthusiasm for integrating AI into education (Dwivedi et al. 2021). While AI services and systems are being implemented in open and distance education in several parts of the world and by various stakeholders, the literature review demonstrates that there is an inadequate analysis of the ethical, pedagogical, and organizational dilemmas involved.

The main aim of the research is to explore the challenges of minimizing the human element in AI open and distance education. It also aims to identify the risks associated with over-reliance on AI in education including issues related to learning quality, emotional and social development and the educational experience as a whole. It assesses students' perceptions of AI's effectiveness compared to traditional human led teaching.

In this regard, the research questions are:

1- How do students perceive the impact of AI-driven open and distance education on their academic performance?

2- What elements of human teaching do students believe AI fails to replicate effectively?

3- What are students' preferences regarding AI involvement in their courses

This study is guided by the following hypotheses:

The rising dependence on AI in Open and Distance Education (ODE) at the University of Continuous Education in Algeria is poised to result in a notable decrease in human interaction, potentially impacting student engagement, critical thinking, and the cultivation of social and emotional skills.

The incorporation of AI in online distance education (ODE) without sufficient human supervision will result in a less personalized learning experience and ethical dilemmas.

The present study uses a quantitative approach, leveraging statistical analysis to quantify students' responses to the AI-driven ODE environment. A descriptive design is suitable for capturing participants' attitudes, beliefs, and preferences providing a snapshot of their experiences with AI-driven open-distance education.

The target population includes students enrolled in AI-driven open distance education programs. A sample size of approximately 300 students allows for meaningful analysis. Data is collected through a structured questionnaire designed to evaluate students' perceptions and experiences with AI in their educational environment. Each question is analyzed in terms of its quantitative distribution to get students' general views.

1. Background and Rationale

The rapid growth of digital and data resources has had a transformative effect on society. However, this is only a prelude to the substantial changes that are occurring and that will occur in the educational sphere (Dwivedi et al., 2021). Though it might sound risky to replace the human element of pro-

professionals who deal directly with students, the sophisticated nature of current educational technologies inspired us to create a deep learning-based solution that replicates the work of real teachers in some aspects related to evaluating student activity in e-learning courses (Zawacki-Richter et al., 2019). The proposed intelligent assistant can help to facilitate and partially automate the work of a teacher or responsible person to mentor the performance of students during a course and mark problems of student understanding of the studied material. Additionally, solving these problems and taking the corresponding actions will allow for more effective educational work.

2. The Role and Benefits of AI in Open and Distance Education

The integration of Artificial Intelligence (AI) in the field of education has brought about a profound transformation in how teaching and learning are conducted, particularly in Open and Distance Education (Zawacki-Richter et al., 2019). The function of AI is to replace human agency. The engine and main drives for this technology – data and algorithms – have been introduced. Data serves as accessible empirical proof, and algorithms act as guides to action, reproducing defined objectives and procedures based on already established knowledge, experience, and practice – scientific, technical, administrative, legislative, artistic, philosophical, etc (chen et al.,2020).

One of the most notable contributions of AI to ODE is its ability to personalize learning experiences. AI algorithms can analyse vast amounts of data from students' interactions with educational content, identifying individual learning patterns, strengths, and areas for improvement (Park & Lee, 2021). Personalized recommendations for additional resources, exercises, or learning modules help students achieve better outcomes by addressing their unique needs.

There is no doubt that AI is the technology that drives the fourth industrial revolution. With AI, machines can complete tasks that normally require human intelligence. AI can outperform humans at logical operations, smart decision-making, reflexes, and machine learning. Current deep learning research has improved AI and made it superior to humans in an ever-increasing range of fields. Now AI takes part in different scopes of the educational process, helping students and educators to make learning more engaging and dynamic.

However, educators should think critically regarding AI's role in education. Many consider AI the most important stakeholder in the ecosystem. But educators should keep in mind that AI support is no more than a tool. When integrated into the learning process, these intelligent agents can improve students' cognitive skills and support educators in realizing the fundamental tasks of the educational process (Selwyn,2019).

3. Case Study: The University of Continuing Education in Algeria

In March 2019, the University of Continuing Education embarked on preparing the transitional experience with "the model of continuing education via e-learning"(University of Continuing Education, 2019). The model was adopted by four Algerian universities in the project, the purpose of which is "the development of open and distance learning in Algeria"(Education Ministry of Algeria,2019). For the present project, these universities developed training programs by adopting the mentioned model. Consequently, the selected experts in e-learning, instructional design, e-platform, and teaching techniques established categories for the model and developed the curriculum for various levels of higher education (Benamar & Saidi, 2020). Physical presentations, as well as specialized weeks, were developed, either from existing programs or were specially designed for online training (Rahmani, 2019). Afterwards, appropriate customization was

conducted for two-way audio logic using the application (Zahdi et al., 2020).

