AI, Ethics & the Law: Challenges & Opportunities for a South African Legal Graduate in the Era of Technology

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Abstract

Artificial Intelligence is progressively getting integrated into the learning and practice of law, often grimly impacting on ethical research and learning for South Africa students. There is an imperative need for a defined responsible AI use in legal education that inculcates a value system in students necessary for future public administration of justice. Often inadvertent dependence on AI outputs provides the urgent need for a regulatory framework that governs AI's role in both academic research and legal practice. Obsolete academic curriculums that don't embrace the role and relevance of AI must now adapt to the transformative effect of digital technologies and align their research methodologies towards the same. While the time and automated cost-effective use of AI cannot be contested, the need for clear regulatory parameters that groom students into successful and dependable professionals in the administration of justice is a necessary. This qualitative contribution seeks to highlight areas that should inform a potential regulatory template that avoids the use of algorithms that decide indefensible outcomes. Moreover, judicial decisions are anchored on accurate information to avoid compromising the effective administration of justice. Consequently, a curriculum that doesn't prepare a student for such an important function fails public administration system.

Keywords: *artificial intelligence; students; law; internet; curriculum.*

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1. Introduction

The genesis of Artificial Intelligence (AI) that is now at the centre of educational pedagogy emerged from a simple question. "Can a machine think?"[3] This rhetorical question carried some metaphoric inquiry whose computational research

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[3] A. M. Turing, "Computing Machinery and Intelligence," *Mind* 59, no. 236 (1950): 433–60, https://doi.org/10.1093/mind/lix.236.433.

birthed AI.[4] This was only seven decades ago, illustrating how an English philosopher, cryptanalyst and science pioneer Alan Turing shaped history by initiating computational processes that led to the development of AI.[5] In his seminal work, 'Computing Machinery and Intelligence,'[6] Turing, through an imitation game, laid the foundation for what is now commonly referred to as the 'Turing Test', whose objective was to determine if a machine was capable of thinking, just a like a human being.[7] The test was simple: In a Victorian-style game, it involves a man and a woman that are replaced by a computer program as one of the participants.[8] The questioner was put in a position in which he determined which was a computer, and a human being. Failure to tell the difference between the machine and the human ultimately lead to a supposition that a computer carried a capacity of a human mind considered to be 'thinking', or to possess 'artificial intelligence.'[9] The 'Intelligence' connotes the capacity to satisfy its aims,[10] as it "denotes the way an entity deals with different types of input in order to present a suitable outcome."[11] Students are trained to research and think, but if AI is used to think for students, and not assist them in learning, it creates complex ethical pedagogical challenges; hence the need to reorient such a technological progression towards an ethical instruction paradigm. This contribution is adopting that approach.

Two years after Turin's death, 'Artificial Intelligence' was first coined at the 1956 'historic' Dartmouth Conference which involved experts in neural networks, computation theory, and automata theory, exploring how machines might simulate human intelligence.[12] It precisely emerged from a neurotic desire to create - 'thinking machines' – and, later AI, arising from curiosity to see how to 'learn' machines from practical societal experiences, which would be "based on the idea that human cognitive functions could be simulated via computer systems."[13] As a branch of science, AI

[4] Lawrence Livermore National Laboratory, "The Birth of Artificial Intelligence (AI) Research," *Lawrence Livermore National Laboratory*, accessed October 2, 2026, https://st.llnl.gov/news/look-back/birth-artificial-intelligence-ai-research.

[5] Turing, "Computing Machinery and Intelligence."

[6] B. Jack Copeland, ed., *The Essential Turing* (Clarendon Press, 2004), https://doi.org/10.1093/oso/9780198250791.001.0001; see also Mostafa Zafari et al., "Artificial Intelligence Applications in K-12 Education: A Systematic Literature Review," *IEEE Access* 10 (2022): 61905–21, https://doi.org/10.1109/access.2022.3179356.

[7] Gwo-Jen Hwang and Yun-Fang Tu, "Roles and Research Trends of Artificial Intelligence in Mathematics Education: A Bibliometric Mapping Analysis and Systematic Review," *Mathematics* 9, no. 6 (2021): 584, https://doi.org/10.3390/math9060584.

[8] Turing, "Computing Machinery and Intelligence."

[9] Turing, "Computing Machinery and Intelligence."

[10] John McCarthy, *What Is Artificial Intelligence?* (Stanford University, 2007), 2, https://www-formal.stanford.edu/jmc/whatisai.pdf.

[11] Shane Legg and Marcus Hutter, "Universal Intelligence: A Definition of Machine Intelligence," *Minds and Machines* 17, no. 4 (2007): 391–444, https://doi.org/10.1007/s11023-007-9079-x.

[12] Sophie Magnet, "A Brief History of AI: From Turing to Modern Artificial Intelligence," *365 Data Science*, updated April 24, 2026, https://365datascience.com/trending/a-brief-history-of-ai/. The 1956 conference at Dartmouth College in New Hampshire explored the possibility of machines simulating human intelligence. Its organizers included John McCarthy, Marvin Minsky, Nathaniel Rochester, and Claude Shannon.

[13] Magnet, "A Brief History of AI."

"simulate human intelligence and mimic their actions on computational devices"[14] as it, just like a human mind, reasons, research-computationally meaning, and or learns to provide requested suitable outcomes.[15] Turing is thus considered the 'father of theoretical computer science,'[16] laying the foundation for what has become one of the most transformative technologies in human history.[17]

Nonetheless, the transformative nature of AI carries a double-edged sword: while providing cost effective and expedited learning frameworks, the technology has side-effects carrying grave ethical implications in academic research. Yet, there is need to create a responsible student and later graduate that respect and contribute towards affective public administration, and the administration of justice in particular. This contribution advocates for ethical AI exploitation that prevents abuse. by creating a productive symbiotic interaction. Notwithstanding, emerging legal precedents suggests negligent AI use that can negatively impact both classroom and court processes.[18] The reciprocal interaction between courtroom and classroom lie in the fact that the former considerably relies on the jurisprudence developed by the latter. In the South African precedent *Mavundla v MEC: Department of Co-Operative Government and Traditional Affairs KwaZulu-Natal and Others* case, (the Mavundla case) legal practitioners filed court papers relying non-existent case law generated by generative ChatGPT.[19] The court highlighted that allowing AI-fabricated "hallucinations" to permeate into public court documents was "irresponsible and unprofessional."[20] The gravity of the misconduct was such that South Africa's Legal Practice Council, the statutory body that regulates legal practitioners was called upon to investigate. In *Parker v Forsyth*, the court noted that "the efficiency of modem technology still needs to be infused with a dose of good old-fashioned independent reading."[21] Moreover, the Code of Conduct for Legal Practitioners provides no guidance on the use of AI, and direction is only emerging from developing precedents in the use of the technologies.[22] Van Eck notes

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[14] Robert Plant, "An Introduction to Artificial Intelligence," in *32nd Aerospace Sciences Meeting and Exhibit* (American Institute of Aeronautics and Astronautics, 1994), https://doi.org/10.2514/6.1994-294.

[15] Legg and Hutter, "Universal Intelligence."

[16] Jermaine Harris, "Alan Turing: The Father of Computer Science and Artificial Intelligence," *History Rise*, August 11, 2018, https://historyrise.com/article/alan-turing-the-father-of-computer-science-and-artificial-intelligence/.

[17] Magnet, "A Brief History of AI."

[18] Jacques Matthee and Grey Stopforth, "AI in the Courtroom: The Dangers of Using ChatGTP in Legal Practice in South Africa," *The Conversation*, November 4, 2025, https://theconversation.com/ai-in-the-courtroom-the-dangers-of-using-chatgtp-in-legal-practice-in-south-africa-267691.

