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The 'other' LLM: large language models and the future of legal education

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Abstract

Legal education will be one of the primary areas affected by the advent of large language models ("LLMs"). And both law students and law teachers will feel the inevitable attraction of LLMs. Got an essay on negligence due tomorrow? No problem – get ChatGPT to draft a general outline, add in some case references, and *voilà* – an essay. Similarly, during a busy marking season, teachers may be tempted to ask an LLM to review student essays and then allocate marks based on those reviews. The responses to inappropriate LLM usage will vary across law schools. Some will undoubtedly stick their collective heads in the sand by banning ChatGPT. They may even be tempted to revert to handwritten examinations, mooting, and in-class essays as the only assessment forms. I argue that such responses are misguided. After all, the challenge presented by LLMs is a challenge that other faculties have faced before – most notably, the mathematics department with the invention of the calculator. Could LLMs have the same positive impact on legal education that calculators have had on mathematics education? I argue that they can, but that learners must be guided toward appropriate rather than inappropriate LLM usage. How can legal education learners be guided toward appropriate rather than inappropriate LLM usage? I posit that the most effective method to guide learners toward appropriate usage is to make legal education such a joyful, meaningful, and engaging enterprise that learners will *want* to do it themselves – rather than let computers have all the fun.

Keywords: Technology-enhanced education; artificial intelligence; active learning environments.

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Introduction

On 21 December 2022, Andrew Perlman, the Dean of Suffolk University Law School, posted an academic paper on the Social Science Research Network ("SSRN"). This otherwise unremarkable occurrence was rendered remarkable by the identity of Perlman's co-author: ChatGPT, a large language model ("LLM") chatbot developed by OpenAI, an artificial intelligence ("AI") research laboratory. ChatGPT wrote most of the 24-page paper; Perlman contributed the abstract, preface, section headings, and epilogue. To generate the content, he inputted various prompts, such as "[d]raft a brief to the United States Supreme Court on why its decision on same-sex marriage should not be overturned"[1] and "[e]xplain the concept of personal jurisdiction."[2] The results are good, not great. Perlman describes ChatGPT's output as "surprisingly sophisticated" albeit "incomplete and problematic in numerous ways."[3] But the broader point of Perlman's experiment is clear: disruption of legal academia by LLMs and other AI applications is not near-term. It is now.

Developments since Perlman's paper show the swiftness with which technology advances. LLMs are now passing the bar exams in the United States[4] and the Solicitors Qualifying Examination used in England and Wales.[5] Fears abound: could LLMs strip modern legal education of its (remaining) humanity? Will, through its mechanistic processes, legal education become (even further) degraded? The responses adopted by some educational institutions reflect such concerns. The Institut d'études politiques de Paris banned students' use of ChatGPT in "the production of written or oral evaluations."[6] New York City blocked access to ChatGPT across public school

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[1] Andrew M Perlman, 'The Implications of ChatGPT for Legal Services and Society' (5 December 2022) 5 <https://papers.ssrn.com/abstract=4294197> accessed 22 October 2023.
[2] ibid 6.
[3] ibid 21.
[4] Debra Cassens Weiss, 'Latest Version of ChatGPT Aces Bar Exam with Score Nearing 90th Percentile' (*ABA Journal*) <https://www.abajournal.com/web/article/latest-version-of-chatgpt-aces-the-bar-exam-with-score-in-90th-percentile> accessed 22 October 2023.
[5] Marjan Ajevski and others, 'ChatGPT and the Future of Legal Education and Practice' (2023) 57 The Law Teacher 352, 355–356.
[6] 'ChatGPT: Sciences Po Implements Rules and Opens up Discussion About AI in Higher Education' (*Sciences Po*) <https://www.sciencespo.fr/en/news/sciences-po-implements-strict-rules-about-the-use-of-chatgpt-by-students> accessed 22 October 2023.

computers and networks,[7] citing concerns about 'negative impacts on student learning' and concerns regarding the safety and accuracy of content.'[8] Italy banned ChatGPT from the entire country on data privacy grounds (only to lift the ban a few weeks later).[9]

Bans are simply not going to work. Country-level restrictions on LLMs are readily circumvented by using virtual private networks. And, as Kevin Roose explains, 'school[s] can block the ChatGPT website on school networks and school-owned devices' but 'students have phones, laptops and any number of other ways of accessing it outside of class.'[10] Further, ways of accessing LLMs are proliferating: LLMs are rapidly being integrated into standard applications, from customer service chatbots[11] to Microsoft Word.[12] And, in the legal education context, laptops and smartphones are firmly entrenched. The prospects are bleak for prying these devices from learners' hands.[13] To this end, Roose offers a suggestion: '[i]nstead of starting an endless game of whack-a-mole against an ever-expanding army of [LLMs],' educational institutions should treat LLMs 'the way they treat calculators' – that is, by allowing or even

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[7] Kevin Roose, 'Don't Ban ChatGPT in Schools. Teach With It.' *The New York Times* (12 January 2023). The ban has since been rescinded: Brandon Sapienza, 'NYC Public Schools Drop Ban on AI Tool ChatGPT' *Bloomberg.com* (18 May 2023) <https://www.bloomberg.com/news/articles/2023-05-18/new-york-city-public-schools-drop-ban-on-chatgpt> accessed 22 October 2023.

[8] *Roose (n 8).* Similar bans were instituted in the Australian states of New South Wales and Queensland: Caitlin Cassidy, 'Queensland Public Schools to Join NSW in Banning Students from ChatGPT' *The Guardian* (22 January 2023) <https://www.theguardian.com/australia-news/2023/jan/23/queensland-public-schools-to-join-nsw-in-banning-students-from-chatgpt> accessed 18 April 2023. However, these bans will end across Australia in 2024: Caitlin Cassidy, 'Artificial Intelligence Such as ChatGPT to Be Allowed in Australian Schools from 2024' *The Guardian* (6 October 2023) <https://www.theguardian.com/australia-news/2023/oct/06/chatgpt-ai-allowed-australian-schools-2024> accessed 22 October 2023.

[9] 'ChatGPT Banned in Italy Over Privacy Concerns' *BBC News* (31 March 2023) <https://www.bbc.com/news/technology-65139406> accessed 31 March 2023; 'ChatGPT Accessible Again in Italy' *BBC News* (28 April 2023) <https://www.bbc.com/news/technology-65431914> accessed 22 October 2023.

[10] Roose (n 8).

[11] 'ChatGPT Is Coming To A Customer Service Chatbot Near You' (*Forbes*, 2023) <https://www.forbes.com/sites/rashishrivastava/2023/01/09/chatgpt-is-coming-to-a-customer-service-chatbot-near-you/?sh=170b9d877eca> accessed 16 April 2023.

[12] 'Microsoft Is Bringing ChatGPT Technology to Word, Excel and Outlook' (*CNN*, 2023) <https://www.cnn.com/2023/03/16/tech/openai-gpt-microsoft-365/index.html> accessed 16 April 2023.

