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The Case for Nurturing AI Literacy in Law Schools

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Abstract

The debate surrounding the permissibility of generative artificial intelligence (AI) tools in legal education has garnered widespread attention. However, this discourse has largely oscillated between the advantages and disadvantages of generative AI usage whilst failing to fully consider how the uptake of these tools relates to the fundamental objectives of legal education. This article contributes to the current debate by positing that since the primary aim of legal education is the preparation of legal professionals and the development of legal research, generative AI must be holistically integrated into the dominant approaches to legal teaching. This stems from the fact that the legal profession will increasingly rely on generative AI in its daily work. Therefore, AI literacy will emerge as a critical professional skill in the legal realm. Against this background, this article further argues that the integration of AI into the legal curriculum should be addressed by diversifying assessment strategies, emphasizing the importance of academic integrity and making resources on the ethical use of AI available to both students and academic staff in law schools.

Introduction

On 30 November 2022, OpenAI released ChatGPT,[2] marking a significant milestone in the field of generative artificial intelligence (hereafter 'generative AI'), a machine learning-based technology capable of creating new content, particularly in the form of text. ChatGPT has rapidly become the most popular generative AI commercial product,[3] offering direct user instruction and the ability to swiftly generate detailed responses by emulating human discourse.[4] Subsequently, an increasing number of AI-powered natural language processing (NLP) tools, such as Bing Chat, LLama, Claude, Jasper AI and

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[2] *Introducing ChatGPT*, OpenAI Blog, https://openai.com/blog/chatgpt (last visited Dec. 12, 2023).

[3] Krystal Hu, *ChatGPT Sets Record for Fastest-Growing User Base: Analyst Note*, Reuters (Feb. 2, 2023), https://www.reuters.com/technology/chatgpt-sets-record-fastest-growing-user-base-analyst-note-2023-02-01/ (last visited Feb. 8, 2024).

[4] *Introducing ChatGPT*, *supra* note 1.

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Perplexity AI, have emerged,[5] intensifying the competition among generative AI-based commercial products and prompting reflections about the substantial changes these tools may introduce to society and various professions.[6]

In light of the significant technological leap facilitated by generative AI, many fields require a comprehensive reassessment. In education, it is widely recognized that AI has the potential to profoundly impact the dominant perspectives on methods of teaching and learning.[7] As this technology continues to evolve, contentious debates and divergent practices have emerged concerning the permissibility of students employing generative AI tools for their assignments and papers.

Educational institutions worldwide have responded in various ways to the challenges raised by generative AI. Whilst some have implemented complete bans, others have chosen to embrace this technology. Notably, several universities across Europe have prohibited the use of generative AI in teaching and academic research,[8] a trend also observed in the United States. For instance, the New York City Department of Education has restricted access to ChatGPT on school networks and devices.[9] Conversely, certain schools, such as Yale University, have opted to collaborate with ChatGPT, making it a component of their current teaching approach.[10] Similarly, in Hong Kong, ChatGPT has garnered substantial support in universities. For example, the University of Hong Kong, which initially prohibited ChatGPT in February 2023,[11] subsequently permitted its use by academics and employees, giving students and staff free access to it.[12] Additionally, the Hong Kong University of Science and Technology has granted its staff the autonomy to establish guidelines for utilizing generative AI in teaching, offering a reward to professors who develop generative AI applications within their curricula.[13] Similarly, Hong Kong Baptist University has initiated a ChatGPT trial for its teaching staff.[14]

The arguments both for and against the use of AI tools by students have primarily revolved around their advantages and disadvantages. Proponents of banning AI tools have expressed concerns over potential negative effects on students' learning outcomes, arguing that an over-reliance on these tools

[5] Kaushik Pal, *Who Are the Competitors of ChatGPT? 12 Biggest Market Players*, Techopedia (Mar. 31, 2023), https://www.techopedia.com/who-are-the-competitors-of-chatgpt (last visited Dec. 13, 2023).

[6] Editorial, *The AI Writing on the Wall*, 5 Nat. Mach. Intell. 1, 1 (2023).

[7] Stephen Atlas, *ChatGPT for Higher Education and Professional Development: A Guide to Conversational AI*, 1 College of Business Faculty Publications 1, 9–10 (2023).

[8] Ping Xiao, Yuanyuan Chen & Weining Bao, *Waiting, Banning, and Embracing: An Empirical Analysis of Adapting Policies for Generative AI in Higher Education* (2023), http://arxiv.org/abs/2305.18617 (last visited Feb. 8, 2024).

[9] Matt O'Brien, *What Is ChatGPT and Why Are Schools Blocking It?*, AP News (Jan. 8, 2023) https://apnews.com/article/what-is-chat-gpt-ac4967a4fb41fda31c4d27f015e32660 (last visited Dec. 10, 2023).

[10] Tate Ryan Mosley, *How One Elite University Is Approaching ChatGPT This School Year,* MIT Tech. Rev.; *What Is ChatGPT and Why Are Schools Blocking It?*, AP News (Sept. 4, 2023), https://www.technologyreview.com/2023/09/04/1078932/elite-university-chatgpt-this-school-year/ (last visited Dec. 10, 2023).

[11] Cannix Yau & Kahon Chan, *University of Hong Kong temporarily bans students from using ChatGPT*, South China Morning Post (Feb 17, 2023), https://www.scmp.com/news/hong-kong/education/article/3210650/university-hong-kong-temporarily-bans-students-using-chatgpt-other-ai-based-tools-coursework (last visited Jan. 24, 2024).

[12] Leopold Chen, *University of Hong Kong Allows AI, but Sets 20-Query Limit a Month for Students*, South China Morning Post (Aug. 3, 2023), https://www.scmp.com/news/hong-kong/hong-kong-economy/article/3229874/university-hong-kong-allows-artificial-intelligence-program-chatgpt-students-strict-monthly-limit (last visited Dec. 10, 2023).

[13] Experiencing Generative AI Tools | Information Technology Services Center, HKUST, https://itsc.hkust.edu.hk/services/general-it-services/generative-ai-tools (last visited Dec. 10, 2023).

[14] Fiona Chow, *Hong Kong Baptist University Begins ChatGPT Trial for Teachers, but Concerns Remain,* South China Morning Post (May 19, 2023), https://www.scmp.com/news/hong-kong/education/article/3221176/hong-kong-baptist-university-begins-chatgpt-trial-teaching-staff-professors-wary-over-lack (last visited Dec. 19, 2023).

may hinder students' development.[15] Other concerns involve issues related to accuracy and safety.[16] On the other side of the debate, proponents of the integration of generative AI into education have highlighted its potential as an instructional aide, facilitating the explanation of complex concepts and assisting students in refining their writing skills.[17]

However, balancing the pros and cons of using generative AI tools should not be the sole criterion for defining policies regarding their integration into law curricula. A little over one year after the launch of ChatGPT, generative AI is still rapidly changing. At this stage, it remains unclear how the legal field and society can more broadly leverage the benefits of this technology as its evolution continues. Consequently, ascertaining the short- and mid-term impact of these tools on education and learning presents considerable challenges.[18] Nevertheless, given the widespread and growing use of AI-based tools by students and legal professionals, educational institutions are under pressure to quickly adapt their methods of teaching and learning to the AI revolution—even before a definitive understanding of its pros and cons can be established.

In this context, this article contributes to the current debate not by merely discussing the advantages and disadvantages of integrating generative AI in the law curriculum but by considering how legal professionals' uptake of these tools relates to the fundamental objectives of legal education. Therefore, we first highlight the link between the uptake of AI-based tools by the legal profession and the need to nurture AI skills in law schools. Successively, the article posits that since the primary aim of legal education is the preparation of legal professionals, AI literacy must be holistically integrated into the dominant approaches to legal education and put forward ideas in this direction.