[19] *Mavundla v. MEC: Department of Co-Operative Government and Traditional Affairs KwaZulu-Natal and Others*, [2025] ZAKZPHC 2; 2025 (3) SA 534 (KZP) (January 8, 2025), https://www.saflii.org/za/cases/ZAKZPHC/2025/2.html.

[20] *Mavundla v. MEC*, paras. 49–51.

[21] *Parker v. Forsyth NNO and Others*, [2023] ZAGPRD 1, para. 90 (June 29, 2023), https://lawlibrary.org.za/akn/za-gp/judgment/zagprd/2023/1/eng@2023-06-29.

[22] Michele van Eck, "What Have the Courts Said about the Ethical Use of Artificial Intelligence in Legal Practice?" *De Rebus*, May 1, 2025, https://www.derebus.org.za/what-have-the-courts-said-about-the-ethical-use-of-artificial-intelligence-in-legal-practice/. Writes: "As the Code of Conduct for all Legal Practitioners, Candidate Legal Practitioners and Juristic Entities (GG42364/29-3-2019) read with s 36(2)

that despite the *Peter v Forsyth* and Mavundla cases warnings, "the proper use of AI has increasingly become a point of ethical concern in the legal profession."[23] Matthee and Stopforth posit that: "*We are legal academics who have been doing research on the growing use of AI, particularly generative AI, in legal research and education. While these technologies offer powerful tools for enhancing efficiency and productivity, they also present serious risks when used irresponsibly. Aspiring legal practitioners who misuse AI tools without proper guidance or ethical grounding risk severe professional consequences, even before their careers begin. Law schools should equip students with the skills and judgment to use AI tools responsibly. But most institutions remain unprepared for the pace at which AI is being adopted*."[24]

The academics posit that there are a few local universities that have initiated or developed AI use policies and embarked on AI training for students.[25] This now requires proactive and structured appropriate student approach to AI ethical use education in law schools. The Mavundla case highlighted the ramifications of limited human intervention in AI research use and other online research tools. The Mavundla case is not isolated, with similar global precedents such as the United States 2024 *Park v Kim* case;[26] the Canadian case of *Zhang v Chen*,[27] demonstrating the challenges around lawyers filing litigation papers carrying ChatGPT fabrications.[28] As such, Mathee & Stopforth recommended that: "*The lesson here extends far beyond one law firm. Integrity, accuracy and critical thinking are not optional extras in the legal profession. They are core values that must be taught and practised from the beginning, during legal education. The classroom is the first courtroom … [because, serving as a warning to universities] … If experienced legal practitioners can fall into AI traps regarding law, students still learning to research and reason can too*."[29]

Educational institutions carry credibility that authenticate the students'

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of the Legal Practice Act 28 of 2014 has yet to provide guidance on the ethical use of AI or technology in general."

[23] Matthee and Stopforth, "AI in the Courtroom."

[24] Matthee and Stopforth, "AI in the Courtroom."

[25] Matthee and Stopforth, "AI in the Courtroom."

[26] *Park v. Kim*, 91 F.4th 610 (2d Cir. 2024) (January 30, 2024), https://www.govinfo.gov/content/pkg/USCOURTS-ca2-22-02057/pdf/USCOURTS-ca2-22-02057-0.pdf. The Court of Appeals addressed the conduct of Park's attorney, Jae S. Lee. Lee cited a non-existent court decision in her reply brief to the court, which she admitted she generated using an artificial intelligence tool, ChatGPT. The court deemed this action as falling below the basic obligations of counsel and referred Lee to the court's Grievance Panel. The court emphasized that attorneys must ensure that their submissions to the court are accurate and that they have conducted a reasonable inquiry to confirm the existence and validity of the legal authorities on which they rely.

[27] *Zhang v. Chen*, 2024 BCSC 285 (February 20, 2024), https://www.bccourts.ca/jdb-txt/sc/24/02/2024BCSC0285cor1.htm. The decision is described here as a landmark decision addressing the misuse of artificial intelligence ("AI") tools in a British Columbia legal proceeding. This decision serves as an important reminder of counsel's ethical obligations when employing such tools—including, critically, the duty of competence and the duty to verify outputs produced by AI. It also underscores the lack of official guidance on the use of AI tools in BC's courtrooms, in particular around whether disclosure of use is required.

[28] Matthee and Stopforth, "AI in the Courtroom."

[29] Matthee and Stopforth, "AI in the Courtroom."

qualifications for entrance into the professional domain. The students' interactions with AI begins at tertiary institutions, and shift into the professional workplace after graduation. It therefore behoves upon institutions to provide an ethical and/or responsible AI focus that moulds a responsible human-centred (HCAI) use of technology without compromising legitimate research outputs. Moreso given that research findings have demonstrated that: "*students widely but informally use AI tools for tasks such as essay writing and assignment preparation [however] [T]he absence of formal institutional guidance has led to ethical ambiguities and inconsistent usage practices.*"[30]

Indisputably, Al technologies are already creating efficiency, raising production, stimulating innovation across the globe.[31] To highlight AI's phenomenal full impact and implications, its global acceptance has been faster than both the personal computer and the Internet, having a 53% population-level adoption within three years of its introduction.[32] The benefits are immense with leading AI companies: "*reaching meaningful revenue scale in a fraction of the time it took previous technology generations, and global corporate investment more than doubled in 2025. Organizational adoption rose to 88%, and early estimates suggest the consumer value of generative AI has grown substantially within a year*."[33]

Nonetheless, systems built around AI are struggling to keep up. Notably, current AI research demonstrates that the research governance frameworks, educational systems, and the data infrastructure that tracks AI's full implications and impact are outpaced by the technology itself.[34] Of critical concern becomes the gap between what AI can do and how prepared educational institutions are in managing it in the context of student supervision that facilitates the production of credible research outputs. While AI continues to exert phenomenal effect on industries, environment, health, economy and educational systems, this contribution explores its effect on the former; and its profound risk to research outputs and how a policy and regulatory framework can manage it for industrious usage. Ultimately, students shall be key participants in the effective administration of justice, ensuring that laws are applied fairly and consistently, protecting human rights enhancing and upholding the rule of law. Despite its positive cost and time-effectiveness impact, there are growing concerns around AI ethics in research.[35] Already, there is considerable students' access to powerful generative AI, such as ChatGPT and DALL.E. Therefore, a contribution around responsible AI use that

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[30] Tigere Paidamoyo Muringa, "Exploring Ethical Dilemmas and Institutional Challenges in AI Adoption: A Study of South African Universities," *Frontiers in Education* 10 (2025): 1628019, https://doi.org/10.3389/feduc.2025.1628019.

[31] Eugenio M. Cerutti et al., *The Global Impact of AI: Mind the Gap*, IMF Working Paper 25/76 (International Monetary Fund, 2025), https://doi.org/10.5089/9798229008570.001.

[32] Sha Sajadieh et al., *The AI Index 2026 Annual Report* (Stanford Institute for Human-Centered Artificial Intelligence, 2026), 3, https://doi.org/10.48550/arXiv.2606.15708.

[33] Sajadieh et al., *The AI Index 2026 Annual Report*, 3.

[34] Sajadieh et al., *The AI Index 2026 Annual Report*, 2.

[35] Sara Brown, "Why Neural Net Pioneer Geoffrey Hinton Is Sounding the Alarm on AI," *MIT Sloan*, May 23, 2023, https://mitsloan.mit.edu/ideas-made-to-matter/why-neural-net-pioneer-geoffrey-hinton-sounding-alarm-ai.

outlines and advocates for a coherent and delineated human values and ethics in the field of law and education becomes compulsory. Already, research has revealed a surging number of studies exploring AI integration in higher education.[36] Fu & Weng notes that: "no consensus has reached regarding the meanings and relationship of ethical and responsible AI, and few studies exist about key characteristics and stakeholders of responsible AI in educational contexts."[37] Turin's computational adventure is presenting both opportunities and challenges, particularly in the educational sector.

