Finding a Balance between Generative AI and AI-based Tools and Critical Thinking in Legal Education

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Abstract

The use of generative AI and AI-based tools in legal education and legal practice is escalating. A growing number of law firms indicate that they use AI in practice, and learning institutions also report an increased use of generative AI and AI-based tools, by both students and academics. The question is not if generative AI and AI-based tools should be used in teaching and learning, and in legal practice, but rather how it should be done effectively and responsibly while enhancing critical thinking. The use of generative AI and AI-based tools can foster a deeper understanding of law and can help to breach the gap between theory and practice in legal education. It can aid in the formation of individual learning styles, and it can offer a more hands-on experience of simulated environments. However, an over-reliance on AI and a loss of human interaction and intervention will skew this process and produce unwanted results and consequences. A balanced and meaningful approach to the use of generative AI and AI-based tools in legal education is needed, where the fostering of critical thinking is combined with the innovation and impact of AI to create an optimal situation for the use of generative AI and AI-based tools in legal education.

Keywords: *Generative AI and AI-based tools, legal education, critical thinking, balance*

1. Introduction

The use and integration of AI into the legal profession and legal education, has influenced and reformed the legal profession as well as the teaching of law [1]. Generative artificial intelligence [GenAI] systems such as ChatGPT, brought a revolution in the manner in which tasks are performed but has also lead to greater efficiency together with a multitude of opportunities for innovation [2,3]. GenAI and AI-based tools is positioned to transform legal education and the legal profession in the near future [4]. GenAI systems feature prominently in this specific context since these systems allow for the generation of text since it has been trained to process large amounts of data which are contained in Large Language Models (LLMs). LLMs are also capable of automating the translation of documents, for both research and communication purposes [4].

At higher education institutions the emergence of GenAI offers possibilities as well as significant challenges. GenAI promotes and enhances teaching and learning, as well as research, but it highlights the concerns regarding ethical considerations, academic integrity, the protection of data and safeguarding data privacy as well as intellectual property rights (IPR) while considering the ongoing debate centred on the responsible use of GenAI tools [5, 6, 7, 8]. Additionally, and very importantly, GenAI and AI-based tools also engages with the question of critical thinking in legal education, which raises the concern that the use of GenAI will negatively impact critical thinking in legal education.

In legal practice the impact of GenAI is also substantial. The exact reach and nature of this transformation create extensive uncertainty. At the one end of the spectrum certain experts, mainly technologists, predict a fundamental restructuring of the industry, which will lead to AI performing a multitude of legal tasks and might even cause the replacement of certain types of lawyers entirely [9,10]. Others argue that AI is useful to streamline certain aspects, but it will not alter the fundamental nature of lawyering [11].

The use of GenAI in both legal education and legal practice, cannot be denied. In 2025 a survey done amongst 172 UK legal professionals 47 % of them indicated that they are using AI-powered tools to initiate or edit their work, while 87 % of these UK professionals believe that AI will have a significant transformational impact on the legal profession within the next five years [12]. Generative AI is also transforming the student experience in tertiary education, having a direct influence on how students learn, communicate and work [13]. AI-related content needs to form part of legal education curricula, and, even more importantly, by empowering students to understand and acknowledge the capabilities and limitations of AI tools, they will be further equipped to utilise these technologies responsibly to enhance legal practice [14].

2. Generative AI in Legal Education

AI offers the opportunity to personalise learning experiences which cater specifically for individual needs of different students, which in turn improves enhancement and also boosts learning outcomes [15, 16]. GenAI technologies are utilised to develop interactive learning materials, create engaging educational resources, and construct design immersive learning experiences, as well as improving the quality and relevance of educational materials [17]. Another huge advantage of GenAI and AI-based tools is the promotion of inclusivity and accessibility through the selection and application of adaptive learning solutions for students which display diverse learning needs [4]. AI applications are effectively used to enhance learning and teaching activities and assist with academic performance [18, 19, 20, 21].
GenAI, such as Chat GPT assist lawyers in task such as drafting generic, non-legal documents mainly, but not always limited to these documents [4]. Lawyers also use GenAI for more effective case management and it is also used for legal research [4].
This leads to the question: to which extent does AI and, specifically GenAI, threaten to replace essential legal skills? [22] This is a crucial question for both legal education and legal practice. The most sensible way to approach such a question would be to acknowledge the possibilities and potential of AI, as well as to recognise the dangers, challenges and limitations of the use of GenAI and AI-based tools [23].
This paper will specifically discuss the use of GenAI and AI-based tools regarding the fostering of critical thinking skills in legal education. Critical thinking is an essential skill in legal education as well as legal practice [24] and the use of GenAI and AI-based tools in fostering critical thinking calls for proper discussion and application of these same critical thinking skills.