The article is structured as follows. Section 2 summarizes the objectives of legal education, concluding that preparing students for the legal profession is one of the primary objectives of law schools. Section 3 elucidates the technological essence of generative AI tools and their growing use within the legal profession, emphasizing how these technologies are poised to profoundly transform legal work. Section 4 emphasizes how this new environment imposes additional requirements on legal operators, asserting that law schools should prioritize the development of AI literacy in their students. Section 5 proposes different approaches through which law schools can better integrate AI into their curricula by delivering assessment methods, experimenting with AI-specific exercises and developing AI-specific resources.

Revisiting the Current Objectives of Law Schools

The goals of modern law schools have been the subject of ongoing debate. In particular, the question of how to strike a balance between imparting practical legal knowledge and fostering the academic study

[15] As articulated by a spokesperson for the New York City school system, 'While AI may provide quick and easy answers to questions, it does not foster critical thinking and problem-solving skills, which are essential for academic and lifelong success.' *EXPLAINER: What Is ChatGPT and Why Are Schools Blocking It?* | AP News, *supra* note 9.

[16] Chay Brooks, Cristian Gherhes & Tim Vorley, *Artificial Intelligence in the Legal Sector: Pressures and Challenges of Transformation*, 13 Camb. J. Reg. Econ. Soc. 135, 148–49 (2020). See also: Jiawei Zhang & João Ilhão Moreira, *Promoting Trustworthiness in the Application of Artificial Intelligence in the Judiciary: The Intersection of Media Communication, Court Decisions, and Public Trust*, 18 Int. J. Crim. Justice Sci. 481, 485 (2023); Sara Migliorini, *"More than Words": A Legal Approach to the Risks of Commercial Chatbots Powered by Generative Artificial Intelligence*, Eur. J. Risk Regul. 1, 9 (2024).

[17] Thomas K. F. Chiu et al., *Systematic Literature Review on Opportunities, Challenges, and Future Research Recommendations of Artificial Intelligence in Education*, 4 Comput. Educ. Artif. Intell. 1, 9 (2023).

[18] Allan Collins & Richard Halverson, *The Second Educational Revolution: Rethinking Education in the Age of Technology*, 26 J. Comput. Assist. Learn. 18, 19 (2010).

of the law remains a consistent point of contention.[19] Over time, the emphasis has increasingly shifted towards practical training, an approach that has gained widespread support worldwide, as evidenced by the content of legal courses and declarations from relevant institutions. Although regional variations exist, researchers have identified seven common components in contemporary law schools' teaching and learning processes.[20] These components include imparting substantive legal knowledge, developing the fundamental analytical skills required by legal professionals, teaching legal research and learning methods, cultivating lawyering skills, exploring other knowledge domains directly relevant to legal practice, fostering a legal mindset and understanding the nature, functions and processes of law and justice.[21] All these elements converge to serve a single overarching goal: preparing students for the legal profession.

The declarations of educational institutions also reinforce this conclusion. For example, in England and Wales, law schools place a strong emphasis on providing practice-oriented training in preparation for professional challenges.[22] Similarly, Australian law schools aim to equip students with a wide-ranging legal education that prepares them for diverse legal careers.[23] In Singapore, law schools have also emphasized the development of graduates' abilities, enabling them to become globally oriented lawyers.[24]

Against this background, the open question that emerges is to what extent the advent of generative AI should alter how law schools approach this role. Undoubtedly, this is not the first time technological innovation has changed how legal work is conducted. However, within the realm of law, technological advancements have primarily enhanced the tools used for research. Most notably, the methods for legal research have transitioned from physical libraries to online search engines such as Google, as well as online legal research platforms such as Westlaw and LexisNexis. However, the core skills required by legal professionals—such as the ability to research legal materials; analyse laws, regulations and cases; interpret facts; correlate facts with the relevant legal rules and draft legal documents—have not undergone substantial changes.[25] Consequently, the skill set required for legal professionals has not substantially changed over time. Likewise, the objectives, methods and modes of legal education have largely remained unchanged.

In contrast, generative AI can potentially transform the daily work and required skill sets of legal professionals in a way that other technological developments have not. Several generative AI tools can produce text independently and even perform legal analysis to a certain extent.[26] Therefore, this technological advancement may fundamentally disrupt the legal profession and affect the core skills necessary for legal work.

These developments create a compelling argument for revising the teaching methodologies of law schools. To illustrate these changes, the next section provides an account of the capabilities of generative AI tools and how they are currently being integrated into legal practice.

[19] James P. Rowles, *Toward Balancing the Goals of Legal Education*, 31 J. Leg. Educ. 375, 377–378 (1982); Julian Webb et al., *Setting Standards: The Future of Legal Services Education and Training Regulation in England and Wales*, Leg. Educ. Train. Rev. 1, 18–63 (2013).

[20] Rowles, *supra* note 19, at 378–80.

[21] *Id*.

[22] Andrew Boon & Julian Webb, *Legal Education and Training in England and Wales: Back to the Future?*, 58 J. Leg. Educ. 79, 80–82 (2008).

[23] Nickolas J. James, *A Brief History of Critique in Australian Legal Education*, 24 Melb. Univ. Law Rev. 965, 969–72 (2020).

[24] Simon Chesterman, *The Fall and Rise of Legal Education in Singapore*, Singapore J Leg. Stud. 201, 208 (2017).

[25] Joanna Goodman, Robots in Law: How Artificial Intelligence Is Transforming Legal Services 17–26 (2016).

[26] Introducing ChatGPT, *supra* note 1.

Generative AI's Technological Advancements and Their Impact on the Legal Profession

From a technological perspective, most generative AI tools currently in use within the legal profession are commercial products built upon large language models (LLMs), a type of generative AI algorithm that has the general capacity to produce a variety of text outputs adaptable to a series of downstream tasks and applications.[27] Additionally, the field of generative AI includes other types of models capable of image generation, text-to-image synthesis, video generation, voice and sound generation and realistic simulation of virtual environments. These types of generative AI tools hold great potential in legal education. In particular, by leveraging video and voice generation, these models could be used to put students in real-world situations that train their lawyering skills, such as simulations of a witness examination or a contract negotiation. However, generative AI models other than LLMs producing text are not currently in use in the legal profession and are not leveraged in law schools. Consequently, this article focuses primarily on LLMs and the commercial products that leverage their technology.

LLMs rely on NLP techniques, enabling them to quickly comprehend instructions and provide structured responses. This section briefly explains how these tools function before investigating their potential to bring about substantial change within the legal profession, potentially challenging law schools' current approaches to teaching and learning.

How LLMs Function

NLP, a long-standing subfield of computer science, focuses on automating text translation across languages and, more broadly, on computationally processing natural language. NLP predates the notion of 'artificial intelligence' as it gained impetus from research into encryption conducted during the Second World War.[28] NLP's true potential remained latent until large amounts of text became accessible in digital form around the turn of the millennium, triggering a notable upswing in its performance and capabilities.[29] This field has been further fuelled by advancements in machine learning and neural networks from the early 2010s onwards.[30] Notably, a neural network architecture called the Transformer has reshaped the landscape of machine learning techniques.[31]

Generally, modern-day generative AI commercial chatbots, such as ChatGPT, produce text-based responses to users' inputs using statistical techniques. LLMs' training allows them to formulate text replies based on statistically significant word associations derived from the human-authored texts found in their training data.[32] After pre-training with large amounts of data, LLMs enter the fine-tuning phase,

[27] In turn, LLMs are a type of 'foundation model', a term first introduced by the Stanford University Human-Centered Artificial Intelligence to describe an 'AI neural network trained on broad data at scale that can be adapted to a wide range of tasks'. Reflections on Foundation Models (2021), https://hai.stanford.edu/news/reflections-foundation-models (last visited Feb. 8, 2024).
[28] Christopher D. Manning, *Human Language Understanding & Reasoning*, 151 Daedalus 127, 128 (2022).
[29] Dieuwertje Luitse & Wiebke Denkena, *The Great Transformer: Examining the Role of Large Language Models in the Political Economy of AI*, 8 Big Data & Society 1, 1–3 (2021).
[30] *Id.*, at 5–8.
[31] Ashish Vaswani et al., *Attention Is All You Need*, 30 *in* Advances in Neural Information Processing Systems 5998, 5998–6008 (2017).
[32] For a more technical explanation, an LLM's infrastructure comprises 20–30 building blocks divided into encoder or decoder units, each with two layers. Based on a specific machine-learning technique called 'self-attention', the first layers encode words as numerical tokens, infusing them with contextual meaning. The extent of embedding depends on the hardware and data used,

in which they can be further prepared for specific activities such as performing legal tasks. Fine-tuning happens with a variety of techniques, the most common of which are reinforcement learning with human feedback and 'constitutional AI'. The method chosen for fine-tuning can greatly affect the qualities and capabilities of LLMs, ultimately impacting the applicability of AI tools in legal practice.

