

Part 5

Law and Education

Elizabeth Achinewhu-Nworgu

Examine the Notion That AI Has Come to Replace Education Jobs in Classroom Teaching and Learning Done by Human Beings

Abstract

There is a growing concern that AI is likely to replace the work done face to face in the classroom by teachers. The concerns also extend to the students' use of AI to complete assignments which could impact on their grades either positive or negative and in some cases, when a student work is detected with high AI the work could be classified as plagiarism if AI usage is not declared. On another note, there are increasing debates about the use of AI as a valid tool to support work completed by human beings. Whatever maybe the growing concerns, many researchers have argued that AI is not likely to replace education jobs such as teaching and learning done by teachers and education administrators. The purpose of this paper is to explore debates around the use of AI in education, mostly in teaching and learning and assessment of students' work and the link to the university misconduct policy. Teachers' opinions on integrating AI in the classroom are illuminated by empirical evidence gathered via interviews. A lot of educators respond to AI in different ways. Some of the debates falls around AI as God's sent tools that can help reduce some of the admin work and assessment of students' work such as helping with multiple choice questions, on the other hand, some students have been penalised and in some cases failed their work due to use of AI in completing their assignments without acknowledging the use. In addition, others have argued that AI has come to replace the work done by teachers and are anxious about AI in education jobs done by teachers, hence would not bear the idea for classroom teaching and learning.

Keywords: AI, education, teaching and learning, teachers, students and classroom

Introduction

The application of artificial intelligence (AI) in education has witnessed a profound transformation; altering the manner in which instruction and learning are approached (Pedro et al., 2019). Within the realm of education, AI pertains to the implementation of computer systems that emulate cognitive processes analogous to those of human beings. This enables the execution of tasks such as data processing, problem-solving, and decision-making (Chen et al., 2020). In essence, AI improves the field of education through the provision of intelligent systems capable of adapting and personalising courses to suit the needs and preferences of individual students (Pedro et al., 2019). It incorporates natural language processing, machine learning, and data analytics, among other technologies, which assist educational institutions and teachers in enhancing the quality of teaching and learning. The purpose of this paper is to present a mini research conducted on AI issues in education and its use in teaching and learning, particularly in assessment of students' work as part of the university policy, examine the principles that underpin the role of AI in teaching and learning environment, analyse the university academic misconduct policy on students' use of AI in completing course work, evaluate the positive and negative use of AI and how it works in teaching and learning and make recommendations on best effective way to implement the use of AI in teaching, learning and assessment policy of 2 UK universities as the focus of this study.

Literature review

Meaning and principles of AI in teaching and learning

The core principles and concepts of AI in the educational setting revolve around its capacity to process and evaluate vast quantities of data while delivering perceptive outcomes for instructors and learners. The purpose of AI systems is to detect patterns in pupil achievement and adapt the curriculum and pace of instruction accordingly. They make it possible for students to have individualised learning pathways and guarantee that they get the help they need to succeed (Chassignol et al., 2018). AI can also provide instructors and students fast feedback, which enables them to modify their teaching strategies and student involvement in real time. The notion behind AI-driven education is that it may greatly increase the efficacy and efficiency of the processes involved in teaching and learning (Srinivasa et al., 2022).

Technology has been progressively incorporated into education, as seen by the historical growth and evolution of AI in education. AI has developed over the last several decades from simple intelligent tutoring systems to complex computer-assisted education, while the current AI systems emphasise adaptive learning—where information is matched to the learner's skill level, learning style, and progress—earlier attempts concentrated on giving rote memory exercises (Harati, 2021). The use of AI in education has evolved to focus more on using its potential to improve educational results, enhance pedagogical practises, and encourage student participation (Vincent-Lancrin & Van der Vlies, 2020). Thus, the development of AI in education reflects a continuous dedication to maximising technology's potential to improve the effectiveness and efficiency of education.

University academic misconduct policy on AI use

Academic institutions have responded quickly to meet the new issues raised by the integration of AI in the classroom by modifying their rules. Based on a review of current academic misconduct rules, colleges have started to include explicit provisions on students' usage of AI technologies. These guidelines are intended to set limits on appropriate AI use and advise students in the moral and responsible use of AI in their schoolwork. According to Striepe et al. (2023), students are obligated by the regulations to make sure that their usage of AI is compliant with academic integrity. Universities have put in place regulations that prioritise openness and disclosure around the use of AI by students to complete their homework. These guidelines usually mandate that students disclose any AI support they received for their projects and specify the degree of that support. For example, students could have to mention using AI-generated material in their submissions. By following these procedures, students are guaranteed to comprehend the value of academic integrity and to follow university policies (Stoesz & Eaton, 2022).