3. Critical Thinking in Legal Education

Critical thinking is regarded as the “purposeful, self-regulatory judgment which results in interpretation, analysis, evaluation, and inference, as well as explanation of the evidential, conceptual, methodological, criteriological, or contextual considerations upon which that judgment is based.” [25, p 3] Ideally a critical thinker is “ habitually inquisitive, well-informed, trustful of reason, open-minded, flexible, fair-minded in evaluation, honest in facing personal biases, prudent in making judgments, willing to reconsider, clear about issues, orderly in complex matters, diligent in seeking relevant information, reasonable in the selection of criteria, focused in inquiry, and persistent in seeking results which are as precise as the subject and the circumstances of inquiry permit.” [25, p 3]
One of the models used in legal education is the vocational model which places emphasis on practical skills, while the liberal arts model, emphasises critical thinking [24]. . A comprehensive educational approach would incorporate both models in order to create a healthy balance between practical skills and a more nuanced approach to societal issues [24, 26].
Additionally, in the context of legal education skills, such as those proposed above which form part of critical thinking skills, would be extremely beneficial. An Indonesian study focusing on criminal justice education stated that critical thinking skills will assist students to, for instance: “critically assess evidence, question assumptions, and navigate the ethical and systemic complexities of the field.” [24, p 546] The Indonesian study reflected that critical thinking is a core component of criminal justice education, these skills enable students to assess evidence critically, question assumptions, and navigate the ethical and systemic complexities of the field. Critical thinking is a fundamental component of criminal justice education, and it equips students skills to :
“analyze complex social issues, question assumptions, and make informed decisions. Incorporating critical thinking into criminal justice programs is crucial for developing a deeper understanding of the field and preparing students to address the multifaceted challenges within the criminal justice system.” [24, p 546]
This can be extended to other branches of legal education and the fostering of critical thinking skills better equips law students to fully engage with their legal studies, as well as aiding them in expanding and refining their practical skills with regard to the study and practice of law.

4. How Has AI Assisted in Developing Critical Thinking?

A recent study from a university in Indonesia highlighted the value of AI in fostering critical thinking. The study involved 100 students who were registered for a criminal justice programme at the university. Two groups were formed – an experimental group (which followed an “AI-based pragmatic application to analyse authentic Indonesian texts and videos) and a control group which followed traditional learning

methods without AI integration." [24, p 550] The experimental group specifically used an AI-powered tool which had been designed to improve critical thinking skills "by analyzing authentic Indonesian texts and videos related to criminal cases." [24, p 550] The tool offers immediate, real-time feedback on the dynamics of communication, e,g. speech acts and non-verbal gestures and cues, which in turn assisted the students to enhance their analytical skills in the solving of criminal matters. The tool uses advanced AI technologies, generative AI and natural language processing (NLP) as well as machine learning (ML) to supply detailed insights into "the structure and meaning of speech acts and conversational strategies within various texts and multimedia content." [24, p 552-553]. The students in the experimental group used the AI tool to do an analysis of case materials such as transcribed witness testimonies and interrogations which have been conducted and recorded [24].

The AI tool utilises multimodal analysis which proved to very beneficial since it lead to a greater understanding of verbal and non-verbal clues which is essential when interpreting witness testimonies and interrogations. Video analysis and audiovisual content were provided for a more holistic view. [24]. The experimental group used the AI tool during the course of the whole semester when completing assignments and case studies. The tasks they were given were all simulations of real-world criminal investigations and called for the application of critical thinking skills as well as analytical skills to gain greater understanding of complex issues and to solve these issues [24].

The control group, on the other hand, followed traditional learning methods used for the analysis of criminal cases, such as lectures, readings and discussions. Emphasis was placed on "in-depth case studies on criminal investigations, emphasizing techniques like assessing witness statement credibility, analyzing physical evidence, and interpreting non-verbal cues such as body language in interrogations, which equipped students with essential analytical frameworks." [24, p 558]. Students manually, without the assistance of an AI-based tool, analysed testimonies and evidence, while debating issues such as reliability, assumptions, and engaged in a lot of reasoning by means of peer collaboration They also analysed videos recordings of interrogations and manually reviewed transcribed witness statements and highlighted inconsistencies while analysing key evidence [24]. So, there was a clear difference in the two approaches- one used AI-based tools extensively, and the other one relied on traditional teaching methods. At the conclusion of the intervention both groups took the same standardised critical thinking test [24].