2. Methodology and Paper Framework

This qualitative contribution extensively relies on precedents, journals and emerging online news reports around the benefits and effects of AI that contributes towards providing findings and recommendations. The key findings are that there are no legal, academic and state institutional AI regulatory frameworks to effectively guide AI exploitation. Legislative AI interventions have been discussed without being implemented. Furthermore, there are not any curriculums around AI and training at universities. At government level, the South African National Draft AI policy document was withdrawn after carrying fabricated research material. There is therefore need to expedite its further review and production after a careful and systematic research that takes cognisant of domestic economic and cultural considerations. The introduction has been outlined and shall be followed by a section that defines AI, giving it the educational context. Thereafter, ethical, responsible, and transparent AI use is discussed, followed by an engagement on its benefits and risks. Current government and institutional interventions are discussed, followed by an extensive assessment of their emerging shortfalls, before making recommendations and conclusion.

3. Defining AI – With the Educational Sector Context

Complex technologies carry definitional burdens. Moreso, existing generative AI precedents are providing challenges for the judiciary in defining traditional terms in line with current technological exigencies. The United Kingdom's *Getty Images v Stability AI* case demonstrates the challenges the law faces against complex AI advancements, which now requires novel interpretations to establish liability for technical infringements.[38] Because of the complex and evolving nature of digital technologies, the Getty Images precedent "*ultimately gave very little clarity on the*

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[36] Zafari et al., "Artificial Intelligence Applications in K-12 Education"; see also Lijia Chen et al., "Artificial Intelligence in Education: A Review," *IEEE Access* 8 (2020): 75264–78, https://doi.org/10.1109/access.2020.2988510.

[37] Yao Fu and Zhenjie Weng, "Navigating the Ethical Terrain of AI in Education: A Systematic Review on Framing Responsible Human-Centered AI Practices," *Computers and Education: Artificial Intelligence* 7 (2024): 100306, https://doi.org/10.1016/j.caeai.2024.100306.

[38] *Getty Images (US) Inc. and Others v. Stability AI Ltd.*, [2025] EWHC 2863 (Ch) (November 4, 2025), https://caselaw.nationalarchives.gov.uk/ewhc/ch/2025/2863.

legality of AI models being trained on copyright works,"[39] providing urgency in the UK government consultations to create policy and legal frameworks addressing the intricate interactions between AI generative technologies and the existing law.[40] Such a legal lacuna demonstrates the challenges a legal graduate faces before, and after graduation. As such, educational institutions, and the legal fraternity are battling to adapt and provide appropriate answers to emerging AI technologies. The graduate emerges into a legal profession where the judiciary has, "*failed to deliver any real substance or steer to assist rightsholders or AI developers. Without a decision on how training of AI models will be viewed in an analysis of primary copyright infringement, and with fact-specific findings on secondary copyright infringement, there is limited indication of whether and how AI models can train using third-party content.*"[41]

Despite an increasing number of AI research, there is no consensus on AI definition. It's often interpreted in the context of "simulation of human intelligence,"[42] in which human capabilities are digitally echoed to human perfection and even better. McCarthy posits that "*For the present purpose, the artificial intelligence problem is taken to be that of making a machine behave in ways that would be called intelligent if a human were so behaving*"[43] There is a definitional thread that calculatedly recognises the human function capacity element of the AI. This is further buttressed by Dignum's assessment of AI that he describes as; "*a socio-technical ecosystem, recognizing the interaction between people and technology, and how complex infrastructures affect and are affected by society and by human behavior*."[44] Fy & Weng recognises Dignum's important focus that elucidates and highlights the relevance and importance of understanding AI's societal impacts, and human's interaction with AI and its contribution to the ecosystem.[45] This therefore goes beyond algorithms in the referred to "*socio-technical relations that can shape human behavior and interactions individually and collectively*."[46] UNSECO abstains from providing an authoritative AI definition, alive to the evolving nature of technology which can easily disrupt previous technical assessments.[47] Nevertheless, its tentative position provides: "*AI systems as systems which have the capacity to process data and information in a way*

[39] Paul, Weiss, Rifkind, Wharton & Garrison LLP, "Getty Images v Stability AI: The UK Courts' First Word on Use of Copyright Works in AI Model Development," *Paul, Weiss*, November 24, 2025, https://www.paulweiss.com/insights/client-memos/getty-images-v-stability-ai-the-uk-courts-first-word-on-use-of-copyright-works-in-ai-model-development.

[40] Robert Booth, "AI Firm Wins High Court Ruling after Photo Agency's Copyright Claim," *The Guardian*, November 4, 2025, https://www.theguardian.com/media/2025/nov/04/stabilty-ai-high-court-getty-images-copyright.

[41] Paul, Weiss, "Getty Images v Stability AI."

[42] Fu and Weng, "Navigating the Ethical Terrain of AI in Education."

[43] John McCarthy et al., "A Proposal for the Dartmouth Summer Research Project on Artificial Intelligence, August 31, 1955," *AI Magazine* 27, no. 4 (2006): 12–14, https://doi.org/10.1609/aimag.v27i4.1904.

[44] Virginia Dignum, "Responsible Artificial Intelligence—From Principles to Practice: A Keynote at TheWebConf 2022," *ACM SIGIR Forum* 56, no. 1 (2023): 3, https://doi.org/10.1145/3582524.3582529.

[45] Fu and Weng, "Navigating the Ethical Terrain of AI in Education."

[46] Fu and Weng, "Navigating the Ethical Terrain of AI in Education."

[47] UNESCO, *Recommendation on the Ethics of Artificial Intelligence* (UNESCO, 2022), https://unesdoc.unesco.org/ark:/48223/pf0000381137.

that resembles intelligent behaviour, and typically includes aspects of reasoning, learning, perception, prediction, planning or control."[48] UNESCO has also provided recommendations on AI ethical policy frameworks and use in educational institutions. Such input is helpful in tailoring domestic policy frameworks that seeks to achieve a symbiotic and mutually beneficial AI-human interactions. The UNESCO recommendations were informed by the "*profound and dynamic positive and negative impacts of [AI] on societies, environment, ecosystems and human lives, including the human mind.*"[49] Moreso because it says that AI influences human thinking, interaction and decision-making affecting education, human, social and natural sciences, culture, communication and information. Hence it has become an unavoidable technical diet that can potentially shape society for the better it is not abused.

4. Ethical, Responsible & Transparent AI Use

AI's role in the digital ecosystem, and in particular the extent to which it is deployed to advance education through creating learning and teaching systems requires the need for a responsible human-centred AI use that recognises the power and impact of its disposition. The undoubted AI paradox carry the boon and bane's beneficial and harmful side-effects.[50] Academic research entails ethically grounded research standards that encourages credible original outputs devoid of misappropriation of content. As such, educational institutions have traditional ethical policy frameworks that help solidify their global reputations and integrity of qualifications.