Notably, how LLMs assemble texts via statistics is profoundly different from how humans use language to produce texts, which is instead anchored to meaning.[33] Therefore, because texts generated by LLMs follow statistical methods of predicting text, they are susceptible to producing false, inaccurate and misleading content—a tendency sometimes described as 'hallucination'.[34]

In building these models, vast amounts of information are gathered from online sources. Details of the datasets used for fine-tuning are typically undisclosed for most commercial chatbots. Although a certain proportion of the information on data selection for training commercial chatbots (e.g., ChatGPT) is known to specialized researchers, a substantial proportion is increasingly kept secret by manufacturers.[35] In any case, whilst LLMs have been brought to public attention mostly as unspecialized chatbots noted for their conversational abilities, they are increasingly being adapted and fine-tuned to perform legal research, draft documents, conduct legal analysis and predict legal outcomes.[36]

Generative AI in the Legal Profession

Given the existing abilities of generative AI in the legal domain and the likely improvements on the horizon, it is unsurprising that the legal profession is poised to be profoundly impacted by AI technologies.[37] According to the AI Occupational Exposure list, the legal industry is ranked at the

underscoring the role of extensive digital text and robust computing. The second layer generates responses to inputs, refining word comprehension. A neural network then selects the most suitable word in response to queries. This operation repeats for each word in the chatbot's reply. LLMs undergo pre-training by immersing in diverse texts to develop an expansive vocabulary. Uncertain predictions are iteratively corrected, enhanced by self-supervised learning that excludes human intervention. See *Id*.

[33] Emily M. Bender et al., *On the Dangers of Stochastic Parrots: Can Language Models Be Too Big?*, *in* Proceedings of the 2021 ACM Conference on Fairness, Accountability, and Transparency 610, 616 (2021).

[34] For a discussion of hallucinations in the field of law, see Matthew Dahl et al., *Large Legal Fictions: Profiling Legal Hallucinations in Large Language Models* (2024), http://arxiv.org/abs/2401.01301 (last visited Feb. 8, 2024). For a less technical explanation of the same study, see *Hallucinating Law: Legal Mistakes with Large Language Models Are Pervasive* (2024), https://hai.stanford.edu/news/hallucinating-law-legal-mistakes-large-language-models-are-pervasive (last visited Feb. 8, 2024).

[35] Common Crawl—Get Started, https://commoncrawl.org/get-started (last visited Feb. 8, 2024). Based on publicly available information, ChatGPT's foundational model draws from the web content archive 'Common Crawl'. The 'C4.EN.NOCLEAN' subset is refined to exclude objectionable content. Colin Raffel et al., *Exploring the Limits of Transfer Learning with a Unified Text-to-Text Transformer*, 21 J. Mach. Learn. Res. 1, 1–67 (2020). Additional datasets, 'Books1', 'Books2', English-language Wikipedia pages and 'Webtext' complement the training data. Leo Gao et al., *The Pile: An 800GB Dataset of Diverse Text for Language Modeling* (2020), http://arxiv.org/abs/2101.00027 (last visited Feb. 8, 2024). Using labelled data from task-specific datasets, models align their outputs with the desired results. Reinforcement learning is an option, with human involvement being possible.

[36] See, for example, ChatGPT's ability to pass law school examinations: Jonathan Choi et al., *ChatGPT Goes to Law School*, 71 J. Leg. Educ. 387, 391–94 (2022). On the various uses of ChatGPT in legal practice, see: *Use of Artificial Intelligence in Legal Practice* (2023), https://www.biicl.org/publications/use-of-artificial-intelligence-in-legal-practice (last visited Dec. 10, 2023). See also the section 'Generative AI in the Legal Profession' and cited references.

[37] Ed Felten, Manav Raj & Robert Seamans, *How Will Language Modelers like ChatGPT Affect Occupations and Industries?* (2023), http://arxiv.org/abs/2303.01157 (last visited Feb. 8, 2024). Mari Sako, Matthias Qian & Jacopo Attolini, *Future of Professional Work: Evidence from Legal Jobs in Britain and the United States*, 9 J. Prof. Organ. 143, 153–60 (2022). John Armour, Richard Parnham & Mari Sako, *Augmented Lawyering*, 2022 Univ. Ill. Law Rev. 71, 71–72 (2022).

forefront among the 20 industries most susceptible to the influence of LLMs.[38] Accordingly, an abundance of scholarly work has already explored how technology—and particularly AI—may affect the work of lawyers and the structures and business models of law firms.[39]

Recent studies have highlighted that many legal tasks may be partially or entirely automated by AI.[40] Indeed, various generative AI tools are already being used in courts and law firms. The reality of AI judging has emerged,[41] as evidenced by a Colombian judge utilizing ChatGPT to generate a portion of a judicial opinion as early as January 2023.[42] In Canada, AI has been employed in specific areas of law, such as strata property disputes and motor vehicle claims below a certain threshold.[43] Similarly, Estonia has employed an AI judge to adjudicate small claims disputes.[44] This has led some to speculate that, in the future, courts may utilize predictive analytics to reach holdings based on prior court decisions.[45] Law firms have also embraced generative AI tools, with some prominent firms, such as Simmons, launching the tool Percy to summarize texts and draft documents to establish themselves as 'leaders' in the field.[46] Other generative AI tools, including IronClad, Robin AI, Lex Machina and LitiGate, have gained favour among law firms worldwide.[47] The legal literature has also begun to consider the new skills legal professionals will be required to develop, along with the capability to include professionals from other fields in multidisciplinary teams delivering legal work.[48]

The main capabilities of these tools and the current state of their usage by legal professionals are briefly presented in the remainder of this section.

Legal Research. Generative AI tools possess research capabilities that enable them to swiftly retrieve relevant case law, statutes, regulations and legal articles according to provided instructions.[49] Compared to traditional search engines such as Google, they have the potential to significantly expedite and simplify legal research tasks. A study comparing search performance between ChatGPT and Google found that ChatGPT enabled its users to consistently spend less time on search tasks when compared to Google

[38] Edward Felten, Manav Raj & Robert Seamans, *Occupational, Industry, and Geographic Exposure to Artificial Intelligence: A Novel Dataset and Its Potential Uses*, 42 Strateg. Manag. J. 2195, 2204 (2021).

[39] Literature is vast on this point. See, for example: Richard E. Susskind, The Future of Law: Facing the Challenges of Information Technology (revised paperback ed. 1998). Darryl R. Mountain, *Disrupting Conventional Law Firm Business Models Using Document Assembly*, 15 Int. J. Law Inf. Technol. 170, 170–91 (2007). Richard E. Susskind, The End of Lawyers?: Rethinking the Nature of Legal Services (Rev. ed. 2010).

[40] Michael Legg & Felicity Bell, *Artificial Intelligence and the Legal Profession: Becoming the AI-Enhanced Lawyer*, 38 Univ. Tasman. Law Rev. 34, 35 (2019).

[41] Tania Sourdin, *Judge v Robot? Artificial Intelligence and Judicial Decision-Making*, 41 UNSWLJ 1114, 1115 (2018). Dovilė Barysė & Roee Sarel, *Algorithms in the Court: Does It Matter Which Part of the Judicial Decision-Making Is Automated?*, Artif. Intell. Law (2023).