[13] Nikos Harris, 'The Risks of Technology in the Law Classroom: Why the Next Great Development in Legal Education Might Be Going Low-Tech' (2018) 51 University of British Columbia Law Review 773.

mandating it for some assignments, but not others, 'and assuming that unless students are being supervised in person with their devices stashed away, they're probably using one.'[14]

Roose's calculator analogy warrants further investigation. There are interesting parallels between calculators in mathematics education and LLMs in legal education. Like with LLMs today, some teachers pushed for calculator bans in the 1980s.[15] It took decades for teachers to come around to the idea that using calculators in classrooms would not lead to the 'dumbing down' of learners – let alone embrace the idea that calculators could actually *enhance* mathematical education.[16]

There is now a strong body of research proving that calculator usage promotes learner engagement with mathematics and improves learning outcomes.[17] Could LLMs have the same positive impact on legal education that calculators have had on mathematics education? I address this question in Section 2 of this article. I use Simon Sneddon's 'best appropriate technology' ('**BAT**') framework to explain calculators' success. I then apply the BAT framework to LLMs, concluding that LLMs are a potential BAT. However, concerns about inappropriate usages are entirely valid. Such inappropriate usages include asking an LLM to draft entire essays, inputting private information into LLMs, and uncritical reliance on LLMs' (often wrong) output. Overtime,

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[14] Roose (n 8).

[15] Anndee Hochman, 'Math Teachers Stage a Calculated Protest' *Washington Post* (4 April 1986) <https://www.washingtonpost.com/archive/local/1986/04/04/math-teachers-stage-a-calculated-protest/c003ddaf-b86f-4f2b-92ca-08533f3a5896/> accessed 16 April 2023.

[16] See generally: 'A Brief History of American K-12 Mathematics Education in the 20th Century' <http://www.csun.edu/~vcmth00m/AHistory.html> accessed 16 April 2023.

[17] Sean Close and others, 'Effects of Calculators on Mathematics Achievement and Attitudes of Ninth-Grade Students' (2012) 105 The Journal of Educational Research 377; Ray Hembree and Donald J Dessart, 'Effects of Hand-Held Calculators in Precollege Mathematics Education: A Meta-Analysis' (1986) 17 Journal for Research in Mathematics Education 83; Yeo Kai Kow Joseph, 'Exploring the Use of Calculators in Singapore's Primary Mathematics Currciculum' (2008) 2 Electronic Journal of Mathematics and Technology 73; Fatimah Salihah Radzuan and others, 'Impact of Scientific Calculators in Mathematics Among Low-Achieving Students in a Secondary School in Kajang, Selangor' (2021) 29 Pertanika Journal of Science and Technology <http://www.pertanika.upm.edu.my/pjssh/browse/special-issue?article=JSSH(S)-1497-2021> accessed 26 February 2023; 'Calculators Can Help Boost Children's Maths Skills, Research Suggests' (*University College London, Faculty of Education and Society*, 23 March 2018) <https://www.ucl.ac.uk/ioe/news/2018/mar/calculators-can-help-boost-childrens-maths-skills-research-suggests> accessed 26 February 2023.

inappropriate LLM usage would result in the LLM becoming a crutch – a crutch that prevents students from developing essential legal skills and blunts their ability to exercise critical judgement. How can legal education learners be guided toward appropriate rather than inappropriate LLM usage? I address this question in Section 3. I argue that the best way to steer learners to appropriate LLM usage is for teachers to reimagine legal education as such a joyful, meaningful, and engaging enterprise that law students will *want* to do it all themselves – rather than let computers have all the fun.

But before proceeding further, three caveats and one clarification are in order. The first caveat is that this article will focus on LLMs rather than the impact of AI generally. There is a practical necessity for this limitation: length. However, there is also a more fundamental one. Unlike many other AI technologies, LLMs are deployed and operating 'in the wild.' They are passing bar exams and writing legal academic articles. Their widespread deployment in legal practice – and many other industries – appears to be inevitable.[18]

This brings me to my second caveat, which is that the LLMs that ultimately end up being used in legal practice (and in other industries) may look very different to the specific LLM that this article relies upon, which is ChatGPT. There are various LLMs currently available, and their number is likely to grow. Each LLM will have various limitations, be trained on different datasets, have different data cut-off dates, and so on. As such, while this article focuses on ChatGPT, this particular LLM was chosen solely due to its current ubiquity and its ease of use.

The third caveat is that this article aims for applicability to legal education generally but will focus on law schools. As Rod Macdonald and Thomas McMorrow explain, legal education occurs in many locations: 'faculties of arts, community colleges, high schools, police colleges, bar admission courses, continuing education programs, NGOs, and prisons.'[19] Again, for reasons of

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[18] Legal practice, being so heavily saturated by language, and often having language (in the form of a contract, a judgment, an opinion, or an argument) as its product, is particularly suited to LLM usage. See generally: Madhumita Murgia, 'ChatGPT Maker OpenAI Unveils New Model GPT-4' *Financial Times* (14 March 2023) <https://www.ft.com/content/8bed5cd7-9d1e-4653-8673-f28bb8176385> accessed 16 April 2023.

[19] Roderick A Macdonald and Thomas B McMorrow, 'Decolonizing Law School' (2014) 51 Alberta Law Review 717, 718.

length, my focus is limited to just one legal education location: 'the university-based faculty of law that is accredited by a bar association.'[20]

The single clarification I would like to make is of my own positionally. I have studied and worked at law schools in Melbourne, Hong Kong, Singapore, and Montréal.[21] Overall, I am a common lawyer, comfortable with technology and its increasingly widespread applications. My arguments may only hold weight within the specific contexts in which I have gained knowledge and experience. In particular, I cannot speak to the particular experience at European, African, Middle Eastern, or South American law schools. Despite this limited positionally, my (perhaps over-ambitious) goal in this article is to address the subject matter – that is, LLMs in legal education – from a global perspective.

Calculators and LLMs as Best Appropriate Technologies

Sneddon laments that 'technology is often used in an educational context for non-pedagogical reasons.'[22] He identifies these non-pedagogical reasons as 'the novelty factor, a drive for more and continual innovation, cost saving' and finally 'the belief that technology is the solution to all the education world's ills.'[23] As Shauna Van Praagh and Eliza Bateman explain, the '[t]he benefits of technology can be great' but 'technology can also be limiting and overwhelming in the classroom.'[24] In order to avoid technology trumping pedagogy, Sneddon proposes the BAT model as 'the most viable lens'[25] through which to examine potential educational technologies. In this Section 2, I first explain the BAT framework by applying the framework to calculators in the context of mathematics education. I then argue that LLMs are a *potential* BAT in the context of legal education. I close this Section 2 with a short discussion.

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[20] *ibid.*

[21] The University of Melbourne, the Chinese University of Hong Kong, the National University of Singapore, and McGill University.