Various instruments were used to assess and measure the critical thinking skills of both groups. This included pre- and post-critical thinking tests, task-based assessments utilising AI applications, student surveys, and semi-structured interviews. The idea was to provide a holistic view of the experiences and performances of the participants. The study's findings reflected that students who participated listed various advantages of the AI tool that was used. These included: "heightened confidence and improved problem-solving capabilities when tackling complex criminal cases." [24, p 566]. During interviews participants also indicated concrete examples of these benefits as illustrated by the participants. The authors stated that there was "compelling evidence of the transformative potential of AI-enhanced applications," [24, p 567] such as the AI tool that they used during their project. Substantial improvement was noted in argument analysis and evidence evaluation with the participants praising the AI tool's intuitive interface and integration into coursework [24]. On the other hand, the traditional methods that the control group had used, resulted in less significant gains. This, again, highlighted, the value that AI can add in deepening cognitive engagement. The authors suggested that AI-based tools and GenAI can be incorporated gradually into traditional lecturers while scaffolding AI-related activities and introducing concrete strategies to achieve this. [24, p 567].

5. Challenges in the Use of GenAI and AI-based Tools in Fostering Critical Thinking Skills

There is little doubt that GenAI and AI-based tools can add immense values to the development of critical thinking skills in legal education, as the study above suggests. However, there are also concerns that the increased use if AI can impact students' critical thinking skills and ethical reasoning [22]. There is a fear that AI technologies do not cultivate independent legal reasoning or assist students to manage the intricacies and pitfalls of ethical dilemmas [22]. The question arises - can students become overly reliant on AI-based tools and GenAI and in the process dull the development of their critical thinking skills? Might students not become complacent if AI becomes their default position when it comes to critical thinking skills? Farber states that an "overreliance on AI may lead students to accept surface-level outputs without sufficient scrutiny." [22, p 175]. Extending this further to legal practice – what if a lawyer must address court on a matter and counterarguments and inquiries pop up during trial and there is no opportunity to reach for AI to bail them out? Additionally, especially in the practice of law, various nuances and context-specific aspects find its way into arguments and counterarguments, and AI tools

are not structured or fashioned to deal with these nuances. This is where applied critical thinking skills are essential, and although AI can potentially prompt these skills, as displayed in the Indonesian study, it falls short when it comes to the full realisation of such critical thinking skills in legal education and legal practice. Farber refers to the "nuanced judgment essential to criminal practice" [22, p 166] that AI lacks, and it "cannot replicate the complex dynamics of legal argumentation, in-class demonstrations or the nuanced interactions between judges, prosecutors and defence attorneys in a courtroom setting " [22, p 170]

He suggests that experiential learning bridges the gap between theory and practice and will assist the use of AI-based tools and GenAI in offering a more holistic learning experience for students [22]. Such an approach requires the integration of knowledge, skills and aptitude [22]. He seems to prefer the use of AI tools as mere preparatory tools while emphasising that the "live performance reflects the student's autonomous ability to synthesise decide and advocate without technological assistance." [22, p 168]. This experiential learning approach was utilised over three years, from 2022 to 2024, in a criminal law module for students, and Farber reported that it caused an upward trend in student performance across three major written assignments that students had to complete [22]. The use of mock trials, an example Farber cited, clearly reflected the pedagogical value of more traditional methods of teaching and learning. These mock trials require students to engage deeply with core criminal law topics and are dynamic in nature [22]. The students assume different roles e.g. prosecutors, defence attorneys, judges and witnesses, and mock trials call for "unpredictable scenarios and demanded real-time adaptation" [22, p 170] which are aspects that AI-based tools cannot assist students with adequately. Additionally, the mock trials also lead to an overall improvement in student performance and engagement [22].

6. Conclusion

The relationship between generative AI and AI-based tools and the development of critical thinking with regard to legal education, is a complex relationship [22]. AI has potential to assist in transforming student learning and specifically assist in the development of critical thinking. It can assist with argument analysis and evidence evaluation and highlight counterarguments or possibly reveal gaps in reasoning [Farber,2025]. However, experiential learning methods- e.g. mock trials, remain critical in shaping critical thinking and ethical judgment, which algorithms cannot emulate [22]. AI must, however, not be neglected and there is no doubt that it has an important role to play in legal education and legal practice. It must be integrated thoughtfully and serve to amplify skills and competencies students and legal professionals need, rather than replace them [22]. This calls for a balancing act, where there is not an overemphasis of either one of the aspects. The most effective way in which to combine AI tools with more traditional learning methods, such as experiential learning, must be sought. This will lead to students being able to apply law with insight and nuance [22]. There is no doubt that AI-based tools and GenerativeAI offers a wider scope of legal knowledge and can assist students in a variety of ways, however, AI cannot replace the value of human judgment. [22]. The key is not choosing one or the other, but creating a harmony between tradition and technology [22].

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