AI technologies can be of great service to humanity but there are fundamental ethical concerns regarding, *inter alia*, its biases that can aggravate economic divides, hence growing calls for transparency and understanding of its algorithms workings.[51] This becomes imperative coming against a background of an acceleration in the use of AI and Information and Communication Technologies, (ICTs). Moreover, AI has continued to a play growing influence on education.[52] This contribution becomes relevant to the extent that AI technologies have been leveraged to supplement teaching and learning. AI adaptive tutoring systems have personalised teaching and learning providing expedited automatic student feedback and assessments.[53] Such impact of AI on various educational domains makes the interrogation, conceptualisation and responsible AI use imperative, offering foresight around providing an ethical, resourceful and responsible legal graduate that advances the efficient administration of

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[48] UNESCO, *Recommendation on the Ethics of Artificial Intelligence*.
[49] UNESCO, *Recommendation on the Ethics of Artificial Intelligence*.
[50] Brady D. Lund et al., "AI and Academic Integrity: Exploring Student Perceptions and Implications for Higher Education," *Journal of Academic Ethics* 23, no. 3 (2025): 1545–65, https://doi.org/10.1007/s10805-025-09613-3.
[51] Matthee and Stopforth, "AI in the Courtroom."
[52] Ido Roll and Ruth Wylie, "Evolution and Revolution in Artificial Intelligence in Education," *International Journal of Artificial Intelligence in Education* 26, no. 2 (2016): 582–99, https://doi.org/10.1007/s40593-016-0110-3.
[53] Fu and Weng, "Navigating the Ethical Terrain of AI in Education."

justice.[54] Earlier, this contribution highlighted the effects of AI hallucinations in litigation.[55] Sutherland, advocating for a responsible diligent legal practitioner in preparing papers for litigation, which is equally applicable in the human-centred AI use, posited that: "*[it is] the duty of legal practitioners to respect and support the process of court by making proper disclosure and not mislead the court. It is argued that the culture of contemporary litigation must be more respectful of this interrelationship between the judge and the legal practitioner to produce efficient and fair litigation … The pressures on the judge and on the legal practitioner when busy and, perhaps, overwhelmed, create an environment of fatigue ripe for error, oversight and slackness. The essence of professionalism is being resilient and compliant with ethical duties under such conditions. The ethical responsibilities of the judge and of the legal practitioners are in harmony. The symbiotic relationship between the roles of judge and legal practitioner warrants the respect necessary to produce efficient and fair litigation.*"[56]

In the contemporary AI age, legal ethics have become more important as illustrated in the Mavundla case, wherein Bezuidenhout J called it the "age of instant gratification," in that for lawyers involved in legal research the "*efficiency of modem technology still needs to be infused with a dose of good old-fashioned independent reading*," hence the court "*expect lawyers to bring a legally-independent and questioning mind to bear on, especially, novel legal matters, and certainly not to merely repeat in parrot-fashion, the unverified research of a chatbot*."[57] There is a distinction between 'responsible AI' and 'ethical AI' use which is often used interchangeably.[58] Dignum refers to ethics as: "*the study of moral and values, while responsibility is the practical application of not only ethical concerns but also legal, economic and cultural ones to decide what benefits society as whole*."[59] Further, Dignum, defines 'responsibility' as: "*the role of people themselves in their relation to AI systems. As the chain of responsibility grows, means are needed to link an AI system's decisions to its input data and to the actions of stakeholders involved in the system's decision. Responsibility is not just about making rules to govern intelligent machines, but also about the role of people and institutions in the effects of developing and using the system*."[60]

Accordingly through government interventions, responsible AI use would further entail generative AI companies being encouraged to develop AI systems adhering to human values and needs, where active student/scholars participation can

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[54] *Chetty v. Perumaul*, [2021] ZAKZPHC 66, para. 58 (September 21, 2021), https://www.saflii.org/za/cases/ZAKZPHC/2021/66.html. The legal practitioner's duty to the court "requires that lawyers act with honesty, candour and competence . . . lawyers must not mislead the court and must be frank in their responses and disclosures to it."

[55] *Mavundla v. MEC*, paras. 42–51.

[56] Roland Sutherland, "The Dependence of Judges on Ethical Conduct by Legal Practitioners: The Ethical Duties of Disclosure and Non-Disclosure," *South African Judicial Education Journal* 4, no. 1 (2021): 47, https://www.judiciary.org.za/images/SAJEI/SAJEI_JOURNAL_VOL._4_-_ISSUE_1_-_2021.pdf.

[57] *Parker v. Forsyth*, para. 90.

[58] Fu and Weng, "Navigating the Ethical Terrain of AI in Education."

[59] Dignum, "Responsible Artificial Intelligence—From Principles to Practice."

[60] Dignum, "Responsible Artificial Intelligence—From Principles to Practice", 4.

help create legitimate research outcomes operating from an ethical framework where the overall system can be trusted by the society.[61] This approach can be done without stifling innovation, balancing the interests of society and developers. There are however many international guidelines and proposed regulatory frameworks/principles that inform responsible and/or ethical AI use, such as the UNESCO AI recommendations on the ethics of AI.[62] This is aided by other ongoing scientific inquiries which retain research ethics as a key component of institutional policy frameworks. Such research must be guided by regulation and governance of the ethical conduct of students. Research ethics committees at South African universities are often guided by obsolete policy and curriculum frameworks that do not take cognisant of emerging AI technologies. Yet, students are increasingly engaging with AI in their research,[63] to improve their academic performance and learning efficiency.[64] Such AI tools optimise learning outcomes,[65] because they are intuitive and simple to integrate into their academic study routines.[66] However, many factors account for AI uptake at universities. Muringa cites peer pressure for current AI uptake, particularly given that it is often accompanied by persuasive peers or institutional recommendations, especially when such endorsements are aligned with realistic academic expectations.[67]

While institutional support for AI varies at South Africa's institutions of higher learning, this contribution seeks to advance ethical policy frameworks that departs from holding AI technologies accountable for actions and decisions of end users but encourages student AI responsible interactions focused on ethical academic values contributing towards sustainable development. In this regard, education institutions must therefore play a significant role in creating a responsible human-centred AI use, whose application does not compromise quality research outcomes. Shneiderman termed it a second 'Copernican Revolution,'[68] which he posits: "*reframes AI by replacing algorithms and AI systems with humans at the center*."[69] Feedbacks without

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[61] Dignum, "Responsible Artificial Intelligence—From Principles to Practice", 4.

[62] UNESCO, *Recommendation on the Ethics of Artificial Intelligence*, 20–23. UNESCO identifies ten principles: "Proportionality and Do No Harm," "Safety and security," "Fairness and non-discrimination," "Sustainability," "Right to Privacy, and Data Protection," "Human oversight and determination," "Transparency and explainability," "Responsibility and accountability," "Awareness and literacy," and "Multi-stakeholder and adaptive governance and collaboration."

[63] Muringa, "Exploring Ethical Dilemmas and Institutional Challenges in AI Adoption."

[64] Sage Kelly et al., "What Factors Contribute to the Acceptance of Artificial Intelligence? A Systematic Review," *Telematics and Informatics* 77 (2023): 101925, https://doi.org/10.1016/j.tele.2022.101925.

[65] Kang Li, "Determinants of College Students' Actual Use of AI-Based Systems: An Extension of the Technology Acceptance Model," *Sustainability* 15, no. 6 (2023): 5221, https://doi.org/10.3390/su15065221.

[66] Brandon Nacua Obenza et al., "Analyzing University Students' Attitude and Behavior toward AI Using the Extended Unified Theory of Acceptance and Use of Technology Model," *American Journal of Applied Statistics and Economics* 3, no. 1 (2024): 99–108, https://doi.org/10.54536/ajase.v3i1.2510.

[67] Muringa, "Exploring Ethical Dilemmas and Institutional Challenges in AI Adoption."

[68] The Copernican Revolution was the transformative shift from an Earth-centered to a Sun-centered model of the universe, fundamentally altering science, philosophy, and human understanding of our place in the cosmos.