[22] Simon Sneddon, 'Do We Need to Use a Best Appropriate Technology Standard for Technology Enhanced Learning in Legal Education?' (2014) 39 European Journal of Legal Education 6, 47.

[23] *ibid.*

[24] Shauna Van Praagh and Eliza Bateman, 'Becoming a University Educator: Teaching Tomorrow's Law Teachers' [2020] Journal of Legal Education 770.

[25] Sneddon (n 23) 56–57.

The BAT Framework and Calculators

The BAT framework can be explained and applied to calculators by breaking down the framework into its constituent terms. ‘Technology’ is easily explained: it is simply any object that is being deployed in legal education, from a pencil to a laptop.[26] For this article’s purposes, calculators and LLMs are clearly technologies. By contrast, ‘best’ and ‘appropriate’ require further unpacking, as follows.

What is a ‘best’ technology?

A ‘best’ technology is simply one that enhances learning.[27] This can be achieved in various ways. And there can be more than one BAT.[28] So how are calculators a ‘best’ technology? Research suggests that calculators enhance learning by allowing a greater focus on the mathematical problem-solving process.[29] This occurs via two pathways.

First, calculators allow students to bypass time-consuming manual operations. This tends to promote sustained engagement, given that manual operations – that is, mathematical calculations – can be highly repetitive.[30] And repetitive operations readily lead to boredom. Second, calculators provide instant feedback. This has the effect of allowing learners to work at their own pace and level. For example, learners who struggle with arithmetic can use calculators to check their work, while the more advanced learners can use calculators to explore more complex mathematical problems.

What is an ‘appropriate’ technology?

An ‘appropriate’ technology is one that is capable of being implemented in an educational environment without detracting from the educational nature of that

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[26] *ibid 47.*

[27] *ibid 60.*

[28] This renders the usage of ‘best’ somewhat confusing, but to ensure consistency with existing literature I retain it here.

[29] Hembree and Dessart (n 18).

[30] For example, consider a problem that requires a learner to calculate the product of two large numbers. This would require several steps and take a significant amount of time to complete. This process could be highly repetitive and boring, leading to disengagement and a lack of interest in mathematics. However, the use of calculators obviates the need for manual calculations. This allows students to focus on the problem-solving process itself, rather than the calculations that underpin the problem.

environment.[31] Following Will Fastiggi, a crucial factor determining appropriateness is the degree of 'transparency' exhibited by the technology.[32] This entails a prioritisation of the educational enterprise over the technology that is facilitating its execution.

How are calculators an appropriate technology? Calculators are single-purpose, simple-to-operate tools. In my experience, they rarely encounter technical errors. As such, they do not generally distract from the primary academic goal – that is, learning mathematics. This attribute renders them transparent in the classroom. When learners use calculators in a mathematics class, they are generally focused on the academic content of the math problems they are solving rather than on the calculator itself. And if they are unfocused, then the calculator itself is unlikely to be the source of the distraction. Calculators cannot be used to access Instagram, message friends, or watch YouTube. In this sense, calculators are easily deployable but do not generally detract from the educational enterprise.

LLMs as a BAT

Are LLMs a 'best' technology? I argue that they are, because LLMs can have a similar effect as calculators in legal education by enhancing learning through the same two pathways identified above – that is, by bypassing time-consuming manual operations and by providing immediate feedback.

With respect to the first pathway, Jonathon H Choi *et al* explain that LLMs are 'especially useful at helping students to recite legal rules, even complicated legal rules that involve detailed case law synthesis, which the students could then analyse and apply to the specific facts of the case.'[33] This can save time and effort for learners who might otherwise have to search through multiple sources to find the specific legal information they need.

Consider a learner in a Hong Kong law school faced with an essay question regarding statutory interpretation. The learner would have undoubtedly learned about statutory interpretation in class. But hearing something once is not

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[31] Sneddon (n 23) 60.

[32] Will Fastiggi, 'Appropriate Technology in Education: Technology for Learners' (23 November 2014) <https://technologyforlearners.com/appropriate-technology-in-education/> accessed 28 March 2023.

[33] Jonathan H Choi and others, 'ChatGPT Goes to Law School' (Social Science Research Network, 23 January 2023) 12 <https://papers.ssrn.com/abstract=4335905> accessed 27 February 2023.

learning it. So, our example learner goes first to Google and types in: ‘*What law governs statutory interpretation in Hong Kong?’*

Why I tried entered this prompt into Google, the first response was an extract from a blog called ‘NPC Observer.’ The extract refers to the Constitution of the People’s Republic of China and the Basic Law of the Hong Kong Special Administrative Region.[34] The extract was not wrong. But it was unresponsive to the specific prompt. Conversely, ChatGPT’s response correctly identified the relevant ordinance (and other principal sources), as set out below:

Prompt	What law governs statutory interpretation in Hong Kong?
Response	Statutory interpretation in Hong Kong is governed by the Interpretation and General Clauses Ordinance (Cap. 1) (‘IGCO’). The IGCO provides general principles of interpretation of legislation in Hong Kong. In addition to the IGCO, there are other laws and legal principles that govern statutory interpretation in Hong Kong. For example, the Hong Kong Bill of Rights Ordinance (Cap. 383) may affect the interpretation of legislation in certain contexts. The principles of common law and equity, as well as the decisions of higher courts in Hong Kong and other jurisdictions, also play a role in interpreting legislation in Hong Kong.[35]

The point here is not that the Google Search result was wrong and that ChatGPT was right. ChatGPT is wrong about a great many things.[36] As Stuart

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[34] The extract read: ‘Under Article 67, item 4 of the P.R.C. Constitution, the NPC Standing Committee (NPCSC) has the power to ‘interpret statutes.’ This authority is repeated and further delineated in three statutes: the Legislation Law (arts. 45–50), the Hong Kong SAR Basic Law (art. 158), and the Macao SAR Basic Law (art. 143).’ See: Changhao Wei, ‘Legislation: NPC Standing Committee’s Legislative Interpretations’ (*NPC Observer*) <https://npcobserver.com/legislation/legislative-interpretations/> accessed 31 March 2023.

[35] Response generated by the author using ChatGPT Mar 23 Version (GPT-3.5) on 10 April 2023.

[36] See, eg, Pranshu Verma and Will Oremus, ‘What Happens When ChatGPT Lies About Real People?’ (*The Washington Post*) <https://www.washingtonpost.com/technology/2023/04/05/chatgpt-lies/> accessed 13 April 2023.

Hargreaves notes, ChatGPT 'invents cases. It fails to spot obvious issues. It ignores applicable law.'[37] It 'hallucinates' journal articles and invents stories out of whole cloth.[38] But the point illustrated by the above example is that ChatGPT can synthesise various sources in order to supply the basic legal framework for the learners' *own* inquiry (although, as we will see later in this article, ChatGPT has problems identifying exactly what its sources are).