The University of Continuing Education then conducted an online survey for the purpose of establishing the inclusivity of this e-learning model, collected some data, carried out some analysis, and designed a questionnaire in order to extend data collection and to further investigate the learning process, specifically utilizing virtual classroom tools for a distance education scenario (University of Continuing Education, 2019). Meanwhile, the polls taken among the university's teachers showed that the majority had doubts about the effectiveness of the teaching process. In particular, the difficulty of

conducting teaching, total or partial, online (Aouissi & Abdallah, 2020).

3.1. Analysis of the Students' Questionnaire

This section includes the analysis and interpretation of the data derived from the collected survey data (UCE students' questionnaire). These questions aim to assess students' performance, perceptions of AI, engagement levels, and overall satisfaction with the learning experience in AI-driven ODE environments. It is also designed to explore educators' and administrators' perspectives on the advantages and disadvantages of AI in ODE, with a particular focus on the implications of reduced human interaction.

1. Do you believe your academic performance has improved in the AI-driven ODE environment?

Table 1: The Improvement Of Students' Academic Performance InThe AI-Driven ODE Environment

Response	Number of Students	Percentage
Yes	180	60%
No	120	40%
Total	300	100%

The table above shows a hypothetical distribution where 60% of the students believe their academic performance has improved in the AI-driven ODE environment, while 40% do not.

2. Do you perceive the role of AI in your educational process positively or negatively?

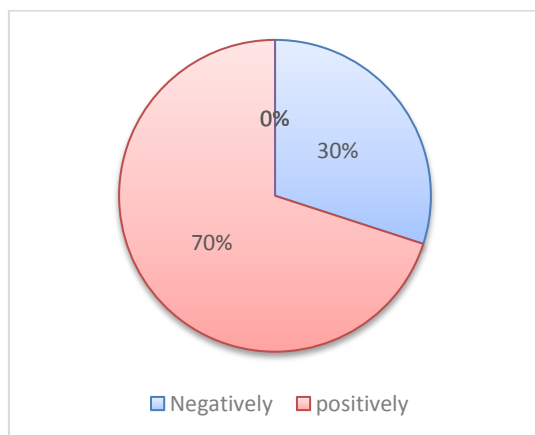


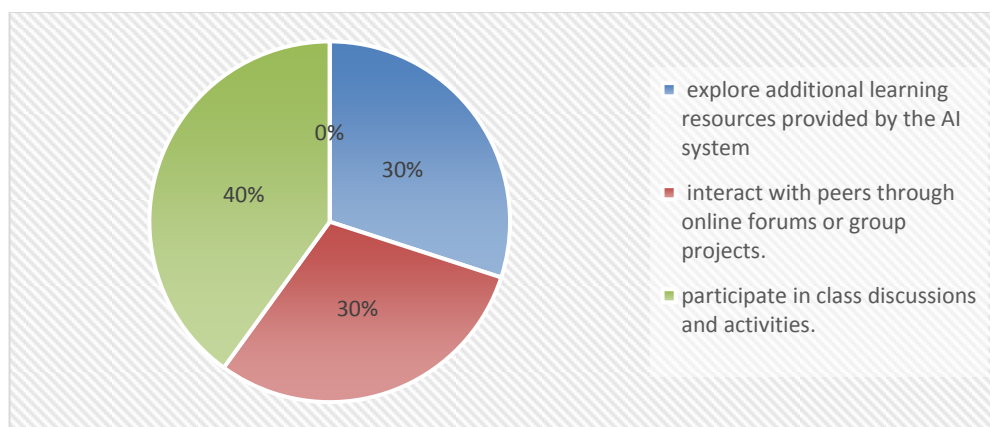
Figure 1: Students Perception of the Role of AI in their Education Process

The pie chart provides a visual representation of student perceptions regarding the role of AI in their educational process. The majority of the of the students (70%) perceive the role of AI positively, while 30% perceive it negatively.

This suggests that the majority of students view AI as having a beneficial impact on their education, while a significant minority has concerns or reservations. The chart highlights the general trend of acceptance toward AI in the educational process, though it also underscores the need to address the concerns of the 30% who view it negatively.