According to Zawacki-Richter et al. (2019), different universities have different implications and repercussions for students that use AI. While some academic institutions see the use of AI as a legitimate type of assistance, others view it as possibly violating their code of ethics. Students who are discovered to have violated AI-related regulations may be subject to more serious sanctions including academic probation or expulsion, in addition to a lower mark on the assignment. The seriousness with which academic institutions perceive AI misbehaviour is shown by the severity of the sanctions (Stone, 2023). Policies of academic misconduct pertaining to AI are heavily influenced by ethical issues. Universities want to make sure that students understand the ethical bounds since they are aware of the ethical ramifications of using AI. Policies on academic misconduct place a strong emphasis on the need of properly attributing and citing the source of AI-generated material in order to prevent plagiarism and infringement of intellectual property. Institutions strive to respect academic honesty and integrity by encouraging ethical AI practises (Ihekweazu et al., 2023).

Overview of AI in teaching and learning

AI has become an essential component of contemporary education, transforming the methods of instruction and learning. There are many different uses for AI tools and technology in education. These consist of machine learning algorithms, Chatbot, recommendation engines, and intelligent tutoring systems. These resources provide real-time feedback, tailored learning experiences, and content adaptation to meet the requirements of specific students (Muñoz et al., 2022). According to Huang et al. (2023), AI is also used in virtual classroom platforms, automated grading and assessment systems, and language processing tools for language acquisition. Inclusion of AI in educational contexts is motivated by the possibility that it will enhance pedagogy and student engagement. By providing educators with data-driven insights regarding students' performance, it enables the implementation of more specialised pedagogical approaches (Kabudi et al., 2021). Platforms equipped with AI capabilities may facilitate adaptive and interactive learning by tailoring content to the individual learning preferences and progress of each pupil. Moreover, AI may improve both online and distance learning by enabling personalised interactions between students and virtual instructors (Almusaed et al., 2023).

While the implementation of AI in education has numerous benefits, it also has some drawbacks. Personalization of education is one advantage of AI; this enhances the efficacy and inclusiveness of education (Pedro et al., 2019). It may improve the effectiveness of the grading and assessment procedures while lessening the administrative burden on teachers. On the other hand, there are obstacles, such as worries about job displacement, the need for sufficient training, and guaranteeing data security and privacy (Brik et al., 2020). It is critical to strike a balance between using AI's advantages and tackling its drawbacks. There are several examples of AI uses in education in a variety of fields. For example, according to Fitria (2021), Duolingo uses AI to customise courses according to each student's level of competence. Recommendation engines are used by AI-driven platforms, such as Coursera, to select courses and learning routes based on students' interests and ability levels. Chatbot and virtual teaching assistants help students with homework navigation, question answering, and coaching throughout the learning process (Parenti, 2018).

Positive and negative use of AI in teaching and learning

The introduction of AI into classrooms offers both advantages and disadvantages for teachers and educational institutions. Positively speaking, AI has the ability to greatly reduce educators' administrative burden. Teachers may spend more of their important time on teaching and student involvement by automating duties like data analysis, record-keeping, and grading (Almaiah et al., 2022). This improved productivity may improve the work-life balance and job satisfaction of educators. AI also provides the ability to create customised learning environments. AI-driven systems are able to adjust educational strategies and material to each student's unique requirements, learning preferences, and rate of progress (Gaikwad et al., 2023). By increasing student engagement and producing more effective learning outcomes, this degree of customization may eventually benefit institutions and teachers alike by raising the success rates of their students.

AI aids in the evaluation and feedback procedures used in education. It can provide teachers and students fast, data-driven feedback, enabling them to make real-time modifications to their lesson plans and students' academic progress (Teng et al., 2023). This improves the educational process and helps teacher's spot areas that may need more help, which eventually leads to improved student results. On the other hand, worries about instructors losing their jobs as a result of AI integration have surfaced. There is concern that some teaching professions might become obsolete as AI systems get more adept at activities that have historically been completed by educators (Alam, 2021). Teachers might be concerned about the future of their careers and the stability of their jobs.