[42] *Colombian Judge Uses ChatGPT in Ruling on Child's Medical Rights Case*, CBS News (Feb. 2, 2023), https://www.cbsnews.com/news/colombian-judge-uses-chatgpt-in-ruling-on-childs-medical-rights-case/ (last visited Jan. 26, 2024).

[43] Dawn Lo, *Can AI Replace a Judge in the Courtroom?*, UNSW Newsroom (Oct. 1, 2023), https://newsroom.unsw.edu.au/news/business-law/can-ai-replace-judge-courtroom (last visited Dec. 16, 2023).

[44] *Id.*

[45] Richard E. Susskind, Online Courts and the Future of Justice 14 (2019).

[46] *Simmons launches 'Percy' – Its Advanced Generative AI Tool*, Simmons & Simmons (Nov. 30, 2023), https://www.simmons-simmons.com/en/about-us/news/clpl3f67i03twudeoo734xlck/simmons-launches-percy-its-advanced-generative-ai-tool (last visited Dec. 16, 2023).

[47] *Use of Artificial Intelligence in Legal Practice*, *supra* note 36, at 5.

[48] Legg & Bell, *supra* note 40.

[49] *Use of Artificial Intelligence in Legal Practice*, *supra* note 36, at 2.

users, with ChatGPT's responses exhibiting higher overall information quality.[50] Participants using ChatGPT also rated the tool higher in usefulness, enjoyment and satisfaction.[51] In fact, an increasing number of search engines are integrating generative AI tools to enhance their systems.[52]

Document Drafting. Generative AI tools may be used to draft contracts, legal letters, indictments, defences and even judgments in response to specific instructions. Legal texts produced by generative AI tools generally maintain a high standard of grammatical accuracy, appropriate tone and logical coherence.[53] Moreover, legal documents generated by these tools exhibit high legal proficiency. A study using an actual judicial case demonstrated that tools such as ChatGPT can generate documents containing specific medical damage claims and accurately state the legal basis of those claims based on an understanding of the facts of the case.[54] Generative AI's ability to effectively produce content addresses the 'blank page problem' in drafting—a feature welcomed by many lawyers.[55] Moreover, generative AI tools can not only create high-quality legal documents from scratch but can also be used to review existing documents. For instance, they can adeptly identify potential legal risks in a contract.[56] This can save lawyers a significant amount of time, making their work more efficient and reducing the need to pore over mountains of materials,[57] particularly when dealing with repetitive content.[58]

Analytical Skills. Unsurprisingly, the analytical abilities of generative AI tools have been making waves in the legal profession. Some lawyers have noted that, in the past, a senior partner in a law firm would ask a couple of other partners and associates to brainstorm possible legal pathways for a client. Now, a lawyer may simply input a question into a generative AI platform and receive a rough draft of potential answers within a few seconds, which they can use as a starting point in addressing their client's needs.[59]

Generative AI tools also demonstrate the capacity for legal analysis, comprehending intricate facts and often accurately applying legal principles.[60] The latest version, ChatGPT 4.0, passed the Uniform Bar Exam, scoring a composite score of 297—surpassing the threshold of 273 set by the US state of Arizona.[61] In an experiment conducted by several American scholars, ChatGPT passed all four classes

[50] Ruiyun Xu, Yue Feng & Hailiang Chen, *ChatGPT vs. Google: A Comparative Study of Search Performance and User Experience*, arXiv preprint arXiv:2307.01135 (2023).
[51] *Id.*
[52] Jana Saab, *The Impact of Artificial Intelligence on Search Engine: Super Intelligence in Artificial Intelligence (AI)*, *in* Handbook of Research on AI Methods and Applications in Computer Engineering 141, 141 (2023).
[53] Kwan Yuen Iu & Vanessa Man-Yi Wong, *ChatGPT by OpenAI: The End of Litigation Lawyers?* (2023), https://papers.ssrn.com/abstract=4339839 (last visited Dec. 18, 2023).
[54] *Id.* See also Maxi Scherer, *Artificial Intelligence and Legal Decision-Making: The Wide Open?,* 36 J. Int. Arbitr. 539, 546–54 (2019).
[55] *Use of Artificial Intelligence in Legal Practice*, *supra* note 36, at 2.
[56] Nicole Black, *The Case for ChatGPT: Why Lawyers Should Embrace AI*, ABA J. (Feb. 21, 2023), https://www.abajournal.com/columns/article/the-case-for-chatgpt-why-lawyers-should-embrace-ai (last visited Dec. 18, 2023). See also: *Use of Artificial Intelligence in Legal Practice*, *supra* note 36, at 5.
[57] As noted in the literature, a frequent challenge for lawyers is the daunting task of sifting through voluminous materials to extract minuscule yet crucial information: John O. McGinnis & Steven Wasick, *Law's Algorithm*, 66 Fla. L. Rev. 991, 991–94 (2014).
[58] *Use of Artificial Intelligence in Legal Practice*, *supra* note 35, at 4.
[59] *Id.*
[60] Iu & Wong, *supra* note 53.
[61] Debra Cassens Weiss, *Latest Version of ChatGPT Aces Bar Exam with Score Nearing 90th Percentile*, ABA J. (Mar. 16, 2023), https://www.abajournal.com/web/article/latest-version-of-chatgpt-aces-the-bar-exam-with-score-in-90th-percentile (last visited Dec. 18, 2023).

designed for JD students based on its final exam performance, suggesting that ChatGPT theoretically has the ability to earn a JD degree.[62]

Legal Advisory Tasks. Generative AI tools also possess 'powerful predictive capabilities, examining past data to foresee case outcomes, litigation trends, and prospective threats'.[63] For example, judicial analytics, which involves the use of statistics and machine learning to understand or predict judicial behaviour, has become popular in the legal field.[64] Some US researchers have designed special algorithms, gathered court data and empirically studied how pre-trial detention reduces criminal defendants' bargaining power in plea negotiations.[65] Notably, generative AI tools have significantly improved the efficiency of legal services. In the United States, for example, AI has been used to decide whether to use a peremptory challenge during the trial, and jury consultants have experimented with AI to determine what will resonate with a particular jury.[66]

Additionally, the capabilities of generative AI are sometimes directly used to provide automated legal advisory services in scenarios involving clients. For example, generative AI tools can act as virtual assistants to help clients find answers to their legal queries independently, thus allowing law firms to offer immediate information and support to existing and potential clients.[67] For instance, interactions on the ChatGPT-based platform extension known as 'LawDroid Copilot' are said to be akin to 'talking to a well-read law clerk'.[68]

Lawyers in the Era of Generative AI

The Irreplaceability of Human Lawyers

With the increasing use of generative AI tools by legal professionals and their remarkable capabilities in legal tasks, there has been considerable discussion on the potential of such tools to supplant lawyers, rendering traditional litigation roles obsolete and questioning the relevance and mission of law schools.[69]

However, such concerns may be overstated. Certain intrinsic human qualities remain irreplaceable by generative AI and are essential for success in any profession. These include designing and creating the machine's thinking, providing a 'big-picture' perspective, integrating and synthesizing across multiple systems and results, monitoring the machine's performance, understanding the machine's strengths and weaknesses, eliciting information the system needs and persuading humans to act on automated

[62] Choi et al., *supra* note 36.

[63] *Use of Artificial Intelligence in Legal Practice*, *supra* note 36, at 5.

[64] Despite this, some jurisdictions have shown resistance to these practices. Notably, France has banned judicial analytics.

[65] Will Dobbie, Jacob Goldin & Crystal S. Yang, *The Effects of Pretrial Detention on Conviction, Future Crime, and Employment: Evidence from Randomly Assigned Judges*, 108 Am. Econ. Rev. 201, 201–40 (2018).

[66] *Use of Artificial Intelligence in Legal Practice*, *supra* note 36, at 6.