3. How do you typically engage during AI-driven online courses compared to traditional classroom settings?

Figure 2: Students Engagement in AI-Driven Online courses



The pie chart illustrates the different ways in which students engage during AI-driven online courses compared to traditional classroom settings. 40% of students prefer to engage by participating in class discussions and activities. This indicates that even in an AI-driven environment, interactive participation remains a significant aspect of the learning experience for many students.

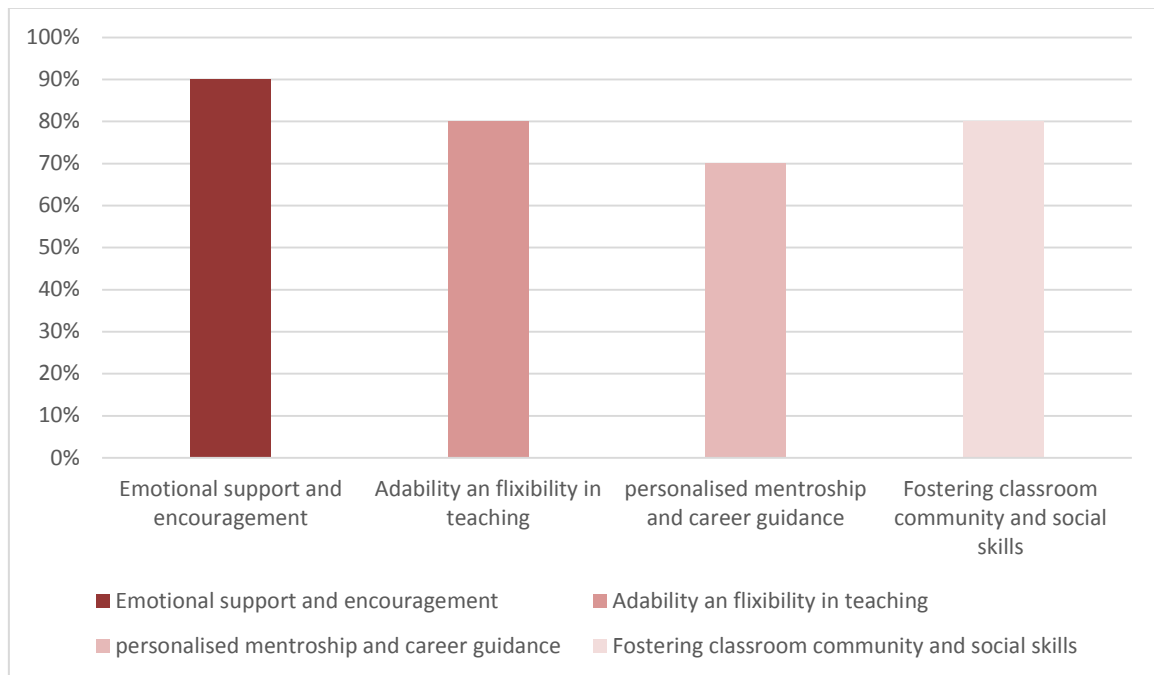
30% of students engage by interacting with peers through online forums or group projects. This reflects the importance of peer collaboration and social learning in an online setting, facilitated by AI tools. With an equal percentage of 30% of the students choose to explore additional learning re-

sources provided by the AI system. This shows that a substantial portion of students are taking advantage of AI's ability to offer personalized and supplementary educational content.

Overall, the chart suggests that students are finding multiple ways to engage in AI-driven online courses, with no single method overwhelmingly dominant. This diversity in engagement strategies highlights the flexibility and adaptability of students in leveraging both AI tools and traditional methods to enhance their learning experience.

4. What Aspects of Human Teaching Do you Feel AI Cannot Replace Effectively?

Figure 3: Students Opinions in AI Replacement in Human Teaching



The data reveals that students value the human aspects of teaching that involve empathy, adaptability, and social interaction—areas where AI struggles to fully replicate the nuance and personal touch of a human teacher.

Concerning emotional support and encouragement, 85 students see it as one of the most irreplaceable qualities of a teacher. They value the empathy, warmth, and individualized encouragement that human teachers offer, which help build resilience and motivation. AI can offer pre-programmed responses, but these lack the depth needed to truly support students emotionally. Adaptability and Flexibility in Teaching received significant attention, reflecting students' recognition of teachers' real-time adaptability (75 students). Human teachers respond fluidly to student needs, tailoring explanations or shifting approaches based on classroom dynamics. AI, while adaptive within set parameters, lacks the intuition to fully adjust in response to complex or unforeseen situations.