This example raises a historical point in the evolution of legal education: namely, that the move from paper-based legal research to search engine-based legal research was fiercely contested.[39] As such, I expect that the move from search engine-based to LLM-based legal search will trigger resistance from some legal practitioners, academics, and librarians. And, as Eric E Johnson wryly notes, '[l]aw professors have not been engaged in the task of trying to make it easy to learn the law.' Rather, law teachers 'have expended considerable effort trying to make it *harder*.'[40] While this attitude is hardly uniform across legal educators, it could nonetheless foster further resistance to legitimizing LLM-based legal research.

Displacing these attitudes is beyond the scope of this article. But the upsides to legitimizing LLM-based legal research are clear. Recall how calculators have removed much of the repetition from mathematical education, thereby allowing learners to focus on the process rather than the output. Similarly, replacing learners' current reliance on search engines with LLMs will allow learners more time to focus on the legal problem-solving process itself, rather than spending time researching and reading various legal resources across different formats (such as PDFs, Word documents, and webpages). Overall, LLM-based search will result in less 'busywork' for learners in legal education.

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[37] Stuart Hargreaves, '"Words Are Flowing Out Like Endless Rain Into a Paper Cup": ChatGPT & Law School Assessments' (Social Science Research Network, 1 January 2023) 5 <https://papers.ssrn.com/abstract=4359407> accessed 14 April 2023.

[38] Hussam Alkaissi and Samy I McFarlane, 'Artificial Hallucinations in ChatGPT: Implications in Scientific Writing' [2023] Cureus <https://www.cureus.com/articles/138667-artificial-hallucinations-in-chatgpt-implications-in-scientific-writing> accessed 22 October 2023.

[39] See generally Ian Gallacher, 'Forty-Two: The Hitchhiker's Guide to Teaching Legal Research to the Google Generation' (2006) 39 Akron Law Review 151.

[40] Eric E Johnson, 'A Populist Manifesto for Learning the Law' (2010) 60 Journal of Legal Education 41.

Turning now to the second pathway, LLMs can provide immediate feedback of the kind that simply is not possible at scale with human educators.[41] Through posing inquiries and offering guidance, LLMs can facilitate learners' navigation of the legal problem-solving process. This approach enables learners to concentrate on the intricacies of legal analysis and argumentation, rather than getting the 'right' answer. Consider a learner in an English law school attempting a contract law mock exam. The mock exam comprises multiple choice questions ('**MCQs**'), with an answer key at the rear. The typical manner of working mock exams is to complete the questions, and then review the answer key to see which ones were answered correctly. If the teacher provides it, there *may* be some light commentary to accompany the answer key. But in any event, the level of feedback is rudimentary and impersonal. Conversely, an LLM can provide immediate and personalised feedback on MCQs, as set out below.

Prompt	I'm trying to answer the following MCQ. I think the answer is D, because the architect's letter came before the website designers' terms. However, the answer key says that the answer is actually B. Can you explain why? The MCQ is set out below. *'An architect in London received a leaflet from website designers in Manchester advertising their website design packages. On the back of the leaflet was a copy of the website designers' standard terms, which contained a limitation clause that limited the website designers' liability for death or personal injury caused by negligence. The architect wrote a letter to the website designers asking them to design her website. She attached to her letter a copy of her own standard terms and conditions, which did not contain a limitation clause. The architect received a quotation for GBP25,000 from the website designers. The architect signed and returned a tear-off slip to the website designers which stated that she accepted the quotation on the website designers' standard terms and conditions.* *Which of the following statements best describes the legal position under the law of England & Wales?*

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[41] Jonathan Sim, 'Commentary: I Am a Teacher and I Let My Students Use ChatGPT' (*Channel News Asia*) <https://www.channelnewsasia.com/commentary/nus-lecturer-teacher-encourage-use-chatgpt-ai-education-learning-3290571> accessed 21 February 2023.

	A. The terms on the leaflet constituted an offer which the architect accepted by asking for a quotation. *B. The quotation constituted an offer which the architect accepted on the website designers' standard terms and conditions.* *C. The quotation constituted an offer which the architect accepted on the architect's standard terms and conditions.* *D. The letter from the architect to the web designers constituted an offer which the web designers accepted by sending a quotation.'*
Response	Even though the website designers did not sign the architect's letter, it is still possible that the architect's letter constituted an offer. However, recall that a counteroffer will serve to reject the previous offer. In this case, the architect's offer was superseded by the website designers' counteroffer that was contained in their quotation. That quotation contained the website designers' counteroffer on their standard terms and conditions, and by signing and returning the tear-off slip, the architect accepted that offer. Therefore, the correct answer is B.[42]

The feedback is shallow, with no authorities cited. However, and more importantly, this feedback tells the learner that they need to revisit their offer and counter-offer materials in order to be able to answer similar MCQs on a real exam. Together, the two examples above suggest that, like calculators, LLMs can be a 'best' technology within the BAT framework. But this is only half the story. Are LLMs an 'appropriate' technology?

LLM interfaces (such as ChatGPT) are simple and text-based, with a shallow learning curve. Technical errors are, in my experience, rare. As such, LLMs can be used by learners in a transparent manner. The two examples given above are indicative of such usage. In each case, the learner is able to focus on the academic content of their questions and the responses they receive, rather than

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[42] Response generated by the author using ChatGPT Mar 23 Version (GPT-3.5) on 11 April 2023.

on the technology itself. This represents appropriate use of LLMs within the BAT framework.

However, LLMs may become non-transparent, and therefore inappropriate within the BAT framework, depending on use. There are justifiable concerns about students getting LLMs to do all the 'work' that is inherent in legal education – that is, case analysis, essay writing, issue spotting, and so on. If a student is using an LLM to complete an assignment or answer an exam question *in full*, the technology becomes non-transparent and detracts from the educational nature of the classroom. Indeed, the technology can replace the learner (and the teacher) entirely.

A recent empirical study from the University of Minnesota Law School supports these fears. Choi *et al* used ChatGPT to generate answers to four real exams at Minnesota Law. ChatGPT's responses were then interspersed with student responses, and blindly graded as part of the regular grading processes for each class. ChatGPT's responses were not edited or improved in any way. Across 95 multiple-choice questions and 12 essay questions, ChatGPT performed on average 'at the level of a C+ student, achieving a low but passing grade in all four courses.'[43] If ChatGPT could maintain these results, it could earn a Juris Doctor[44] – and then go on to pass the bar exam in a number of US states.[45]

The Minnesota Law experiment clearly differentiates LLMs from calculators, which can provide the correct answer but cannot explain the reasoning to get to that answer. In short, a calculator cannot complete an exam by itself. But an LLM can. With sufficient prompting, ChatGPT, for example, can be coaxed into producing entire essays, complete with case references and detailed analysis. For some learners, the temptation to rely entirely on LLMs will be overwhelming. Existing plagiarism policies may be able to address these issues from an academic honesty and disciplinary perspective. But from a pedagogical perspective, whether learners will gravitate towards the appropriate and

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[43] Choi and others (n 34). The exams were for Constitutional Law: Federalism and Separation of Powers, Employee Benefits, Taxation, and Torts.