[67] *Id.*

[68] Robert J. Ambrogi, *New GPT-Based Chat App from LawDroid Is a Lawyer's 'Copilot' for Research, Drafting, Brainstorming and More*, LawSites (Jan. 25, 2023), https://www.lawnext.com/2023/01/new-gpt-based-chat-app-from-lawdroid-is-a-lawyers-copilot-for-research-drafting-brainstorming-and-more.html (last visited Dec. 18, 2023).

[69] Iu & Wong, *supra* note 52. See, with respect to legal writing, Benjamin Alarie, Arthur Cockfield & GPT-3, *Will Machines Replace Us? Machine-Authored Texts and the Future of Scholarship*, 3 Law Technol. Humans 5, 7 (2021).

recommendations.[70] In other words, true innovative thinking, a big-picture perspective and contextual reasoning are distinctive human features that remain unattainable by generative AI models—at least for now.[71]

In a new era of AI-driven legal work, three key abilities will emerge as essential for human lawyers: innovation, judgement and accountability.[72]

Concerning innovative thinking, it is important to note that the specific way in which humans generate new ideas gives them an inherent advantage over AI in many tasks. Indeed, humans and generative AI models produce outputs in a fundamentally different manner. For humans, innovation is often a process of inspiration through reading, hearing or seeing something, followed by a reiteration of thoughts.[73] In contrast, AI generates text not by mimicking human thought processes but by using algorithms to analyse patterns, identify trends and make predictions from vast data.[74]

Turning to judgement, it bears noticing that lawyers are expected to have skills that transcend knowledge of specialized laws or regulations, requiring the ability to discern potential legal problems in a situation.[75] Legal issues are rarely clear-cut; lawyers must consider different perspectives, maintain neutrality or consider clients' situations, goals and interests while also assessing actions that serve short- and long-term interests.[76] Typically, legal work is not only about what is written in the law but also involves persuading others and selecting the best course of action, all whilst considering multiple options and complex interests.[77] These activities are beyond the capabilities of AI, which are rooted in statistical and technical predictions.

Finally, it is important to note that AI has inherent limitations that preclude users from fully trusting the results produced in a legal setting. First, the process of AI-generated content is opaque, lacking a full explanation for the selection of each word.[78] Second, the results of generative AI tools may be produced using biased data or faulty training methods, which means the results cannot be accepted without thorough vetting.[79] Third, AI lacks emotional intelligence and fails to offer the same level of empathy and human connection as people, thus lacking the ability to do much of the legal work that requires these values.[80]

[70] See generally Thomas H. Davenport & Julia Kirby, Only Humans Need Apply: Winners and Losers in the Age of Smart Machines 89–253 (2016).

[71] Marco Iansiti & Karim R. Lakhani, Competing in the Age of AI: Strategy and Leadership When Algorithms and Networks Run the World 280–88 (Illustrated ed. 2020).

[72] Michael Simon et al., *Lola v. Skadden and the Automation of the Legal Profession*, 20 Yale JL & Tech. 234, 290 (2018).

[73] Raj Shamani, *3 Reasons Why AI Can Never Replace Humans*, Medium (Sep. 5, 2023), https://rajshamani.medium.com/3-reasons-why-ai-can-never-replace-humans-e5bc9a654ef7 (last visited Jan. 6, 2024).

[74] Charu C. Aggarwal, Artificial Intelligence: A Textbook 1–2 (2021).

[75] Model Rules of Professional Conduct, https://www.americanbar.org/groups/professional_responsibility/publications/model_rules_of_professional_conduct/model_rules_of_professional_conduct_table_of_contents/ (last visited Jan. 6, 2024).

[76] Simon et al., *supra* note 72.

[77] Kalliopi Michalakopoulou et al., *Innovation in the Legal Service Industry: Examining the Roles of Human and Social Capital, and Knowledge and Technology Transfer*, Int. J. Entrep. Innov. 1, 1–3 (2022).

[78] See Felix Tun Han Lo, *The Paradoxical Transparency of Opaque Machine Learning*, Ai & Society (2022), https://doi.org/10.1007/s00146-022-01616-7 (last visited Jan. 6, 2024).

[79] Marcello Ienca, *On Artificial Intelligence and Manipulation*, 42 Topoi 833, 834–42 (2023). For instance, in a widely reported case in 2023, American lawyer Steven Schwartz cited six fictitious cases generated by ChatGPT in a court document. Dan Mangan, *Judge Sanctions Lawyers for Brief Written by A.I. with Fake Citations*, CNBC (2023), https://www.cnbc.com/2023/06/22/judge-sanctions-lawyers-whose-ai-written-filing-contained-fake-citations.html (last visited Dec. 18, 2023).

[80] Kevin LaGrandeur, *Emotion, Artificial Intelligence, and Ethics*, *in* Beyond Artificial Intelligence: The Disappearing Human-Machine Divide 97, 100 (Jan Romportl, Eva Zackova & Jozef Kelemen eds., 2015).

In summary, legal practice involves more than generating text-based responses; it is a complex interplay of skills and ethical considerations that falls beyond the current scope of AI, which cannot replace the nuanced counsel provided by human attorneys.[81] Therefore, monitoring the machine's performance and knowing its strengths and weaknesses are essential for ensuring 'accountability', a fundamental aspect of the legal profession.[82] To ensure the reliability of any content produced by generative AI, human lawyers must check AI-generated content,[83] which underscores their irreplaceable role in legal practice. To maintain their role within the legal sphere, human legal professionals will have to develop their skills in these three areas and understand how to leverage them in a new AI-driven environment.

The Relevance and Content of AI Literacy for Legal Professionals

Despite the irreplaceability of human lawyers, the formidable capabilities demonstrated by generative AI in the legal sector will, as previously mentioned, reshape the requisite skills and abilities to successfully enter and thrive in the legal profession. With AI becoming a crucial component of legal practice,[84] a new skill—AI literacy, which is the capacity to bridge the gap between law and technology[85]—is emerging as an essential attribute for every proficient lawyer.[86]

In this context, AI literacy can be broadly categorized into three dimensions: understanding AI, applying AI and evaluating AI.[87] However, a few notes are warranted in this regard. First, understanding AI does not necessitate transforming every legal professional into an AI specialist.[88] Instead, it requires that lawyers comprehend the basic techniques and concepts underpinning AI products. Understanding the fundamental principles of AI is a prerequisite for its use: 'without understanding how the algorithms generate results, it is difficult, if not impossible, for attorneys to vet the information'.[89]

Given lawyers' role in scrutinizing the quality and ethical issues of the outputs produced by machines, AI literacy demands that lawyers understand the limitations of generative AI tools and the types of mistakes they are likely to make.[90] Another crucial aspect of using AI involves determining the appropriate

[81] Erica Sandberg, How Law Firms Are Using Artificial Intelligence in Their Practices | Explore Law Firms and Legal Advice, U.S. News (July 31, 2023), https://law.usnews.com/law-firms/advice/articles/how-law-firms-use-ai (last visited Dec. 16, 2023).

[82] Heather Barney, *Accountability in the Legal Profession*, *in* Organizational Improvement and Accountability 65, 68 (Brian Stecher & Sheila Nataraj Kirby eds., 2004).

[83] See also *Use of Artificial Intelligence in Legal Practice*, *supra* note 36.

[84] Ian Rodgers, John Armour & Mari Sako, *How Technology Is (or Is Not) Transforming Law Firms*, 19 Annu. Rev. Law Soc. Sci. 299, 303 (2023).

[85] Jordan Bigda, *The Legal Profession: From Humans to Robots*, 18 J. High Technol. Law 396, 421 (2017).