Equal to adaptability (75 students), fostering a sense of community is seen as essential. Students rely on human teachers to create a learning environment that promotes social skills, teamwork, and collaboration. Teachers set the tone for classroom culture, encouraging respect, cooperation, and empathy—qualities that AI can facilitate but not genuinely foster. Personalized Mentorship and Career Guidance is perceived by 65 students. Though slightly lower in responses, mentorship remains a valued role of human teachers. Students appreciate the guidance teachers offer, which often extends beyond academics to career and personal development. AI can provide information on career paths but lacks the personal insights and life experiences that teachers bring to individual mentorship.

The responses reveal that students highly value human qualities like emotional support, adaptability, mentorship, and community-building in education. These findings suggest that while AI is a useful tool for supporting learning, it currently lacks the emotional intelligence, intuition, and interpersonal skills that make teachers irreplaceable. Integrating AI in education could be most beneficial when used as a complement to human teaching, allowing teachers to focus on the relational and adaptive aspects that students value most.

5. If given the option, would you prefer a course taught entirely by AI, partially by AI with human guidance, or entirely by a human teacher?

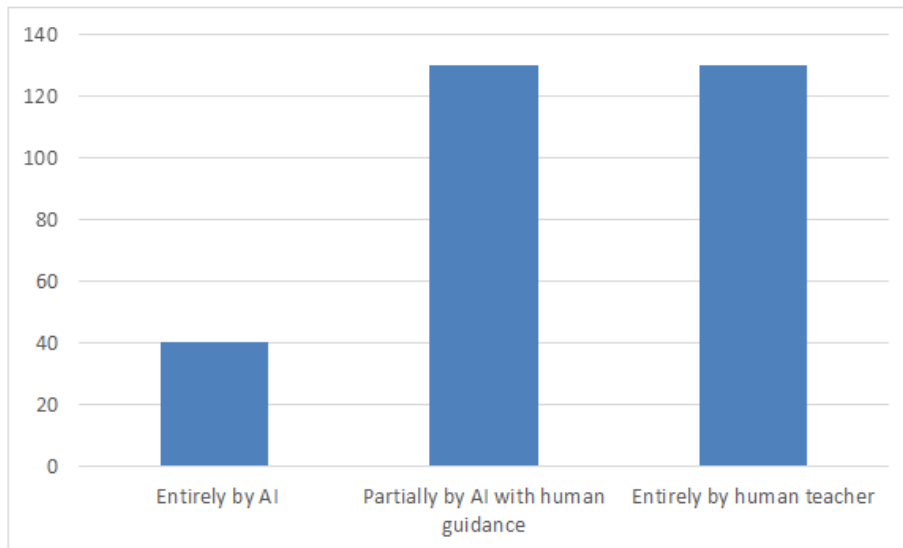


Figure 5. Students' preferences for AI and human involvement in courses

the relational and adaptive strengths of human teachers. The data indicates that students largely favor a model that includes human involvement, whether entirely or as a complement to AI. This points to a cautious yet open attitude toward AI in education: students are in-

A strong preference for human involvement is noted with a total of 260 students (about 87%) who show a strong inclination for human involvement in their learning. 130 students prefer courses taught entirely by a human teacher and another 130 opting for partially by AI with human guidance. This suggests that most students still view human guidance as essential in education, perhaps due to the support, adaptability, and interpersonal aspects teachers provide. However, there is a limited interest in AI-Only teaching for only 40 students (13%) expressed a preference for a course taught entirely by AI. This indicates that while students may be open to some AI integration, few are ready to fully embrace AI-led education without a human teacher. The limited interest could reflect concerns about AI's current limitations in offering emotional support, mentorship, and adaptability.

The equal distribution between "Partially by AI with human guidance" and "Entirely by human teacher" preferences suggests that students are open to a hybrid learning model. This approach would allow AI to handle specific tasks (e.g., grading, personalized practice) while keeping a teacher for core instruction and support. Students may see hybrid courses as a way to leverage the efficiency of AI while maintaining

interested in AI's potential to enhance learning but not at the expense of human interaction and support. The findings underscore the importance of carefully balancing AI and human roles in educational settings to meet students' needs effectively.

4. Findings and Discussion

In traditional education, not the textbook or the laboratory, but the teacher is the ruler of technology. Humans are the most important element in the educational process and an irreplaceable figure alongside machines and systems. In open and distance education, while the teacher still maintains importance, education is carried out using technology, and learning is generally in cyber environments. So, it certainly makes a difference that humans are not the only central element in the educational system, unlike the teacher in traditional education. This position indicates a noticeable increase in the role of technology, which is becoming popular with developing advancements. The teacher may outweigh technology in formal or non-formal education, but the situation is not quite the same as in open and distance education. In these teaching disciplines, where education is

transferred to institutions with different technological equipment and resources in a shared educational environment, institutions especially prefer to use technologies such as education management systems, program-supporting instruction, and artificial intelligence systems to an extent that meets the requirements of present-day technology and provides encouragement and support.