Students may find AI-driven learning environments less interesting or miss the one-on-one interactions and support that come from working with human educators, among other possible negative effects of AI usage in education (Sinha et al., 2021). Concerns over an over-reliance on AI for learning may also exist, since this might impede the growth of analytical and problem-solving abilities. Moreover, there is ongoing discussion over the consequences for the general standard of education. Even though AI may increase customization and efficiency, it is important to make sure that educational standards are maintained. To sustain high educational standards, concerns about data

privacy, ethical issues, and the fairness and accuracy of AI-driven assessments must be carefully considered (Nassar & Kamal, 2021).

Empirical data: Teachers' and students' perspectives

Teachers' opinions on integrating AI in the classroom are illuminated by empirical evidence gathered via interviews. A lot of educators respond to AI in different ways. Some see it as an effective tool that improves education and expedites administrative duties. According to a National Centre for Education Statistics study, 82% of American instructors said they use technology to organise their classes and homework (Winter et al., 2021). But many educators are also worried that AI will eventually supplant conventional teaching techniques. Wogu et al. (2018) found that 60% of American teachers thought that if technology—including artificial intelligence—was used more often, the need for instructors will decline. The divided views on AI's effects on education are reflected in these responses from educators.

It is clear from looking at teachers' concerns and advantages that they value AI's capacity to lessen administrative strain and free up more time for learning activities. According to a Noodle Markets research from 2019, 84% of instructors said AI technologies that performed administrative duties were useful (Berezina et al., 2019). Concerns exist, nonetheless, about the possible loss of employment and the erosion of one's relationship with pupils. According to Coppola et al. (2021), 63% of educators said AI may take over part of their duties. These interviews provide light on teachers varied and complicated viewpoints on the use of AI in the classroom. In a similar vein, student interviews provide light on their encounters with AI in the classroom. Numerous students report using AI tools in a variety of ways, such as AI-powered learning platforms and applications. According to Korkmaz and Correia (2019), 76% of students utilise instructional technologies driven by AI. Students usually mention how easy and flexible AI is—personalized learning, for example, and how quickly they can access materials. Students have different experiences with AI in terms of their academic success. A few describe success stories, pointing to better grades and comprehension of the course content. Some students believe, meanwhile, that an over-reliance on AI might impair their capacity for critical thought and problem-solving. While students recognised the advantages of AI-driven resources, many expressed worries about the possible detrimental effects on their creativity and originality (Markauskaite et al., 2022). These results highlight the need of integrating AI in a way that is balanced and considers both the benefits and any possible downsides that students may perceive.

Case study: Two UK universities

A comparative case study of the use of AI at the University of Oxford and Imperial College London, two prestigious institutions in the UK, demonstrates different strategies and results. The main purpose of integrating AI at the University of Oxford is to improve administrative procedures. AI-driven chatbots have improved operational efficiency at the institution by drastically cutting down on the time spent answering student queries, according to a study from the administration (Bullock et al., 2023). On the other hand, AI has been widely used into teaching and learning at Imperial College London. Their use of virtual laboratories and AI-powered adaptive learning systems is intended to engage students with interactive information and tailor their learning experiences

(Brogan, 2023). This divergence in emphasis highlights the different approaches and goals that these organisations take.

Oxford places a strong emphasis on data privacy and openness in its policies and practises. According to University of Oxford (2023), their AI policies provide top priority to maintaining the security and protection of student data. Imperial College London, on the other hand, focuses on promoting creativity and technology-driven teaching. Regular faculty training in AI integration and the use of data analytics to customise lectures are part of their practises (Imperial College London, 2023). These disparate methods demonstrate the many strategic factors influencing the creation of AI policies and their implementation in higher education. When comparing these two examples, Oxford places more emphasis on administrative improvements, while Imperial College London stresses a thorough approach to AI integration, especially in teaching and learning. The different foci of these institutions highlight how adaptation and flexibility are necessary for AI adoption and policy creation in higher education. Imperial College London's dedication to pedagogical innovation via AI and the University of Oxford's concentration on data protection and operational efficiency provide important insights into the many paths that academic institutions may take to fully realise the promise of AI.

Conclusion

Understanding the meaning and guiding principles of AI in education clarifies the technology's dual roles as a driver of personalised learning and a source of anxiety around job displacement. Examining academic misconduct regulations at universities highlights how AI integration is changing and how important it is to communicate openly and ethically. The overview of AI in teaching and learning emphasises the dual nature of its effects, which present issues with regard to job displacement and preserving educational quality while also providing educators with efficiency improvements. It is obvious that there are pros and cons of AI, however, for this to work, the universities' need to establish clear communication channels for AI policies, invest in educators' training and professional development and foster collaborative research and development.