[86] Beyond this, AI literacy will be increasingly relevant given the number of AI-related transactions and court cases that are characterized by their substantial financial stakes and influence. See, for example, the widely publicized case between *The New York Times* and OpenAI and Microsoft for copyright infringement. Michael M. Grynbaum & Ryan Mac, *The Times Sues OpenAI and Microsoft Over A.I. Use of Copyrighted Work*, The New York Times (Dec. 27, 2023), https://www.nytimes.com/2023/12/27/business/media/new-york-times-open-ai-microsoft-lawsuit.html (last visited Jan. 6, 2024).

[87] Davy Tsz Kit Ng et al., *Conceptualizing AI Literacy: An Exploratory Review*, 2 Comput. Educ. Artif. Intell. 1, 4 (2021).

[88] Michael D. Murray, *Artificial Intelligence and the Practice of Law Part 1: Lawyers Must Be Professional and Responsible Supervisors of AI* (2023), https://papers.ssrn.com/abstract=4478588 (last visited Jan. 26, 2024).

[89] Jamie J. Baker, *2018: A Legal Research Odyssey: Artificial Intelligence as Disruptor*, 110 Law Libr. J. 5, 22–23 (2018).

[90] Simon et al., *supra* note 72, at 302.

occasions for its use, as well as when to supervise the content generated by AI to avoid ethical pitfalls and instances of malpractice.[91]

Finally, the ability to use AI implies that lawyers are able to glean useful information from interacting with generative AI. However, this is not a straightforward process, as the quality of an AI response hinges not only on its own data but also relies significantly on the prompts it receives. Therefore, for lawyers, prompt engineering—that is, the practice of crafting prompts to optimize the performance of language models—becomes a mandatory component of mastering AI literacy.[92] Those well-versed in AI literacy will have easy access to an extensive pool of knowledge and resources, which can facilitate more informed decision-making.[93]

Given the growing competitiveness of the legal market, achieving these skills will be increasingly relevant. Proficiency in AI literacy can equip lawyers with a significant competitive advantage, notably in terms of time efficiency, delivering superior services and capitalizing on emerging opportunities.[94] Over time, this literacy will become less and less optional as competitive forces will pressure many within the legal profession to adopt these tools. As Richard Susskind notes, for lawyers to thrive in the AI era, cultivating AI literacy is not just beneficial but essential, and those unable to develop such capabilities may find their professional relevance dwindling in this rapidly evolving landscape.[95]

The Role of Law Schools in Nurturing AI Literacy

Thus far, the analysis supports two propositions. First, the fundamental objective of contemporary law schools is to equip students for the legal profession. Second, although the AI revolution will not eradicate the need for human lawyers, it will undeniably shape the skills necessary for success in the legal profession.

However, the question remains whether law schools should take on the task of equipping future lawyers with AI literacy skills. Indeed, given the relatively brief span and limited practical opportunities afforded by law schools, students cannot be expected to fully master all the skills required to become competent legal professionals within their legal studies alone. Many indispensable legal skills can only be acquired and mastered through actual legal practice.

This question is reminiscent of the age-old debate regarding the division of labour between academia and the profession in developing legal skills. According to a report published by the Institute for the Advancement of the American Legal System in December 2020, a competent lawyer must possess a

[91] Jamie J. Baker, *supra* note 89, at 29–30. Notably, an Australian senate inquiry into the consultancy industry acknowledged that its integrity had been compromised by reliance on AI-generated forged case studies. Henry Belot, *KPMG Lodges Complaint after AI-Generated Material Was Used to Implicate Them in Non-Existent Scandals*, The Guardian (Nov. 3, 2023), https://www.theguardian.com/business/2023/nov/03/kpmg-ai-complaint-non-existent-scandal-ai-case-studies-google-bard (last visited Dec. 10, 2023).

[92] Choi et al., *supra* note 36, at 396–400.

[93] Clients can also potentially benefit from interactions with AI-savvy lawyers. For instance, through the use of AI-powered client relations management systems, lawyers can maintain continuous client engagement, keeping them abreast of case progress and promptly responding to inquiries. *The Role of AI in Enhancing Legal Service Delivery*, LinkedIn, https://www.linkedin.com/pulse/role-ai-enhancing-legal-service-delivery-abigail-gibson-vy2vf/ (last visited Jan. 6, 2024).

[94] Legg & Bell, *supra* note 40, at 58–59. In the legal sphere, time equates to financial value. Nevertheless, lawyers often find themselves allocating precious time to repetitive administrative tasks. Jason Mendelson & Alexander Paul, How to Be a Lawyer: The Path from Law School to Success 162 (2022).

[95] Richard Susskind, Tomorrow's Lawyers: An Introduction to Your Future 300–310 (3d ed. 2023).

combination of skills that can be divided into three groups: mastery of general knowledge, legal expertise and practical skills.[96] The former two are predominantly nurtured within the academic environment of law schools. Indeed, law schools design courses to cultivate intellectual rigour, analytical clarity, linguistic precision, critical thinking skills and capacity for intensive research—efforts designed to foster the general knowledge necessary for lawyers. Legal expertise is developed through courses that introduce and study various branches of law.[97] In comparison, practical skills are mainly developed through practical experience. For instance, many schools incorporate legal clinics, which focus on honing students' practical skills as a vital part of their curriculum.[98] However, regarding this last skill category, learning within a practice context is generally more effective in instilling these skills.

As such, a case could be made that legal professionals should focus on developing AI literacy during their practice rather than within their law school studies. In this scenario, the uptake of generative AI by legal professionals should not translate into the integration of generative AI into law school curricula. Law schools could adopt a merely reactive approach to the uptake of generative AI tools by students; for example, by clarifying if and when students are allowed to use such tools in their learning and academic output. Notably, this approach has been widely followed since early 2023, when generative AI tools entered the mainstream. To this effect, the UK Joint Council for Qualifications issued guidelines largely directed at preventing, limiting or disclosing the use of generative AI by students in assessments and coursework, thus emphasizing the need for students to submit their own work and demonstrate their own knowledge.[99]

Although this approach had its merits when students first began to use generative AI tools, we contend that it should not be the sole method by which law schools address generative AI usage moving forward. We propose that, alongside clear guidelines regarding the use of generative AI tools, law schools should take an active role in nurturing students' AI literacy for several reasons.

First, as previously mentioned, law schools are tasked with equipping students with a mastery of general knowledge, legal expertise and practical skills. Generative AI transcends these three categories insofar as AI penetration at all levels of legal knowledge is increasing over time. Mastery of AI literacy is essential for the development of students' general knowledge, and learning to use AI can significantly enhance their legal expertise. Simultaneously, given the widespread application of generative AI in legal services, it constitutes an integral component of practical skills. Therefore, AI literacy merits inclusion at both the law school level and as part of professional development.

Secondly, generative AI has the potential to disrupt many of the traditional components of teaching and learning in certain assessments. This predicament is not purely hypothetical. A report published after the release of ChatGPT revealed that 80% of students in the United States had exploited this tool for their

[96] The Report identifies 12 particular skills: 1. The ability to act professionally and in accordance with the rules of professional conduct; 2. An understanding of legal processes and sources of law; 3. An understanding of threshold concepts in many subjects; 4. The ability to interpret legal materials; 5. The ability to interact effectively with clients; 6. The ability to identify legal issues; 7. The ability to conduct research; 8. The ability to communicate as a lawyer; 9. The ability to see the 'big picture' of client matters; 10. The ability to manage a law-related workload responsibly; 11. The ability to cope with the stresses of legal practice; 12. The ability to pursue self-directed learning. See Logan Cornett & Deborah Jones Merritt, *Building a Better Bar: The Twelve Building Blocks of Minimum Competence*, 30–61 (2020).

[97] See Susskind, *supra* note 95, 28–38.

[98] Robert Stevens, Law School: Legal Education in America from the 1850s to the 1980s 119 (1987).