4.1. Challenges of Excluding the Human Element in Education

The task of education today is not only the efficient transfer of skills and knowledge. The need for the humanization of the educational environment, in particular the biophilia of learning, is due to the manifold increase in psychological and emotional problems. Modern artificial intelligence systems rarely understand the individual. Speech recognition and smart assistants understand the commands of the teacher but can hardly notice changes in voice pitch, indicating emotional distress, weakening the effect or use of humor, and changing intonation indicating danger, doubt, or interest (Kühl et al., 2020). Understanding the context, the biophilia of classroom speech, and facial expressions that enable teachers to diagnose student well-being are not taken into account. Such systems offer more questions than answers and are in demand when the interaction and caring role of one person is excluded from the educational process (Roli et al., 2022). The teacher's role is extremely important for being passively present, preventing harm, and creating a sense of security.

Technological advances make detecting sentiment and other facial parameters increasingly important, but their use in certain educational scenarios is controversial. Using such technologies may require delicate consideration regarding student privacy, informed consent from students, emotional labor, and technical know-how from instructors. In fact, it is argued that excluding the human element from the educational process is a security risk. This aspect of the problem seems generally ignored (Reiman et al. 2021). However, current trends are of interest. In many courses, speakers of a completely different ed-

ucational profile from the teacher are hired; when popularity is more important than knowledge, extremist rhetoric becomes a valuable quality of the speaker. Under such conditions, anthropomorphized artificial intelligence becomes an interesting workable solution.

4.2. Ethical Considerations in AI-driven Education

The pedagogue stresses that the fundamental aim of schooling is to prepare young people to be exemplary citizens, irrespective of their future aspirations. It underscores ethical concerns surrounding the use of artificial intelligence in education. The notion of "surveillance capitalism" relates to the collection and use of personal information to predict an individual's behaviors. This concept may also have implications in the field of education (Rustamova 2023). It argues that organizations must grasp and incorporate moral standards into the design and programming of AI. Another issue is the "black box" of AI, where adults may trust its decisions even if they do not comprehend the process, while children lack this understanding. Some key suggestions for responsible educational technology and AI-driven educational projects include transferring control of educational data to parents or students, as well as prohibiting advertisements on student software.

The recommendation is for the implementation of universal design for learning (UDL) to benefit all students, including those with disabilities, diversity, and inclusive design. Additionally, there is a need to address and educate on the potential apprehension children may have towards artificial intelligence, concerns about invasion of privacy and surveillance, and worries about manipulation and dishonesty (Zhang et al. 2024). It emphasizes the importance of human interaction in the development of friendships and moral understanding. Ethical considerations are also emphasized in the development of educational agents, specifically focusing on autonomy and trust in AI. Considering these concerns, it would be valuable to establish a training program with essential guide-

lines for individuals involved in the development of AI technologies related to education and training.

Conclusion and Future Perspectives

The use of artificial intelligence and learning analytics in the educational process promotes the improvement of the quality of educational services. The creation of personalized content for each student and the recommendation of methods of work, learning resources, or supplementary activities based on continuous analysis of the results obtained are issues that undoubtedly encourage the improvement of the success rates in the courses. However, we should not ignore the great risks that a humanized teaching and learning process based on artificial technology entails. The risk of exclusion of the human element in the educational process is present, which is often influenced by the difficulty of outsourcing the necessary human resources to create the necessary models of artificial intelligence and big data combinations in educational environments. It is likely that in the fu-

ture, all types of professionals in the educational area, including teachers, should be trained to autonomously design, apply, and evaluate their courses supported by these technologies. The challenge is presented by creating systems that preserve the human factor in education, combining human intelligence with the ability of artificial intelligence to extract useful information from data. It is important not to overlook the ethical problems that the implementation of this type of advanced technology in education entails: direct discrimination, security and transparency, the right to education and the legitimacy of learning, personal autonomy and protection of privacy, and information and increased inequality between countries. It is necessary to work from two complementary planes so that the benefits provided by artificial intelligence in the educational field create a learning environment adapted to the requirements of present and future students, without forgetting the moral norms that must govern the activities of the agents involved: society, developers and providers, educational authorities, and students.

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