[44] *ibid 5.*

[45] Daniel Martin Katz and others, 'GPT-4 Passes the Bar Exam' (Social Science Research Network, 15 March 2023) <https://papers.ssrn.com/abstract=4389233> accessed 14 April 2023.

inappropriate uses of LLMs remains unclear. As such, LLMs can only be considered a *potentially* appropriate technology within the BAT framework.

To bring this section to close, I note that by requiring that a specific technology both enhance learning (that is, be ‘best’) *and* not detract from an educational environment (that is, be ‘appropriate’), the BAT framework reflects the insight that ‘inappropriate use of technology is *worse* than no use of technology.’[46] However, the situation concerning LLMs is different. As outlined in the introduction to this article, there is no viable pathway to ban LLMs from the entirety of legal education. Simply put, learners *will* use LLMs. Given this starting point, the question arising from the BAT framework analysis is: How can teachers guide learners toward the appropriate, transparent use of LLMs and away from inappropriate, non-transparent use of LLMs? This question frames the next section of this article.

Making Legal Education Joyful, Meaningful, and Engaging

There are various ways to steer learners toward the appropriate use of LLMs. I propose that the most effective method is to make legal education such a joyful, meaningful, and engaging enterprise that learners will *want* to do it themselves – rather than let computers have all the fun. By making legal education joyful, meaningful, and engaging, learners are more likely to experience intrinsic motivation. As Sitwat Saeed and David Zyngier explain, there is a strong body of educational research showing that ‘intrinsically motivated students have … lower levels of anxiety and higher perceptions of competence and engagement in learning than students who are not intrinsically motivated.’[47] By contrast, learners with high anxiety or low perceptions of competence are more likely to be academically dishonest[48] – in this case, to use LLMs inappropriately. Consequently, intrinsic motivation allows learners to appreciate the value of LLMs as supplementary resources and to strategically employ these tools to enhance their learning experience – that is, to use LLMs appropriately.

Framed in this manner, LLMs present a profound challenge to teachers to rethink legal education and foster intrinsic motivation. Curricula reforms are a

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[46] Sneddon (n 23). My emphasis.

[47] Sitwat Saeed and David Zyngier, ‘How Motivation Influences Student Engagement: A Qualitative Case Study’ (2012) 1 Journal of Education and Learning 252, 254.

[48] Eberly Center, ‘Strategies to Deter Cheating’ (*Carnegie Mellon University*, 2022) <https://www.cmu.edu/teaching/solveproblem/strat-cheating/cheating-05.html> accessed 16 April 2023.

necessary part of this reimagining.[49] So are myriad other aspects of legal education, including cohort composition, built environment, research focuses, and the availability of clinical experiences. But the learning models deployed within law schools are also key.

Teacher-centred educational models, such as the lecture, are a predominant feature of legal education. There are various problems with this model. First and foremost is the simple truth, noted by Richard Felder and Rebecca Brent, that learners 'have a variety of learning styles;' as such, 'no instructional approach can be optimal for everyone.'[50] In this respect, the teacher-centred model tends to suit the teacher, not the students. Indeed, neither teachers nor students may be aware that other models exist. It is therefore unsurprising that learners 'learn more when they are actively engaged in the classroom' as opposed to sitting passively in a lecture hall.[51] Moreover, as Nesra Yannier, Scott E. Hudson, Kenneth R. Koedinger explain, 'active-learning approaches can also provide socioemotional support, particularly for students who may not feel at home in or supported by traditional passive learning.'[52]

Why does teacher-centred learning persist in legal education? This inertia is often linked to resources – both financial and human.[53] As Richard Grimes notes, '[i]f a course of study recruits in large numbers and if there is no imperative for relatively expensive job-related training, the law of supply and demand would suggest that law schools will deliver their legal education component in the most cost-effective way' – that is, via lectures.[54] Combine these limited resources with the various other pressures on teachers (research output, grant writing, administration) and the inertia becomes even firmer. It is simply much more work for an already overworked teacher to create an active learning environment rather than prepare and deliver a lecture.

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[49] Sneddon (n 23) 55.

[50] Richard M Felder and Rebecca Brent, 'Navigating the Bumpy Road to Student-Centered Instruction' (1996) 44 College Teaching 43, 46.

[51] Louis Deslauriers and others, 'Measuring Actual Learning Versus Feeling of Learning in Response to Being Actively Engaged in the Classroom' (2019) 116 Proceedings of the National Academy of Sciences 19251, 19251. See also Nesra Yannier and others, 'Active Learning: "Hands-On" Meets "Minds-On"' (2021) 374 Science 26.

[52] Yannier and others (n 52) 26.

[53] Richard Grimes, 'Making and Managing Change in Legal Education: Yesterday, Today and Tomorrow' (2020) 7 Asian Journal of Legal Education 178, 180. See also Deslauriers and others (n 52) 19251.

[54] Grimes (n 54) 180.

Fortunately, as Michele Pistone explains, 'today's new technologies make possible a much higher level of active engagement'[55] in legal education. In particular, as I argue in this Section 3, LLMs themselves can help foster what Chet Meyers and Thomas Jones identify as the 'building blocks common to all active-learning strategies:'[56] that is, talking and listening, reading, writing, and reflecting.[57] In this sense, LLMs can be thought of as both a challenge to, and solution for, legal education.

Talking and Listening

In a typical law school lecture, one person talks too much while the rest talk too little. The former is usually the teacher. The latter, the learners. Conversely, the learners spend *too much* time listening, and the teacher spends *too little* time listening. LLMs can help rebalance this equation is various ways. Learners can be encouraged to debate cases with LLMs before class.[58] LLMs can provide prompts for class discussions that will be 'fresh' to both the teacher and the learners. But a more consequential use of LLMs might be to combat what Cass Sunstein describes as 'self-silencing.'[59]

Sunstein argues that self-silencing is a prevalent phenomenon in legal education environments. Drawing upon his own legal education experiences, he posits that self-silencing is common among learners who hold beliefs that they deem to be unpopular or controversial. This includes those learners who identify as right or left-of-centre, who have strong religious convictions, or who hold non-standard political or ideological views. Additionally, self-silencing may also occur among minority students.[60] 'Because of their belief that their views are out of step with those of their peers,' Sunstein posits that learners may remain silent 'about their approach to law, their values, their emotional states (very broadly speaking), and their experiences.'[61] As such, 'Christian

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[55] Michele Pistone, 'Law Schools and Technology: Where We Are and Where We Are Heading' [2015] Journal of Legal Education 587.
[56] Chet Meyers and Thomas B Jones, *Promoting Active Learning: Strategies for the College Classroom* (1st edn, Jossey-Bass 1993) 19.
[57] Meyers and Jones (n 57).
[58] Particularly motivated learners could even submit themselves to a mock Socratic interrogation by none other than the infamous Professor Charles W. Kingsfield Jr., by simply prompting their LLM accordingly.
[59] Cass R Sunstein, 'Self-Silencing and Online Learning' (2021) 70 Journal of Legal Education 205.
[60] *ibid 206.*
[61] *ibid.*

students might not speak about their faith. Women might not reveal experiences of sexual abuse. Believers in gun rights, or skeptics about affirmative action, might shut up.'[62]

A particular consequence of self-silencing is that opinions tend to cascade across a classroom or lecture hall, 'as a teacher or a student states an initial position; a student agrees; another student agrees; and quickly or eventually, the entire group converges on that position.'[63] But Sunstein posits that the position converged upon gives the 'illusion of consensus,'[64] without representing what the individuals in the group actually believe.