[69] Ben Shneiderman, "Human-Centered Artificial Intelligence: Three Fresh Ideas," *AIS Transactions on*

human effort can in some unfortunate hallucination instances misdirect students, creating research outcomes that misrepresents reality. Misinformation from unverified AI fabrications contaminates informed discourse given the ubiquity of the Internet and accompanying systems creating information accessibility frameworks. Fu &Weng encourage future policy frameworks that put students and academics at the "center of attention" in which educational institutions prioritise maintaining human control.[70] In this instance, humans are being encouraged to be adaptive to the needs of AI, without its developers being encouraged to design AI generative models that are sensitive to existing human values and ethics. Often AI designs have been criticised for manipulating both instructors and student while prioritising innovation geared towards capital growth.[71] The extent to which AI end users can be in control of technologies, given AI capacity to evolve and elude human attention might be difficult to comprehend. Nonetheless, Shneiderman calls for humans to: "*to be in control of technologies that support their abilities, raise their self-efficacy, respect their responsibility, and enable their creativity*."[72] While the role of teachers remains relevant, there are fears emerging from educators about the threats posed by AI towards their potential 'teacher-roles' displacement in class which is critical for a more human centred role in AI pedagogy.[73] Furthermore, there have been calls for AI developers to reveal transparency in algorithms whenever they design and release their models.[74] Jang et al posited that: "*It is essential for AI to explain the reasons for its decisions.*"[75] In a research, McDonald and Pan revealed that some students believed that, "*the algorithms themselves may be problematic, but a lack of transparency makes it difficult to trace the root of the problem. One student touches on the way in which AI is unique to their maker, part of a black-box process that can result in misuse because its inner workings are not fully visible*."[76]

Such growing calls for AI to disclose how its models reach its decisions for user transparency purposes emerges because the end users find the technology complex, and opaque.[77] Chan & Hu note that in a research, a student warned that: "*It is always dangerous to use things you cannot understand.*"[78] This reflects the inherent risk

Human-Computer Interaction 12, no. 3 (2020): 112, https://doi.org/10.17705/1thci.00131.

[70] Fu and Weng, "Navigating the Ethical Terrain of AI in Education."

[71] Shneiderman, "Human-Centered Artificial Intelligence", 112.

[72] Shneiderman, "Human-Centered Artificial Intelligence", 116.

[73] Fu and Weng, "Navigating the Ethical Terrain of AI in Education."

[74] Yeonju Jang et al., "Development and Validation of an Instrument to Measure Undergraduate Students' Attitudes toward the Ethics of Artificial Intelligence (AT-EAI) and Analysis of Its Difference by Gender and Experience of AI Education," *Education and Information Technologies* 27, no. 8 (2022): 11635–67, https://doi.org/10.1007/s10639-022-11086-5.

[75] Jang et al., "Development and Validation of an Instrument."

[76] Nora McDonald and Shimei Pan, "Intersectional AI: A Study of How Information Science Students Think about Ethics and Their Impact," *Proceedings of the ACM on Human-Computer Interaction* 4, no. CSCW2 (2020): 10, https://doi.org/10.1145/3415218.

[77] Fu and Weng, "Navigating the Ethical Terrain of AI in Education."

[78] Cecilia Ka Yuk Chan and Wenjie Hu, "Students' Voices on Generative AI: Perceptions, Benefits, and Challenges in Higher Education," *International Journal of Educational Technology in Higher Education* 20, no. 1 (2023): 43, https://doi.org/10.1186/s41239-023-00411-8.

associated with the use of AI for teaching and learning purposes, underscoring the need for transparency model frameworks that build trust in the interactions between academics, students and AI.

5. AI Risks and Benefits

Undoubtedly, AI has made tremendous impact in education, enhancing the interactions between the learner and instructor. The critical factors to consider in AI educational quality augmentation lies in the "*time efficiency, energy efficiency, ease of access, and other positive effects.*"[79] If AI is overused, especially in problem-solving processes, it can retard critical thinking, and such overreliance can also foster indolence. This is significant because critical thinking arising from independent personal initiatives in research methodologies over time helps the student, once he ventures into the industry to improve problem solving and decision-making skills.[80] Traditional teaching methods have been designed to help graduates achieve such industry skills hence the need for the AI to increasingly get integrated into the educational pedagogy, without compromising independent research. Axiomatically, challenges around plagiarism and or misappropriation of information have previously compromised the quality of research works.[81] AI facilitates information accessibility, this provides room for either plagiarism[82], and or incorporation of hallucinations in both educational and public research outputs.[83] This underscores the relentless need for a human centred approach complementing AI use. Moreso, in future, there is potential for physical teacher displacement by AI.[84] Reports suggests that 31% of AI experts suggested that AI could lead to fewer jobs for teachers.[85] Also, nearly a third of the experts surveyed predicted that AI will put teaching jobs "at risk" in the next 20 years.[86] At present, AI might not replace teachers but augment their roles by automating routine tasks and enhancing personalised learning. Nonetheless, the upside of AI-teacher function is expected to allow teachers to devote time to mentoring students while AI resorts to giving students instructions. While AI educational models are designed to replace

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[79] Zafari et al., "Artificial Intelligence Applications in K-12 Education."
[80] UNESCO Institute for Statistics, *International Standard Classification of Education: ISCED 2011* (UNESCO Institute for Statistics, 2012), https://unesdoc.unesco.org/ark:/48223/pf0000219109.
[81] Amanda Martha Matee Mphahlele and Sioux McKenna, "Plagiarism in the South African Higher Education System: Discarding a Common-Sense Understanding," in *Towards Consistency and Transparency in Academic Integrity*, ed. Salim Razı, Irene Glendinning, and Tomáš Foltýnek (Peter Lang, 2019), 31–41, https://doi.org/10.3726/b15273.
[82] Mphahlele and McKenna, "Plagiarism in the South African Higher Education System."
[83] Temaz Tra, "Jan 2027 Reset: South Africa Fixes Fake AI Policy Leak," *Memeburn*, May 31, 2026, https://memeburn.com/jan-2027-reset-south-africa-fixes-fake-ai-policy-leak/. He writes that: "South Africa's AI policy reset now has a new target: January 2027. The government wants a revised draft open for public comment after withdrawing an earlier version that contained fake, possibly AI-generated references."
[84] Arthur Jones II, "Artificial Intelligence Is Here. Will It Replace Teachers?" *ABC News*, September 4, 2025, https://abcnews.com/Politics/artificial-intelligence-replace-teachers/story?id=125163059.
[85] Jones II, "Artificial Intelligence Is Here."
[86] Jones II, "Artificial Intelligence Is Here."

teacher functions, there is an inherent danger in undermining the effectiveness of human interaction necessary for the development of an ethical student, which might be missing from an often-dispassionate AI model.[87] Empathy is part of human nature, and technology cannot correspond with that, and occasionally students need that. Holmes *et al*, positions the implications of this relationship through rhetorical questions: "*As the AI becomes more sophisticated, what will be the impact on their role (might they change from teacher to mentor?) or on their jobs, as they will always be more expensive than machines? Similarly, with students spending more time engaging one-on-one with the AI programmes, what will be the impact on human interactions (teacher-student and student-student) and on broader understandings of learning?*"[88]

AI's influence in education resulted in the creation of a tool to enhance the functionalities of its systems through AI-education system (AIEd).[89] The benefits of such systems lie in the AI-task automation and personalised learning created for specific students. Zafari et al noted that: "AI will most likely be used in the classroom of the future to personalize learning for each individual student. Students can receive insightful feedback and supplementary support from AI coaches."[90] While human interventions is important, this technological intermediation allows students to learn, make mistakes, and receive individual feedback without the occasional harsh human-judgment that can be demoralising.[91] Notwithstanding, this carrying a deep psychological dimension that machines cannot always be expected to understand, there is also need for human-centred monitoring systems that ensures desired objectives are realised. Such AI powered Intelligent Tutoring Systems (ITS) have been accessible to students, which, according to Zafari, "*adjust the educational content with the ability of the student so, the learning experience becomes more enjoyable for them. Students may also benefit from the use of AI to do certain learning activities simpler. Additionally, it is believed that the students of today will work in the future where AI is integrated into different parts of their everyday life, and it is of paramount importance that educational institutions start to add AI into their courses*."[92]

AI is in this regard lauded for performing the assessment of the work of students and evaluating teachers and student performance tasks rapidly and accurately thus improving the teachers' efficiency.[93] This is important where the teacher-student ratio is high, creating a huge teaching and marking workload. While the AI model is

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[87] Wayne Holmes et al., "Stakeholder Perspectives on the Ethics of AI in Distance-Based Higher Education," *The International Review of Research in Open and Distributed Learning* 24, no. 2 (2023): 96–117, https://doi.org/10.19173/irrodl.v24i2.6089.