[99] AI Use in Assessments Protecting the Integrity of Qualifications, Joint Council for Qualifications, https://www.jcq.org.uk/wp-content/uploads/2023/04/JCQ-AI-Use-in-Assessments-Protecting-the-Integrity-of-Qualifications.pdf (last visited Feb. 9, 2024).

assignments.[100] If students are allowed to use generative AI to complete these tasks, the learning value of these traditional types of assignments may be diminished, particularly in terms of developing their general knowledge of the law or their skills as legal professionals. Furthermore, the undirected and unregulated use of generative AI tools by students may spawn an over-reliance on AI. The convenience of using generative AI tools to complete assignments may discourage students from actively engaging with the material and may prompt them to act more as mere operators of AI-based tools or assemblers of pre-drafted texts than students who truly engage in creative legal work.[101]

Ethical issues also arise with the use of generative AI tools, which can engage in multi-turn conversations with users and generate a wide range of texts tailored to their needs. This capability may significantly increase instances of academic dishonesty, potentially sparking a cascade of ethical crises in education.[102] For example, students may use generative AI to complete examinations and answer questions, resulting in fraudulent grades and ultimately undermining fair competition.[103]

Finally, the use of generative AI tools raises concerns regarding the quality of the work produced by students. As previously mentioned, these tools rely on pre-trained LLMs,[104] and the quality of their output is contingent on the quality and quantity of the training data in the model's algorithm, which may produce inaccurate outputs. Therefore, an unavoidable risk remains that these tools may produce mistaken or utterly false statements and fabricate legal information.[105] Therefore, students require the skills to verify and correct the machine's inaccuracies.

Given these considerations, a compelling argument can be made for law schools to incorporate AI literacy into their curricula as a means of fostering the general and professional knowledge necessary for students to become competent lawyers. In other words, to fulfil their educational objective of preparing students for the legal profession, schools must not only allow students to use AI but also emphasize the development of AI literacy. This demands that students be allowed to incorporate generative AI into their studies. However, the extent to which this usage can be incorporated into students' classwork is a particularly thorny question.

Integrating AI Literacy into Legal Education: Strategies for the Future

If, as we argue, teaching students how to best use generative AI should be a concern of law schools, the final question that emerges is how law schools should integrate these technologies into their curricula.

[100] Chris Westfall, *Educators Battle Plagiarism as 89% of Students Admit to Using OpenAI's ChatGPT For Homework*, Forbes (Jan. 28, 2023), https://www.forbes.com/sites/chriswestfall/2023/01/28/educators-battle-plagiarism-as-89-of-students-admit-to-using-open-ais-chatgpt-for-homework/ (last visited Dec. 18, 2023).

[101] Paul Fyfe, *How to Cheat on Your Final Paper: Assigning AI for Student Writing*, 38 Ai & Society 1395, 1403 (2023).

[102] Hao Yu, *Reflection on Whether Chat GPT Should Be Banned by Academia from the Perspective of Education and Teaching*, 14 Front. Psychol. (2023), https://www.frontiersin.org/articles/10.3389/fpsyg.2023.1181712 (last visited Dec. 18, 2023).

[103] Joseph Crawford, Michael Cowling & Kelly-Ann Allen, *Leadership Is Needed for Ethical ChatGPT: Character, Assessment, and Learning Using Artificial Intelligence (AI)*, 20 J. Univ. Teach. Learn. Pract. 1, 9 (2023). For instance, the Massachusetts Institute of Technology witnessed an incident where three students developed a paper-generating software, 'SCI Gen', whose outputs were frequently accepted by academic journals and conferences. Adam Conner-Simons, *How Three MIT Students Fooled the World of Scientific Journals*, MIT News | Massachusetts Institute of Technology (Apr. 14, 2015), https://news.mit.edu/2015/how-three-mit-students-fooled-scientific-journals-0414 (last visited Dec. 18, 2023).

[104] See above, the section 'How Generative LLMs Function'.

[105] Faisal R. Elali & Leena N. Rachid, *AI-Generated Research Paper Fabrication and Plagiarism in the Scientific Community*, 4 Patterns 1, 1 (2023).

We assert that although law schools should not teach students AI literacy as a separate subject, they should integrate AI literacy skills into the curriculum.[106] In this section, we make two specific suggestions in this respect: one concerning course and assessment design and the other concerning academic integrity.

However, two general considerations should be addressed before moving to such proposals. First, to successfully integrate AI literacy into the law curriculum, law schools should support instructors in becoming AI literate themselves. In this respect, we notice several initiatives across institutions in different jurisdictions to support instructors, notably the creation of specialized centres and resources at the university level.[107] Examples of such resources include open-source repositories containing links and information on generative AI tools relevant to teaching and learning, examples of prompts and the sharing of experiences and feedback among instructors and students on the use of AI in academic settings.

Second, incorporating generative AI into teaching and learning also obliges law schools to solve the issue of democratization and equal access to technology for all students. Some generative AI tools are commercial products that require subscriptions. In the same way that access to legal materials and essential texts can be democratized by supporting educators through adopting open-source alternatives,[108] access to generative AI can be guaranteed for all students by supporting educators in sourcing free or less expensive options. Alternatively, law schools can provide all students with generative AI product subscriptions, a practice adopted by many universities in Hong Kong.[109]

Alongside supporting instructors' literacy and students' access, we propose that law schools should implement two critical changes: the diversification of assessment methods and the issuance of clear guidelines for students. Such guidelines would be directed at clarifying the acceptable use of generative AI and reinforcing academic integrity, such as through the introduction of AI-focused ethics courses.

AI Literacy and Assessment Design

Incorporating generative AI tools into the legal curriculum is particularly challenging in terms of assessment design. Law courses usually rely on a range of assignments to verify and bolster students' understanding of the subject matter. Traditionally, assessments include examinations typically completed under invigilated and time-constrained conditions, as well as coursework that includes any other form of assessment taking place outside such strict, formal conditions.[110] In this sense, coursework may include take-home assignments in the form of dissertations and essays, presentations and group work.

Traditionally, law schools have primarily relied on examinations directed at testing students' ability to memorize and recall the content of the law, such as in-class, closed-book exams with essay or multiple-choice questions as the main assessment method.[111] These traditional assessments are useful to ascertain

[106] Before the popularization of generative AI, a select group of forward-thinking law schools had already recognized the need to better prepare students for a future where machine-learning technologies will significantly influence the practice of law and have accordingly integrated opportunities for students to familiarize themselves with AI legal technologies. Christian Powell Sundquist, *Technology and the (Re)Construction of Law*, 70 J. Leg. Educ. 402, 410 (2021).

[107] See, for example, *Incorporating Generative AI in Teaching and Learning: Faculty Examples Across Disciplines*, https://ctl.columbia.edu/resources-and-technology/resources/incorporating-generative-ai-teaching/ (last visited Feb. 9, 2024).

[108] David W. Ball & Michelle Oberman, *The Case Against Commercial Casebooks*, 71 J. Leg. Educ. 452, 453 (2022).

[109] Hong Kong Baptist University begins ChatGPT trial for teachers, but concerns remain, *supra* note 14.

[110] John Heywood & Thomas A. Angelo, Assessment in Higher Education: Student Learning, Teaching, Programmes, and Institutions 17–18 (2000).

[111] April Land & Aliza Organick, *Moving Law Schools Forward by Design: Designing Law School Curricula to Transfer Learning from Classroom Theory to Clinical Practice and Beyond*, 71 J. Leg. Educ. 503, 503 (2021). Andrew Henderson & Heather

one of the essential components of legal education mentioned in Section 2, that is, substantive legal knowledge. However, with the widespread adoption of generative AI tools, memory-based abilities have become less crucial for lawyers, supplanted by the need for critical analysis, creative problem-solving and independent judgement.[112] These skills are also part of the essential components of legal education, namely developing the fundamental analytical skills required by legal professionals, legal research, lawyering skills and overall fostering a legal mindset. These skills are only partially assessed and poorly nurtured via traditional assessments that primarily prompt students to recite memorized information.[113] Additionally, as previously mentioned, the legal profession is embracing generative AI tools for several essential tasks in lawyers' daily work, which requires law graduates to be proficient users of this technology. To facilitate the integration of generative AI into legal education, law schools should abandon a teaching model that emphasizes memorization and recitation of specific knowledge and diversify assessment methods to more effectively nurture the other abilities required of legal professionals in the era of generative AI.