Determining the frequency of such incidents is challenging. It is possible that legal education learners are a relatively homogeneous group with relatively homogeneous opinions. However, an LLM has no hesitation in presenting dissenting arguments, effectively adding another participant to classroom discussions. This additional participant remains an ever-present and active debate partner, providing ample opportunities for challenging self-silencing and avoiding opinion cascades.

Consider an example inspired by a pressing debate that recently took place in Australia. The debate concerned the recognition of Australia's Indigenous people in the Australian constitution.[65] Much of the debate focused on legal issues. Yet I expect that, during this debate, it would have been difficult to find a learner in an Australian law school willing to articulate an argument *against* constitutional recognition, even hypothetically. As such, to avoid self-silencing and opinion cascading – and to make for a more actively engaged classroom – the following prompt and its response could be put to the class.

Prompt	You self-identify as a conservative legal student. Present concise arguments against the recognition of Indigenous peoples in the Australian Constitution.

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[62] *ibid.*

[63] *ibid 212.*

[64] *ibid 213.*

[65] Renju Jose and Praveen Menon, '"If Not Now, When?": Emotional Australian PM Advances Indigenous Referendum' *Reuters* (23 March 2023) <https://www.reuters.com/world/asia-pacific/australias-albanese-reveals-referendum-question-indigenous-recognition-2023-03-23/> accessed 30 March 2023.

Response	Arguments against recognition of Indigenous peoples in the Australian Constitution from a conservative legal perspective include: 1. Constitutional Originalism: the Constitution should be interpreted according to its original intent, and since Indigenous recognition wasn't included at the time of drafting, it shouldn't be incorporated now. 2. Legal Equality: singling out Indigenous peoples in the Constitution would undermine the principle of legal equality, as it may create separate rights for different groups of people. 3. Unintended Consequences: constitutional recognition may lead to unintended legal consequences, such as increased litigation and uncertainty in areas of land rights, native title, and cultural heritage. 4. Non-Constitutional Solutions: Indigenous recognition and reconciliation can be better achieved through other means, such as legislation, policy initiatives, and grassroots efforts, without amending the Constitution. 5. Existing Protections: recognition is unnecessary as the Constitution already provides for the protection of the rights of all Australians, including Indigenous Australians.[66]

Of course, teachers can put themselves in contrarian roles in order to stimulate discussion and deter self-silencing. Many do. But an LLM can be cast into a variety of roles that teachers may have trouble stepping into. The staunch defender of religion or the avowed atheist, the ardent capitalist or the committed communist, the gun owner or the pacificist. These people are found in the real world (and in law school classrooms). As such, by introducing LLMs into the classroom, the classroom experience can become more like what Werner Menski describes as 'fieldwork,' where challenging questions can be

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[66] Response generated by the author using ChatGPT Mar 23 Version (GPT-3.5) on 10 April 2023.

posed – questions to which the teacher often has no answer.[67] And fieldwork is, of course, a fundamentally *active* experience.

Reading

Reading is a major part of legal education. There are various ways that reading can be made active. A simple way is to join a reading group. However, reading groups are not always feasible: finding suitable times can be difficult for learners with work or carer responsibilities. Conversely, LLMs can act as an ever-ready reading partner. Consider a learner assigned to read the judgment of the United States Supreme Court in *Lawrence v Texas*.[68] In the following prompts, I illustrate how ChatGPT could facilitate their reading of the case.

Prompt	I am about to read *Lawrence v Texas*. What is some key context I should know before reading the case?
Response	Before reading *Lawrence v Texas*, here is some key context to consider: 1. ‘Anti-sodomy’ laws: The case concerns the constitutionality of ‘anti-sodomy laws.’ At the time of the case, many states in the US, including Texas, had these laws. They criminalized certain sexual acts, including same-sex sexual activity. These laws were often used to discriminate against LGBTQ+ individuals. 2. LGBTQ+ rights movement: The case arose in the context of a growing movement for LGBTQ+ rights in the US, which had been gaining momentum since the Stonewall riots of 1969. The LGBTQ+ rights movement sought to challenge discrimination and secure legal protections for LGBTQ+ individuals. 3. Legal history: Prior to *Lawrence v. Texas*, the US Supreme Court had upheld anti-sodomy laws in the case of *Bowers v. Hardwick* (1986). However, *Bowers* had been widely criticized for its discriminatory treatment of LGBTQ+

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[67] Werner Menski, ‘Flying Kites in a Global Sky: New Models of Jurisprudence’ (2011) 7 Socio-Legal Review 18.

[68] 539 U.S. 558 (2003).

	individuals, and many legal scholars and activists had been pushing for a re-evaluation of the decision. 4. Constitutional issues: The main issue at stake in *Lawrence v. Texas* was whether the anti-sodomy laws violated the Due Process Clause of the Fourteenth Amendment to the US Constitution. The Due Process Clause guarantees certain fundamental rights, including the right to privacy. 5. Political climate: The case arose in the context of a broader political debate over LGBTQ+ rights and the role of government in regulating private behavior. The case was decided during the presidency of George W. Bush, who had opposed same-sex marriage and other LGBTQ+ rights initiatives.[69]

Contextualizing the case *before* reading it can help learners both understand and remember the case better. Further, once the learner has read the case, LLMs can be used to discuss the reasoning and the holdings.

Prompt	I have just read *Lawrence v Texas*. I found the majority's reasoning hard to follow – due process rights are complex! Any help you could give me to understand the reasoning would be great. But I overall agreed with the result. I strongly disagreed with Scalia's dissent.
Response	I understand your perspective. Constitutional due process rights can be complex, and the majority opinion in *Lawrence v. Texas* involved a detailed analysis of these rights. In essence, the majority opinion held that the Texas anti-sodomy law violated the Due Process Clause of the Fourteenth Amendment because it infringed on the liberty and privacy interests of consenting adults. The Court reasoned that individuals have the right to engage in intimate conduct without interference from the state, as long as

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[69] Response generated by the author using ChatGPT Mar 23 Version (GPT-3.5) on 10 April 2023.