[88] Holmes et al., "Stakeholder Perspectives on the Ethics of AI", 105.

[89] Zafari et al., "Artificial Intelligence Applications in K-12 Education."

[90] Zafari et al., "Artificial Intelligence Applications in K-12 Education."

[91] Mehrnaz Fahimirad and Sedigheh Shakib Kotamjani, "A Review on Application of Artificial Intelligence in Teaching and Learning in Educational Contexts," *International Journal of Learning and Development* 8, no. 4 (2018): 106–18, https://doi.org/10.5296/ijld.v8i4.14057.

[92] Zafari et al., "Artificial Intelligence Applications in K-12 Education."

[93] N. M. Saravana Kumar, "Implementation of Artificial Intelligence in Imparting Education and Evaluating Student Performance," *Journal of Artificial Intelligence and Capsule Networks* 1, no. 1 (2019): 1–9, https://doi.org/10.36548/jaicn.2019.1.001.

trained to understand and adapt to student's unique needs, allowing occasional spaced teacher intervention with accompanying automation works will make routine assignments easier for both students and teachers.[94]

However, concerns remain around how AI can affect humans, and students in particular. While AI remains relevant towards creating an industry-ready graduate, there are apprehensions around impact of 'misinformation' that can permeate through existing hosted materials arising from potential hallucinations.[95] Engineers, and managers of AI google technology, often referred to as the 'Godfather of AI' warned that; "*I'm sounding the alarm, saying we have to worry about this*."[96] This arises from AI increasingly powerful capacity to even "outperform humans in ways that are not in the best interest of humanity, and the likely inability to limit AI development."[97] While Large language Models (LLMs) such as GPT-4 use neural networks similar to the human brain, their capacity to misdirect students in academic research cannot be ignored, and this has implications in research outputs. The noted challenge arising is having AI developers creating models that have the potential for "manipulating humans, or even replacing them," but having to ensure that: "*AI is doing what humans want it to do […] What we want is some way of making sure that even if they're smarter than us, they're going to do things that are beneficial for us.*"[98] The danger now lies in having both students and instructors AI manipulated. Geoffrey Hinton, regarded as the godfather of AI posited that: "*[AI can manipulate people by] reading all the novels that ever were and everything Machiavelli ever wrote … And if [AI models] are much smarter than us, they'll be very good at manipulating us. You won't realize what's going on … So even if they can't directly pull levers, they can certainly get us to pull levers. It turns out if you can manipulate people, you can invade a building in Washington without ever going there yourself*."[99]

Human beings are mortal, and AI are immortal digital systems that when a piece of hardware dies, it won't disfunction the AI, but another part can breathe life into it again.[100] Notwithstanding, while it is considered that AI can help address different issues in education systems, it is important to manage their potentially harmful patterns, while allowing for a managed beneficial exploitation.

6. Policy Failures / or Setbacks

In South Africa, there has been tremendous AI research, and governmental policy interventions to provide a trajectory in the efficient use and management of AI. What could be a potential setback for the government is possibly the fact that AI is ever evolving, and carries complex variations which requires the creative industry, and

[94] Zafari et al., "Artificial Intelligence Applications in K-12 Education."
[95] Brown, "Why Neural Net Pioneer Geoffrey Hinton Is Sounding the Alarm on AI."
[96] Brown, "Why Neural Net Pioneer Geoffrey Hinton Is Sounding the Alarm on AI."
[97] Brown, "Why Neural Net Pioneer Geoffrey Hinton Is Sounding the Alarm on AI."
[98] Brown, "Why Neural Net Pioneer Geoffrey Hinton Is Sounding the Alarm on AI."
[99] Brown, "Why Neural Net Pioneer Geoffrey Hinton Is Sounding the Alarm on AI."
[100] Brown, "Why Neural Net Pioneer Geoffrey Hinton Is Sounding the Alarm on AI."

educational sector to keep pace with relevant technological advancements. Researchers have already made calls for urgent interventions to "*develop institutional AI frameworks"* which *"should promote the responsible and effective use of AI tools while addressing academic support needs and ethical considerations in higher education.*"[101] Already, students are using ChatGPT and DeepSeek for learning which provides essential feedback.[102] Without a national dependable AI framework, institutions are left without certain and delineated benchmarks from which to develop AI governance frameworks. More so given that there are prevailing questions around authorship, and originality of AI created content, as well as the extent to which AI can support in student assignments is ethically justifiable.[103]

As earlier indicated, there are a growing sign AI is creating fabricated cases for use in the administration of justice, which can impact on a fair trial. However, the courts continue to provide a useful guidance in AI legal exploitation. Hence without the benefit of an AI Act, or a policy framework, students and the legal fraternity are operating in dark, particularly in the absence of clear legal guidance. Eck called for a Code of Conduct for all Legal Practitioners, Candidate Legal Practitioners and Juristic Entities (2019), as read with s 36(2) of the Legal Practice Act 28 of 2014 to provide ethical guidance on AI use.[104] At present, students and legal practitioners are using internal mitigation mechanisms to manage such risks.[105]

AI phenomenal growth[106] over the years appears to have eluded authorities, with policy intervention taking time to implement.[107] The Draft National Artificial Intelligence (AI) Policy document was "generated with AI and contains numerous fake references."[108] The significance of AI policy document in South Africa was thought to be, "*a turning point for organisations that develop, deploy or rely on artificial intelligence (AI). Beyond signalling the emergence of formal AI regulation, the Draft Policy introduce[d] new expectations around governance, ethics, accountability and sector-specific oversight*."[109]

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[101] Muringa, "Exploring Ethical Dilemmas and Institutional Challenges in AI Adoption."
[102] Thulani Andrew Chauke et al., "Postgraduate Students' Perceptions on the Benefits Associated with Artificial Intelligence Tools on Academic Success: In Case of ChatGPT AI Tool," *Journal of Curriculum Studies Research* 6, no. 1 (2024): 44–59, https://doi.org/10.46303/jcsr.2024.4.
[103] Muringa, "Exploring Ethical Dilemmas and Institutional Challenges in AI Adoption."
[104] van Eck, "What Have the Courts Said about the Ethical Use of Artificial Intelligence?"
[105] van Eck, "What Have the Courts Said about the Ethical Use of Artificial Intelligence?"
[106] Gil Press, "114 Milestones in the History of Artificial Intelligence (AI)," *Forbes*, May 19, 2021, https://www.forbes.com/sites/gilpress/2021/05/19/114-milestones-in-the-history-of-artificial-intelligence-ai/.
[107] Staff Writer, "Scandal Erupts over South Africa's New Draft AI Policy Which Used Fake References Generated by AI," *MyBroadband*, April 26, 2026, https://mybroadband.co.za/news/government/643743-scandal-erupts-over-south-africas-new-draft-ai-policy-which-used-fake-references-generated-by-ai.html.
[108] South Africa. Department of Communications and Digital Technologies, *Draft South Africa National Artificial Intelligence (AI) Policy* [withdrawn draft], General Notice 3880, *Government Gazette* 54477, April 10, 2026, https://www.gov.za/sites/default/files/gcis_document/202604/54477gen3880.pdf; see also Staff Writer, "Scandal Erupts over South Africa's New Draft AI Policy."
[109] Peter Grealy et al., "Draft National AI Policy: What It Means and What to Do Now," *Polity*, April 21, 2026, https://www.polity.org.za/article/draft-national-ai-policy-what-it-means-and-what-to-do-now-2026-04-21.