The diversification of student assessment entails two sets of changes. First, several assessment methods, rarely used today, should be used more widely by law schools. In particular, coursework assessments (e.g., group projects or oral presentations) should be used more often as an evaluation tool. Classic examinations should also evolve, with interactive oral exams emerging as useful tools in this regard. These assessment methods require students to develop different skills, such as the ability to effectively communicate the knowledge they have acquired, both within their team and to a larger audience, which is an important lawyering competence. These skills become paramount for legal professionals in an environment where tasks such as drafting legal documents can increasingly be delegated to AI.

Second, diversification requires legal educators to develop new types of assessments that specifically leverage the capabilities of generative AI tools whilst training students to use them correctly and verify the information provided. Indeed, ensuring the accuracy of a legal document is a crucial lawyering skill, as well as part of a lawyer's mindset. Take-home assignments can serve a role in this regard, as they entail a multifaceted process that engages various student abilities. Given the potential for students to delegate this type of assignment to generative AI tools, the traditional take-home assignment must be revised and adapted. For instance, students may be allowed to use generative AI to gather information and brainstorm ideas. This process has the potential to improve both students' knowledge and their ability to carry out legal research while at the same time raising their overall AI literacy. Additionally, these assessment methods should be systematically combined with oral presentations, meetings, debates and group projects, where students can prove and improve their analytical and creative abilities. With this approach, law school can effectively teach all the crucial components of legal education besides substantive knowledge of the law.

Another way of adapting classic take-home assignments is to have students compose their essays on a particular legal topic using a generative AI tool and then write a second essay explaining how they

Roberts, *Designing Law School Assessment to Meet New Forms of Legal Practice: A Model from Australia*, 28 Clin. Law Rev. 451, 453 (2022).

[112] Christian Powell Sundquist, *supra* note 106, at 407–08.

[113] Paul Bridges et al., *Coursework Marks High, Examination Marks Low: Discuss*, 27 Assess. Eval. High. Educ. 35, 46–47 (2002).

generated the first, how they refined and improved it, how they verified the information provided and how they complemented it with the information learnt in class.[114]

More generally, in reflecting upon the diversification of assessments, law schools should encourage instructors to follow both classic views on backward design (i.e., determining a course's learning outcomes to guide the choice of assessment methods)[115] and more novel approaches regarding the use of authentic assessments to improve skills such as employability and ethical thinking.[116]

AI Literacy and Academic Integrity

The emphasis on academic integrity is crucial, particularly in light of the ethical dilemmas posed by generative AI. Therefore, it is imperative for law schools to establish clear guidelines and boundaries regarding the use of AI in academic work. Such guidelines must address both teachers and students and clarify the acceptable uses of generative AI, as well as the transparency requirements necessary to guarantee that the integration of generative AI into assessments and coursework aligns with academic integrity. Indeed, academic integrity issues could have far-reaching implications for a law student's reputation and future professional trajectory.[117] Additionally, students' widespread, unchecked and uneven use of generative AI tools could compromise a law school's reputation and ability to prepare graduates for the legal profession.

Generative AI tools can be employed in various ways during a student's learning process, from enhancing essay language to researching content for papers and brainstorming ideas to fully complete assignments. Naturally, not all uses of generative AI tools by students are acceptable. Although a unified standard is currently lacking, several universities have issued specific generative AI policies. For example, in the United States, many institutions, such as Yale[118] and UCLA,[119] issued AI policies at the start of the fall 2023 semester. Although institutions take various approaches to this issue, in general, these policies predominantly assign individual instructors the responsibility for establishing rules for the integration of generative AI into their courses and informing students about the expectations, requirements and boundaries surrounding such use. They also build upon existing and updated policies regarding academic integrity to guarantee that any evolution in teaching and learning methods aligns with the university's ethics policies.

In the same manner, in the United Kingdom, the institutions belonging to the Russell Group have issued an AI policy comprising five commitments, including supporting students and staff to become AI

[114] Dan Hunter, https://www.linkedin.com/posts/dan-hunter-ab8803131_and-from-the-ai-will-eat-the-world-but-activity-7112050003363143681-us-B/?trk=public_profile_like_view (last visited Feb. 8, 2024).

[115] C. Weng et al., Learning Law Through Experience & by Design 33–41 (2019). For an application in the context of a law course, see: Carolyn Grose, *Outcomes-Based Education One Course at a Time: My Experiment with Estates and Trusts*, 62 J. Leg. Educ. 336, 336–66 (2012).

[116] Popi Sotiriadou et al., *The Role of Authentic Assessment to Preserve Academic Integrity and Promote Skill Development and Employability*, 45 Stud. High. Educ. 2132, 2140–48 (2020).; Sue Cranmer, *Enhancing Graduate Employability: Best Intentions and Mixed Outcomes*, 31 Stud. High. Educ. 169, 169–70 (2006).

[117] Colin G. James & Saadia Mahmud, *Promoting Academic Integrity in Legal Education: 'Unanswered Questions' on Disclosure* (2014), https://papers.ssrn.com/abstract=2531138 (last visited Dec. 18, 2023).

[118] Guidelines for the Use of Generative AI Tools, Office of the Provost (2023), https://provost.yale.edu/news/guidelines-use-generative-ai-tools (last visited Feb. 9, 2024).

[119] Guidance for the Use of Generative AI—UCLA Center for the Advancement of Teaching, https://teaching.ucla.edu/resources/ai_guidance/ (last visited Feb. 9, 2024).

literate and effectively use generative AI in their learning experience, adapting teaching and assessments to incorporate the ethical use of generative AI, supporting equal access to generative AI for all students, upholding academic integrity and sharing best practices to keep pace with the evolution of technology.[120]

Building on this policy, universities belonging to the Russell Group issued specific documents at the beginning of the fall semester of 2023. For example, the University of Cambridge put forward a series of clear principles to help students and teachers identify the correct uses of generative AI and establish accountability in case these rules are violated.[121] Notably, instructors and centres bear 'the primary responsibility for identifying any inappropriate use of generative AI by students', and, in particular, 'teachers must keep student work submitted for assessment as coursework under supervision and must be able to authenticate it as the candidate's own original unaided work'. The guidance also enumerates a series of techniques to help teachers identify misuse of generative AI and issues of non-disclosure. For example, according to the guidance, 'work produced partly or completely by AI is likely to be strong on evidence and information and weak on analysis and evaluation or the expression of a distinctive point of view', and it is susceptible to displaying tautology and pleonasm.

Finally, the use of generative AI can affect not only teaching activities in law schools but also student competitions and other extracurricular activities that involve writing legal texts. For example, at the end of 2023, the Vis International Commercial Arbitration Moot (Vis Moot) issued new AI rules that prohibit the submission of AI-generated texts to safeguard the academic nature of the competition and require the disclosure of AI use in submitted work.[122]

Lastly, we also note that in the near future, the establishment of AI-specific ethics courses will become a pressing need in law schools. Although it is generally agreed that legal professionals have an ethical obligation to use AI responsibly,[123] at this stage, we have not seen many specific courses designed to equip students with the knowledge and skills required to navigate the ethical challenges associated with AI usage. Despite this not being a core competency developed in law schools, it is paramount to educate students more specifically about the intersection between academic integrity and AI, which could be accomplished by introducing specific courses on AI ethics in teaching and learning into the law curriculum.

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[120] Russell Group principles on the use of generative AI tools in education, https://russellgroup.ac.uk/media/6137/rg_ai_principles-final.pdf (last visited Feb. 9, 2024).

[121] *The Use of Generative AI in Coursework from November 2023*, https://www.cambridgeinternational.org/exam-administration/cambridge-exams-officers-guide/phase-3-coursework-and-moderation/generative-ai-in-coursework/ (last visited Feb. 9, 2024).

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