> that conduct does not harm others or involve non-consenting parties.
>
> The Court also emphasized the importance of respecting individual autonomy and self-determination, noting that the government should not impose moral or religious values on its citizens through criminal laws. In the context of the Texas anti-sodomy law, the Court found that the law was motivated by moral disapproval of homosexual conduct rather than any legitimate state interest.
>
> Justice Scalia's dissent, which relied heavily on moral and religious arguments, has been criticized by some legal scholars as being out of step with modern constitutional law principles. It's important to note that in the years since *Lawrence*, the Court has continued to build on and expand LGBTQ+ rights, including the landmark decisions in *Obergefell v Hodges*.
>
> Overall, *Lawrence v Texas* represents an important moment in the legal history of LGBTQ+ rights and has played a significant role in advancing equality and fairness for LGBTQ+ individuals.[70]

Of course, a motivated learner could obtain the same information from a well-crafted Google search. That same learner could potentially gain a better understanding of *Lawrence v Texas* via use of a well-edited, analytical, and concisely written textbook. However, the speed with which LLMs can surface this information and the ease with which students can ask further prompts – as well as challenge responses given – makes for a distinctively active reading experience. The prospect for each learner to engage in dialogue both before, during and after their readings is compelling – and by allowing learners to refine their thinking and practice their ideas, can be expected to make classroom discussions richer.[71]

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[70] Response generated by the author using ChatGPT Mar 23 Version (GPT-3.5) on 12 April 2023.

[71] Roose (n 8).

Writing

Legal education often involves significant writing, in the form of essay writing, exam writing, and note-taking. However, writing is often ‘bunched’ – that is, more writing is done towards the end of semester (as major assessments loom). Yet legal writing is a key skill that legal education seeks to develop. And skill development generally benefits from continuous practice.[72] As such, Meyers and Jones relate the utility of short writing exercise during class as a means of helping students assess their own learning.[73]

Similarly, Mary Catherine Lucey argues that legal education needs more writing – and that law teachers, ‘with the assistance of technology,’ should ‘create fresh opportunities for students to undertake meaningful writing activities’ in core legal education classes.[74] Consider a class assigned to read the Supreme Court of Canada’s judgment in *Attorney General of Canada v Bedford*.[75] During class, the teacher could instruct each learner to input the following prompt into ChatGPT:

Prompt	I have just read Attorney General of Canada v. Bedford. Please give me a short writing prompt about the case.

I inputted this prompt three times in three separate web browsers, each time receiving a different response from ChatGPT.

Response	What were the three provisions of the Criminal Code that were challenged in the Bedford case, and why were they found to be unconstitutional by the Supreme Court of Canada?[76]
Response	How did the Supreme Court of Canada’s decision in Attorney General of Canada v. Bedford impact the legality of Canada’s

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[72] Hans Martin Bosse and others, ‘The Benefit of Repetitive Skills Training and Frequency of Expert Feedback in the Early Acquisition of Procedural Skills’ (2015) 15 BMC Medical Education 22.

[73] Meyers and Jones (n 57) 24.

[74] Mary Catherine Lucey, ‘Creating Legal Writing Opportunities in the Digital Era’ (2020) 1 European Journal of Legal Education 155, 155.

[75] [2013] 3 SCR 1101.

[76] Response generated by the author using ChatGPT Mar 23 Version (GPT-3.5) on 10 April 2023.

	prostitution laws, and what were the key arguments made by both sides in the case?[77]
Response	In your opinion, was the Supreme Court of Canada’s decision in Attorney General of Canada v Bedford a step towards protecting the rights of sex workers, or did it create more problems than it solved?[78]

While these three responses are different, there will inevitably be some degree of overlap between the responses that learners would receive from ChatGPT. Nonetheless, this example shows how an LLM can serve here to generate large numbers of diverse writing prompts that are ‘fresh’ to teachers and learners alike. Moreover, the ability to rapidly generate writing prompts gives teachers greater flexibility in adapting lessons to class dynamics, learners’ energy levels, and expressed preferences. For example, a particularly lively class discussion of a case could be usefully followed by a writing prompt exercise on that case to solidify learners understanding. The advantage of LLMs here is that the teacher does not have to predict in advance the cases and materials that learners will respond best to. Provided that the case has been included in the LLMs dataset – and this remains a big ‘if’’[79] – then teachers can adapt the class ‘on the fly’ by simply changing the case name in the initial prompt.

Reflecting

All too often, the only time that learners are prompted to reflect on their learning is when they receive a grade. And given the time constraints that law teachers live under, these grades generally come far too late for learners to

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[77] Ibid.

[78] Ibid.

[79] At present, ChatGPT’s training dataset is heavily biased toward English-language jurisdictions, and specifically toward appellate cases from those jurisdictions (such cases being more likely to be discussed in the online news articles and Wikipedia entries that ChatGPT is trained on). See generally: Hargreaves (n 38) 18. This emphasises that training datasets would need to be customised according to jurisdiction and law school before deployment.

effectively course correct.[80] Duncan Kennedy relates an extreme circumstance where ‘students receive no feedback at all except a grade on a single examination at the end of the course.’[81] Unsurprisingly, he relates that ‘[s]tudents generally experience these grades as almost totally arbitrary – unrelated to how much you worked, how much you liked the subject, how much you understood going into the exam, and what you thought about the class and the teacher.’[82] Together, ‘[t]his can contribute to a perception that grades are somewhat arbitrary, and as such contribute to feelings of meaninglessness.’[83] Fortunately, times have changed since Kennedy was writing in the 1990s. Feedback in legal education now generally comes a few times over the course of the semester. But ongoing, weekly feedback remains the exception rather than the norm.

To promote greater reflection, Meyers and Jones discuss incorporating silent periods and journaling exercises into classes.[84] These reflective practices do not necessarily require or benefit from LLMs. However, what LLMs can provide is immediate feedback – and this feedback can be incredibly useful to inform and enhance reflective practices. Frequent and constructive feedback can empower learners to reflect on their own progress and adjust their learning strategies as needed.

In the previous prompt, ChatGPT generated multiple writing prompts relating to the *Bedford* case. Consider the following worked example, where I prepared a short response to the first of these writing prompts and asked ChatGPT to critically review my response:

Prompt	I have written the following answer in response to earlier writing prompt that you provided. Please critically review it: ‘The following three provisions of the Criminal Code were challenged, and ultimately found to be unconstitutional, in the *Bedford* case:

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[80] Paul L Caron and Rafael Gely, ‘Taking Back the Law School Classroom: Using Technology to Foster Active Student Learning’ (2004) 54 Journal of Legal Education 551, 563. (noting the common complaint that learners ‘have no way of evaluating their level of understanding of the course material until the final exam, when it is too late to take corrective action’).