The policy document was designed to ensure responsible innovation, protecting the public interest and advancing socio-economic transformation.[110] Public comments were opened June 2026, providing opportunities for, *inter alia*, the creative industry, AI developers, educational institutions, and health to influence how AI regulation will apply in practice. The policy document also provided pillars central to the development, namely responsible governance; ethical and inclusive AI; capacity and talent development; AI for inclusive growth and job creation; human-centred deployment and cultural preservation and international integration.[111] Critically, it was widely seen as a precursor to an AI Act, whose potential enactment is however not foreseeable in the near future.[112] Nonetheless, the document recognised the "*complexity of regulating a technology with a wide range of use cases and adopts a sector-specific approach to AI regulation.*"[113] Despite the current ethical setback, and if improved upon, it provides general guidance on fairness, transparency, accountability, inclusivity, confidentiality, human autonomy and reliability.[114]

Notwithstanding the government emphasising that the draft policy is a work in progress and that the final approach will require extensive external consultation, ethical issues have so far undermined its integrity. If the government can undermine such a sensitive project, it creates a setback in providing value standards expected of AI exploitation at educational institutions. Media reports highlighted that: "*[the AI policy document was of] poor quality […] it was extremely concerning to discover fabricated sources cited in any National Policy in South Africa […] The inclusion of these non-existent sources strongly suggests that a Large Language Model (LLM) was used in the drafting of the National AI Policy …LLMs are known to hallucinate information when generating text […] The inclusion of these potentially hallucinated sources in the policy further underscores the need for human oversight of AI technologies.*"[115]

Yet, the policy document articulated a human-centred, ethical, and inclusive framework for AI governance. The significance of such flawed approach, understandably raised concerns that: "*South Africa has become the first nation to have its foundational artificial intelligence policy sabotaged by the very technology it sought to regulate.*"[116] The policy document's withdrawal created conversations about the erosion of human oversight in the age of generative AI.[117]

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[110] Department of Communications and Digital Technologies, *Draft South Africa National AI Policy*.
[111] Department of Communications and Digital Technologies, *Draft South Africa National AI Policy*.
[112] Grealy et al., "Draft National AI Policy."
[113] Grealy et al., "Draft National AI Policy."
[114] Grealy et al., "Draft National AI Policy."
[115] Staff Writer, "Scandal Erupts over South Africa's New Draft AI Policy."
[116] Anochie Esther, "South Africa Withdraws National AI Policy over Fake AI Citations: The 'Hallucination' Scandal," *TechStory*, May 2, 2026, https://techstory.in/south-africa-withdraws-national-ai-policy-over-fake-ai-citations/.
[117] Anochie Esther, "South Africa Withdraws National AI Policy over Fake AI Citations."

7. Implications for Educators and Academic Institutions

AI development has implications for academic integrity, and intellectual autonomy.[118] Muringa identifies "*unclear AI policies, heterogeneous digital infrastructure, and disparate staff capacity for managing AI learning*."[119] These pose an ethical challenge in research, as inadequate and or lack of trained staff, can create conditions for illegitimate or unreliable academic research outputs. Furthermore, this compromises the quality of graduates entering the industry.

Notwithstanding, the document had been regarded as one of the best AI policy documents emerging from the Global South, itself lagging behind in AI development.[120] The digital divide has placed the Global South at a disadvantage, despite concerted efforts to chart their destiny around their cultural context, digital public infrastructure and inclusive innovation.[121] The South Africa AI policy draft, reflected irresponsible use of AI, which evidently "compromised the integrity of the state's digital leadership."[122] The institutional crisis around AI deployment also manifested in the Department of Home Affairs, where researchers unearthed over 100 undetectable references in a revised White Paper on Citizenship and Immigration.[123]

As such, AI cannot be seen as some detached technology, but a study of itself given its impact in multifaceted areas across different curriculum. A compulsory module and or curriculum will help inculcate a value system that deploys an ethically conscious graduate into the market. This becomes obligatory given that more powerful AI systems are being developed. As such, a clear theoretical underpinning to guide research efforts in responsible AI becomes compulsory. Moreso given rising concerns that researchers have a consensus that AI development and deployment in educational contexts is a neglected research area.[124]

Misuse of AI, can result in either intentional or unintentional plagiarism[125] arising from students' lack of understanding of how to use AI outputs, Research show that teaching students around the issues helps mitigate the problem.[126] While AI ethical

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[118] Bishnu Bahadur Khatri and Parbata Devi Karki, "Artificial Intelligence (AI) in Higher Education: Growing Academic Integrity and Ethical Concerns," *Nepalese Journal of Development and Rural Studies* 20, no. 1 (2023): 1–7, https://doi.org/10.3126/njdrs.v20i01.64134.

[119] Muringa, "Exploring Ethical Dilemmas and Institutional Challenges in AI Adoption."

[120] Sreevas Sahasranamam, "How the Global South Is Reimagining the Future of AI," *World Economic Forum*, February 10, 2026, https://www.weforum.org/stories/all/how-the-global-south-is-reimagining-the-future-of-ai.

[121] Sahasranamam, "How the Global South Is Reimagining the Future of AI."

[122] Anochie Esther, "South Africa Withdraws National AI Policy over Fake AI Citations."

[123] Anochie Esther, "South Africa Withdraws National AI Policy over Fake AI Citations."

[124] Helen Crompton et al., "Affordances and Challenges of Artificial Intelligence in K-12 Education: A Systematic Review," *Journal of Research on Technology in Education* 56, no. 3 (2024): 248–68, https://doi.org/10.1080/15391523.2022.2121344.

[125] James Elander et al., "Evaluation of an Intervention to Help Students Avoid Unintentional Plagiarism by Improving Their Authorial Identity," *Assessment & Evaluation in Higher Education* 35, no. 2 (2010): 157–71, https://doi.org/10.1080/02602930802687745.

[126] Ghazalossadat Fatemi and Eisuke Saito, "Unintentional Plagiarism and Academic Integrity: The Challenges and Needs of Postgraduate International Students in Australia," *Journal of Further and Higher*

curriculum could be lacking, it is concerning that South Africa also does not have a standardised approach to the formal teaching of plagiarism.[127] While no university-wide approach to teaching about plagiarism exist to some South African universities, students are generally encouraged to abide by the existing plagiarism policies.