References

- Alam, A. (2021): Possibilities and Apprehensions in the Landscape of Artificial Intelligence in Education. In *2021 International Conference on Computational Intelligence and Computing Applications (ICCICA)* (pp. 1-8). Nagpur, India.
- Almaiah, M. A., Alfaisal, R., Salloum, S. A., Hajje, F., Shishakly, R., Lutfi, A., Alrawad, M., Al Mulhem, A., Alkhdour, T. & Al-Marouf, R. S. (2022): Measuring institutions' adoption of artificial intelligence applications in online learning environments: Integrating the innovation diffusion theory with technology adoption rate. *Electronics*, 11(20), 3291.
- Almusaed, A., Almssad, A., Yitmen, I. & Homod, R. Z. (2023): Enhancing Student Engagement: Harnessing "AIED"'s Power in Hybrid Education—A Review Analysis. *Education Sciences*, 13(7), 632.
- Berezina, K., Ciftci, O. & Cobanoglu, C. (2019): Robots, artificial intelligence, and service automation in restaurants. In S. Ivanov & C. Webster (Eds.) *Robots, Artificial Intelligence and Service Automation in Travel, Tourism and Hospitality* (pp. 185-219). Bingley: Emerald Publishing Limited.

- Brik, B., Ksentini, A. & Bouaziz, M. (2020): Federated learning for UAVs-enabled wireless networks: Use cases, challenges, and open problems. *IEEE Access*, 8, 53841-53849.
- Brogan, C. (2023): New £28m Centre to forge the next generation of AI digital healthcare innovators. *Imperial News*, <https://www.imperial.ac.uk/news/249094/new-28m-centre-forge-next-generation/> (Accessed 9 November 2023).
- Bullock, J., Chen, Y., Himmelreich, J., Hudson, V. M., Korinek, A., Young, M. & Zhang, B. (2023): Introduction. In J. Bullock et al. (Eds.) *The Oxford Handbook of AI Governance*. Oxford Handbooks, online edition. Oxford Academic.
- Chassignol, M., Khoroshavin, A., Klimova, A. & Bilyatdinova, A. (2018): Artificial Intelligence trends in education: a narrative overview. *Procedia Computer Science*, 136, 16-24.
- Chen, L., Chen, P. & Lin, Z. (2020): Artificial intelligence in education: A review. *IEEE Access*, 8, 75264-75278.
- Coppola, F., Faggioni, L., Regge, D., Giovagnoni, A., Golfieri, R., Bibbolino, C., Miele, V., Neri, E. & Grassi, R. (2021): Artificial intelligence: radiologists' expectations and opinions gleaned from a nationwide online survey. *La radiologia medica*, 126, 63-71.
- Fitria, T. N. (2021): Artificial Intelligence (AI) in Education: Using AI Tools for Teaching and Learning Process. In *Prosiding Seminar Nasional & Call for Paper STIE AAS*, 4(1), 134-147.
- Gaikwad, A. P., Meshram, K. A., Borse, A. A., Kakpure, K. B., Jadhav, P. & Borade, M. R. (2023): AI in Education: Revolutionizing Learning through Personalization. *Journal of Advanced Zoology*, 45(S-2), 1329-1342.
- Harati, H. (2021): *Examining adaptive learning impact on students' academic performance and perception of self-regulated learning skills*. Doctoral dissertation. Northern Arizona University.
- Huang, X., Zou, D., Cheng, G., Chen, X. & Xie, H. (2023): Trends, research issues and applications of artificial intelligence in language education. *Educational Technology & Society*, 26(1), 112-131.
- Ihekweazu, C., Zhou, B. & Adelowo, E. A. (2023): The Use of Artificial Intelligence in Academic Dishonesty: Ethical Considerations. In *Proceedings of the ISCAP Conference*, 9, 5957. <https://iscap.us/proceedings/2023/pdf/5957.pdf> (Accessed 31 January 2024).
- Imperial College London (2023): Artificial Intelligence. *Imperial*, <https://www.imperial.ac.uk/computing/research/artificial-intelligence/> (Accessed 9 November 2023).
- Kabudi, T., Pappas, I. & Olsen, D. H. (2021): AI-enabled adaptive learning systems: A systematic mapping of the literature. *Computers and Education: Artificial Intelligence*, 2, 100017.
- Korkmaz, C. & Correia, A. P. (2019): A review of research on machine learning in educational technology. *Educational Media International*, 56(3), 250-267.
- Markauskaite, L., Marrone, R., Poquet, O., Knight, S., Martinez-Maldonado, R., Howard, S., Tondeur, J., De Laat, M., Shum, S. B., Gašević, D. & Siemens, G. (2022): Rethinking the entwinement between artificial intelligence and human learning: What capabilities do learners need for a world with AI? *Computers and Education: Artificial Intelligence*, 3, 100056.
- Muñoz, J. L. R., Ojeda, F. M., Jurado, D. L. A., Peña, P. F. P., Carranza, C. P. M., Berríos, H. Q., Molina, S. U., Farfan, A. R. M., Arias-González, J. L. & Vasquez-Pauca, M. J. (2022): Systematic review of adaptive learning technology for learning in higher education. *Eurasian Journal of Educational Research*, 98, 221-233.