[81] Duncan Kennedy, ‘Legal Education as Training for Hierarchy’ in David Kairys (ed), *The Politics of Law - A Progressive Critique* (Pantheon Books 1990) 48.

[82] *ibid.*

[83] *ibid.*

[84] Meyers and Jones (n 57) 28.

	1. Living on the avails of prostitution (Section 212(1)(j)): The court found that this provision violated the security of the person rights of sex workers by making it more dangerous for them to engage in sex work. 2. Keeping or being in a bawdy house (Section 210): The court found that this provision violated the right to freedom of expression by preventing sex workers from working in a safe indoor environment, and thus forcing them to work in public spaces where they were at a greater risk of violence and harm. 3. Communicating in public for the purpose of prostitution (Section 213(1)(c)): This provision made it illegal to communicate for the purpose of prostitution in a public place. The court found that this provision violated the right to freedom of expression by preventing sex workers from advertising their services or negotiating with clients in a safe and discreet manner.’
Response	Your response accurately identifies the three provisions of the Criminal Code that were challenged in the *Bedford* case. Well done. However, your explanation of why they were found to be unconstitutional is not entirely accurate. For the first provision, the court did find that living on the avails of prostitution violated the security of the person rights of sex workers. However, it was not because it made sex work more dangerous in and of itself, but because it forced sex workers to work with third parties who could exploit and abuse them. The provision was found to be overly broad and could capture people who were not actually exploiting sex workers. For the second provision, the court did find that the bawdy house provision violated the right to freedom of expression, but not just because it prevented sex workers from working in an indoor environment. The provision also prevented sex workers from taking measures to increase their safety and security, such as working together in a shared space. For the third provision, your response is mostly accurate, but it is worth noting that the court also found that the provision infringed

	on sex workers' right to security of the person, as it forced them to communicate with clients in public spaces. In public spaces, sex workers were at greater risk of violence and harm. Overall, your response is a good start, but it could benefit from a more nuanced and accurate explanation of the court's reasoning behind its decision to strike down these provisions.[85]

ChatGPT's feedback cannot be taken at face value. And it cannot replace feedback from a teacher or peer. There may even be a risk of reinforcing a norm of receiving no feedback from teachers or peers, on the grounds that 'the LLM will do it.' This risk reinforces the need to emphasise the importance of human interaction and feedback throughout the learning process. While an LLM can provide periodic feedback, it should not be relied upon as the sole source of feedback. Instead, it should be seen as a complementary tool that can assist teachers and learners with specific tasks. And in addition to material-specific feedback, more general reflectivity can also be cultivated by LLMs. Consider the final example below, in which a learner finds themselves stumped when asked to reflect on what was learned during a class that they passionately disliked.

Prompt	For tomorrow's class I've been asked to reflect on what I have learned during my contract law module. The truth is that I feel like I have learned nothing. I don't want to be a corporate lawyer – so when will I ever use contract law?!
Response	It's understandable to feel like you haven't learned anything if you don't see the immediate relevance of a subject to your future career goals. However, it's important to remember that many areas of law are interconnected, and the knowledge you gain in one area can often be applied to others. Additionally, even if you don't plan to become a corporate lawyer, understanding contract law can still be useful in many other areas of law.

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[85] Response generated by the author using ChatGPT Mar 23 Version (GPT-3.5) on 10 April 2023.

> Here are a few suggestions to help you reflect on what you’ve learned during your contract law module:
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> 1. Consider the broader legal context: Even if you don't plan to practice corporate law, it’s important to understand the role that contracts play in our legal system. Contracts are used in many areas of law, from employment contracts to real estate transactions. Reflect on how a solid understanding of contract law could benefit you in these areas.
>
> 2. Identify transferable skills: Contract law involves analysing legal principles, interpreting cases, and applying the law to specific factual scenarios. These skills are transferable to other areas of law and can be useful in a variety of legal contexts.
>
> 3. Think about your own experiences: Reflect on any personal experiences you've had that relate to contracts. For example, have you ever signed a rental agreement, bought a car, or entered into any other type of contract? Consider how understanding contract law could have helped you navigate those situations more effectively – and how your understanding of contract law may help you in the future.
>
> 4. Consider the big picture: Contract law is just one piece of the larger legal puzzle. Reflect on how understanding contract law fits into your broader legal education and career goals.
>
> Remember that it’s okay to feel uncertain about how your current studies will fit into your future career plans. The important thing is to keep an open mind and recognize that the knowledge you gain now may be useful to you in ways you haven’t even considered yet.[86]

Expanding and contextualizing each of these points – and ideally adding further points – could form the basis for a valuable journaling exercise. And for this

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[86] Response generated by the author using ChatGPT Mar 23 Version (GPT-3.5) on 10 April 2023.

learner, an LLM can provide a forum in which to express their worries, doubts, or questions without fear of criticism or embarrassment.

Conclusions

I framed this article around two key questions. First, could LLMs have the same positive impact on legal education that calculators have had on mathematics education? Second, how can legal education learners be guided toward appropriate rather than inappropriate LLM usage? The conclusions reached are summarised below:

1. LLMs can enhance legal education via the same mechanisms that calculators have enhanced mathematics education. However, there are key differences with respect to appropriateness. While calculators can be considered transparent in the classroom, the manner in which LLMs are used determines their transparency and, thus their appropriateness.
2. Learnings can be guided toward appropriate LLM usage by reimagining legal education as joyful, meaningful, and engaging. A necessary component of this reimagining is creating active learning environments. To this end, LLMs can help overcome the resource limitations that typically inhibit active learning in legal education.

These conclusions raise further questions. How can LLMs be best implemented in law school classrooms? How much would LLM implementation cost? What kind of LLM training is needed, for both teachers and learners? How can teachers handle LLMs' ethical implications, particularly concerning bias, accuracy, and accountability? And how might LLM effectiveness vary across different legal traditions and different legal education institutions?

These questions are part of the larger debate taking place around LLMs and education. Each question merits further investigation. But the 'looming improvements in artificial intelligence' that Christian Sundquist described in 2021 are well and truly upon us now in 2024.[87] Ultimately, the rapid advent of LLMs proves Harry Arthurs' point – that the future of legal education depends on various factors that are outside anyone's control.[88] 'But,' he reminds us, 'one crucial factor is very much within the control of law schools: the values

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[87] Christian Powell Sundquist, 'Technology and the (Re)Construction of Law' (2021) 70 Journal of Legal Education 402, 402.

[88] Harry W Arthurs, 'The Future of Legal Education: Three Visions and a Prediction' (Research Paper Series, 2013) 1.

they embrace and the way they define their ambitions.'[89] To this end, law schools should not shy away from the ambition to reimagine legal education. LLMs will not remedy all the issues raised throughout this article, but there is a possibility of making LLMs part of the solution rather than the cause of further problems. Ultimately, the time to start designing, planning, and piloting is now; changes to legal education are coming, whether law schools like it or not.

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[89] *ibid.*