This provides need for a pre-emptive approach intervention through curriculum development that helps students appreciate the responsible and ethical use of AI in research. Its relevance partly lies in the fact that traditional forms of misconduct such as plagiarism are commonplace, and the problem cannot be expected to be less in the unethical deployment of AI in research. Scholars are already concerned about unintentional plagiarism, which may be more common than expected because of a lack of understanding of what constitutes plagiarism and referencing. If plagiarism is acknowledged as a severe danger to the integrity of academic research,[128] the unascertained full implications of AI use in research outputs can have more sinister ramifications. Moreover the rise of plagiarism in higher educational institutions has been attributed to the invention of the World Wide Web aided by easy access to Internet.[129] Assignments and research papers are copied and pasted without attribution, and the Internet and electronic devices are the common facilitators.[130] Concerns by scholars abound that while research and academic institutions continue to address and punish academic dishonesty, the creation of fresh ideas is becoming increasingly rare.[131]

8. Recommendations

A national AI policy document should be urgently drafted, addressing the shortcomings that largely followed in its withdrawal. The challenges around the desperation to want the process expedited, must give way to a careful, time-framed, and rigorous debate before gazetting the document for public input. This is important to avoid concerns around shortcutting the complex process of policy formulation, which resultantly created a document carrying fictitious sources that compromised its quality.

Education 44, no. 10 (2020): 1305–19, https://doi.org/10.1080/0309877x.2019.1683521.

[127] Mphahlele and McKenna, "Plagiarism in the South African Higher Education System."

[128] Anke Rohwer et al., "Authorship, Plagiarism and Conflict of Interest: Views and Practices from Low/middle-Income Country Health Researchers," *BMJ Open* 7, no. 11 (2017): e018467, https://doi.org/10.1136/bmjopen-2017-018467.

[129] Grevisse Yende Raphael et al., "Dématérialisation et fraude numérique des documents dans le secteur de l'enseignement supérieur et universitaire en RDC: Enjeux et contraintes des TIC," *International Journal of Electrical and Electronics Engineering Studies* 8, no. 2 (2022): 30–45, https://eajournals.org/wp-content/uploads/Dematerialization-and-digital-fraud.pdf; see also Shawren Singh and Dan Remenyi, "Plagiarism and Ghostwriting: The Rise in Academic Misconduct," *South African Journal of Science* 112, no. 5/6 (2016): 2015-0300, https://doi.org/10.17159/sajs.2016/20150300.

[130] S. Shanmugasundaram et al., "Impact of IT on Improving Integrity of Students' Work in Botswana" (abstract), in *EDULEARN12 Proceedings* (IATED, 2012), 6784, https://library.iated.org/view/SHANMUGASUNDARAM2012IMP.

[131] Seçil Tümen Akyıldız, "College Students' Views on the Pandemic Distance Education: A Focus Group Discussion," *International Journal of Technology in Education and Science* 4, no. 4 (2020): 322–34, https://doi.org/10.46328/ijtes.v4i4.150.

The challenges associated with a hurried process are normally associated with an erosion of human oversight in the age of generative AI, which culminated in a flawed document partly simulated by AI generative models' hallucinations. Notwithstanding, the future policy document must be more informed by domestic cultural, economic and political context, without duplicating Global North imperatives.[132] Arising notable concerns are that "*for a sovereign state to fall into the same trap while writing the very law meant to prevent such errors is seen as a far more significant institutional failure*."[133] The implications are huge given that South Africa remains an AI hub and leader in Africa.[134] The recommendation arising from this development is perhaps that human oversight, must not be entirely substituted for algorithms without human accountability. Moreover, this applies even in educational institutions, which is the focus of this contribution.

Already, there are United Nations reference points that could also partly inform a more harmonised policy framework. UNESCO AI policy recommendations created a framework for adoptable AI human-centred frameworks. It refers to pedagogical, and AI governance frameworks, addressing key areas governing university teaching and learning. Without compromising AI innovation and creating a market disequilibrium, the UNESCO document's pedagogical dimension provides for the educators' role in refining instructional and assessment strategies to prepare students for an AI-enhanced workforce.[135] Some of the relevant aspects infused in the policy framework includes establishing and addressing, *inter alia*, academic misconduct, data privacy, transparency, accountability, and ethical use.

AI evolving technologies require constant teacher and student adaptations. With such digital technologies at the centre of learning, AI budget hubs that monitors and advises on evolving AI models have become a necessity, given the ramifications around quality of graduates, research, and the institutional reputational risk that can compromise the integrity of institutional qualifications. Crompton has proposed the "*need to improve [teachers] AI competence through teacher training and professional development to ensure success in promoting AI-enhanced education*."[136] This arises from concerns that: "*most educators have limited involvement in developing AI-based educational systems and lack appropriate understanding and pedagogies in AI-enhanced teaching while they are expected to be at the front lines of carrying out AIED. […] many teachers were concerned whether their jobs will be completely replaced by AI and how technologies might shape teachers' roles and human interactions.*"[137]

However, priority should be encouraging ethical and responsible AI use, not concerns around teacher-job-replacements, to maximise on quality research and dependable and legitimate research outputs. Further, the curriculums, reacting to an AI policy framework, must enhance existing curriculum and pedagogies to prepare

[132] Anochie Esther, "South Africa Withdraws National AI Policy over Fake AI Citations."
[133] Anochie Esther, "South Africa Withdraws National AI Policy over Fake AI Citations."
[134] Anochie Esther, "South Africa Withdraws National AI Policy over Fake AI Citations."
[135] UNESCO, *Recommendation on the Ethics of Artificial Intelligence*.
[136] Crompton et al., "Affordances and Challenges of Artificial Intelligence in K-12 Education."
[137] Fu and Weng, "Navigating the Ethical Terrain of AI in Education."

students for responsible AI.[138] Interdisciplinary curriculums that advances ethical and responsible AI use for university students are being created,[139] and South African institutions cannot be exception. At the centre of such pedagogical development should be issues around integrity, ethics, responsible use, transparency and privacy.

The government interventions through regular engagements with AI developers is imperative, in which national policy frameworks are effectively pronounced to consider innovation that seeks to avoid having manipulable end users. In fact, teachers and students are often excluded from the AI design procedure. Hence, as Fu & Wing noted, they "*lack intelligible information about AI's functions and shortcomings, which may constrain their agency and autonomy in AIED use. In light of this [there is] needs and expectations of end-users in education as well as educators' inputs and teaching expertise are often overlooked in AI design and development*."[140]

This therefore calls for regular engagements between academic institutions, represented through relevant government entities. Hence AI developers and educators should complement the design of meaningful age-appropriate instruction tools.[141] There is no relevant AI legislation that can also inform institutional policy frameworks. The relevant legislation such as ECTA and POPI Act do not adequately capture AI related privacy and potential AI ethical dimensions. Regional bodies such as the EU have already creating binding regional conventions that guide domestic legislations in addressing AI development. SADC, the regional organ, is lagging behind in this regard. It's a fact that the AI is not going away, any time soon. Its usage use and relevance can only increase, hence the need to embrace and adapt.

9. Conclusion

The fact that South Africa is already integrating AI-based tools is enough urgency around creating both a national AI policy document, and an AI Act that speaks to the policy framework. A legal lacuna creates national angst, uncertainty, and tensions between educational institutions, creative-content producers and industry. This leaves both students and teachers unsure about their ethical boundaries relating to AI use.

A legal graduate must understand from educational institutions the national legal framework before being integrated into the industry, where he/she gets involved in decision making processes, and often assisting in the effective administration of justice. Ethical ambiguities, and inconsistent application of AI standards are often outcomes of a legal and policy lacuna. While AI provides both challenges and

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[138] Fu and Weng, "Navigating the Ethical Terrain of AI in Education."

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opportunities, the resultant policy framework and legislation must strike a cordial balance between AI technological innovation, and the interests of students and educational institutions.

Moreover, AI is already embedded in educational and pedagogical practice, hence there is need for synergies between AI and relevant stakeholders creating tailored AI models that provide transparency user-friendly frameworks promoting ethical practices that produce dependable research outputs that also constricts the ethical gap in AI adoption within education.

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