- Nassar, A. & Kamal, M. (2021): Ethical Dilemmas in AI-Powered Decision-Making: A Deep Dive into Big Data-Driven Ethical Considerations. *International Journal of Responsible Artificial Intelligence*, 11(8), 1-11.
- Parenti, M. (2018): Design and development of Rexy: a virtual teaching assistant for on-site and online courses. <https://www.politesi.polimi.it/handle/10589/144870> (Accessed 31 January 2024).
- Pedro, F., Subosa, M., Rivas, A. & Valverde, P. (2019): Artificial intelligence in education: challenges and opportunities for sustainable development. Ministerio de Educación del Perú, online. <https://repositorio.minedu.gob.pe/handle/20.500.12799/6533> (Accessed 31 January 2024).
- Sinha, M., Fukey, L. N. & Sinha, A. (2021): AI in e-learning. In *E-learning Methodologies: Fundamentals, technologies and applications* (pp. 107-131). IET Computing Series 40. London: The Institution of Engineering and Technology.
- Srinivasa, K. G., Kurni, M. & Saritha, K. (2022): Harnessing the Power of AI to Education. In *Learning, Teaching, and Assessment Methods for Contemporary Learners: Pedagogy for the Digital Generation* (pp. 311-342). Singapore: Springer Nature Singapore.
- Stoesz, B. M. & Eaton, S. E. (2022): Academic integrity policies of publicly funded universities in western Canada. *Educational Policy*, 36(6), 1529-1548.
- Stone, A. (2023): Student perceptions of academic integrity: a qualitative study of understanding, consequences, and impact. *Journal of Academic Ethics*, 21(3), 357-375.
- Striepe, M., Thomson, S. & Sefcik, L. (2023): Understanding academic integrity education: case studies from two Australian universities. *Journal of Academic Ethics*, 21(1), 1-17.
- Teng, Y., Zhang, J. & Sun, T. (2023): Data-driven decision-making model based on artificial intelligence in higher education system of colleges and universities. *Expert Systems*, 40(4), e12820.
- University of Oxford (2023): Student privacy policy. <https://compliance.admin.ox.ac.uk/student-privacy-policy> (Accessed 9 November 2023).
- Vincent-Lancrin, S. & Vlies, R. van der (2020): *Trustworthy artificial intelligence (AI) in education: Promises and challenges*. OECD Education Working Papers, No. 218. Paris: OECD Publishing.
- Winter, E., Costello, A., O'Brien, M. & Hickey, G. (2021): Teachers' use of technology and the impact of Covid-19. *Irish Educational Studies*, 40(2), 235-246.
- Wogu, I. A. P., Misra, S., Olu-Owolabi, E. F., Assibong, P. A., Udoh, O. D., Ogiri, S. O. & Damasevicius, R. (2018): Artificial intelligence, artificial teachers and the fate of learners in the 21st century education sector: Implications for theory and practice. *International Journal of Pure and Applied Mathematics*, 119(16), 2245-2259.
- Zawacki-Richter, O., Marín, V. I., Bond, M. & Gouverneur, F. (2019): Systematic review of research on artificial intelligence applications in higher education—where are the educators? *International Journal of Educational Technology in Higher Education*, 16(1), 1-27.

Prof. Dr. Elizabeth Achinewhu-Nworgu, Ulster University, United Kingdom and Ireland

Cite this publication as:

Achinewhu-Nworgu, E. (2024): Examine the Notion That AI Has Come to Replace Education Jobs in Classroom Teaching and Learning Done by Human Beings. In *Education in Developing, Emerging, and Developed Countries: Different Worlds, Common Challenges* (pp. 161-168). BCES Conference Books, Vol. 22. Sofia: Bulgarian Comparative Education Society.