

## AI-GENERATED CONTENT: GUIDELINES, HIGHER-ORDER THINKING SKILLS, AND COPYRIGHTS

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### Abstract

Artificial Intelligence (AI) technology has progressed in leaps and bounds and has taken the world by storm with its seemingly endless potential applications that can have both positive and negative effects on society at large. Regulating a powerful and ever-evolving tool, however, is a slippery slope with no consensus on how laws are applied to specific AI applications and how these will work in diverse contexts (Chauhan, 2022). The implications of regulations for generative AI are about as vast as its potential, and the lack of a comprehensive framework all the more highlights the difficulty in applying policies to varying contexts. It is essential, therefore, for higher education institutions to form a task force of faculty, faculty developers, and instructional designers to develop up-to-date guidelines and best practices through a Strength, Weaknesses, Opportunities, and Threats (SWOT) analysis and warrant regulations that are aligned with their contexts while promoting higher order thinking and an understanding of copyright principles. Strategies and collaborations can be developed, thereby providing a range of perspectives on effective and responsible use of AI technology in education, fostering cooperation and educational opportunities, and ensuring ethical use and awareness of data privacy for educators and users alike.

**Keywords :** Artificial Intelligence (AI), Copyrights, Critical Thinking, Higher-Order Thinking.

### Abstrak

Teknologi Kecerdasan Buatan (AI) telah mengalami kemajuan pesat dan telah menggemparkan dunia dengan potensi penerapannya yang tiada habisnya, yang dapat memberikan dampak positif dan negatif terhadap masyarakat luas. Namun, mengatur alat yang kuat dan terus berkembang adalah sebuah tantangan karena tidak adanya konsensus tentang bagaimana undang-undang diterapkan pada aplikasi AI tertentu dan bagaimana hal ini akan bekerja dalam konteks yang beragam (Chauhan, 2022). Implikasi peraturan terhadap AI generatif sama besarnya dengan potensinya, dan kurangnya kerangka kerja yang komprehensif semakin memperjelas kesulitan dalam menerapkan kebijakan pada berbagai konteks. Oleh karena itu, penting bagi institusi pendidikan tinggi untuk membentuk satuan tugas fakultas, pengembang fakultas, dan perancang pembelajaran untuk mengembangkan pedoman terkini dan praktik terbaik melalui analisis Kekuatan, Kelemahan, Peluang, dan Ancaman (SWOT) dan menjamin adanya peraturan yang selaras dengan konteksnya sambil mendorong pemikiran tingkat tinggi dan pemahaman tentang prinsip-prinsip hak cipta. Strategi dan kolaborasi dapat dikembangkan, sehingga memberikan berbagai perspektif mengenai penggunaan teknologi AI dalam pendidikan yang efektif dan bertanggung jawab, mendorong kerja sama dan peluang pendidikan, serta memastikan penggunaan yang etis dan kesadaran akan privasi data bagi pendidik dan pengguna.

**Katakunci:** Kecerdasan Buatan, Hak Cipta, Critical Thinking, Higher-Order Thinking

## Introduction

Artificial Intelligence (AI) technology indeed has progressed exponentially. Today, AI-generated content is part of our daily life, educational experiences, and work-related tasks. Due to this exponential growth, the United Nations Educational, Scientific, and Cultural Organization (UNESCO) created a global agreement on AI ethics and guardrails for its practice and applications. The United States Copyright Office clarified policies on the premise of the Supreme Court precedent that “copyright law only protects the fruits of intellectual labor founded on the creative powers of the mind” (U.S. Copyright Office, 2021, Chapter 300: 7). This is aligned with the Law of the Republic of Indonesia Number 28 of 2014 on Copyrights; in Article 1, copyright can be granted to the author. However, it emphasizes that the “author means a person or several persons who individually or jointly produce works [...]” (Yudhoyono & Syamsudin, 2014, p. 2). The U.S. Copyright Office also updated the Compendium related to works generated with the use of AI to state that it “will not register works produced by a machine or mere mechanical process that operates randomly or automatically without any creative input or intervention from a human author” (U.S. Copyright Office, 2021, Chapter 300: 21). Simply put, AI can be used in the creative process, but authorship resides with the human contributor.

AI tools offer benefits and opportunities in education (Bozkurt et al., 2023). ChatGPT, for example, provides real-time personalized responses per prompt, tones, and structures, according to individual needs (Aljanabi & ChatGPT, 2023; Deng & Lin, 2022; Haque et al., 2022; Farrokhnia et al., 2023). This allows users/students to dedicate time to reading and not manually dig information from numerous locations (Farrokhnia et al., 2023), eliminate repetitive tasks, and focus on enhancing learning experiences (Glaser, 2023). Current attention and resources need to be directed towards developing ethical AI usage guidelines, including its use towards promoting students’ critical thinking skills and knowledge of copyright.

## Discussion

### Developing AI Guidelines in Education

Regulating AI is a slippery slope—too much could drive the industry to lax jurisdictions (Sundar et. al., 2023), while risk could arise with minimal oversight (Reed, 2018). As such, tech companies are already quasi-independent entities with end-user license agreements (EULA) acting as de facto laws (Manheim & Kaplan, 2019). There exists a scarcity of consensus on how laws will interact with specific AI applications and how these will work in diverse contexts (Chauhan, 2022).

Ideally, guidelines must be developed in the sweet spot between utilizing AI ethically and safely, while implementing safety standards and oversight, and keeping up with the pace of AI development (Meltzer, 2023). With risks relating to AI evolving and changing rapidly, guidelines must stay ahead of the curve and deploy anticipatory approaches in the ever-changing AI landscape (Future of Life Institute, n.d.). The consequences of inaction and overregulation, along with the creation of harm avoidance laws without impeding AI technology development (Reed, 2018), need to be taken seriously. Foremost should be the recognition that humans must have ultimate command of AI technology to maintain public trust (Ferrario et al., 2020) and encourage innovation (Reed, 2018).

For now, formal guidance on generative AI for educators and learners is limited to a few schools and universities (UNESCO, 2023). We, therefore, suggest conducting a SWOT analysis as a great start to guideline development, wherefor higher education institutions consequently create a task force of faculty members, faculty developers, and instructional designers. The guidelines can include educator best practices for ideating ways to generate educational materials and learning activities that can improve student learning experiences and implement the use of AI tools to enhance learning. The recommendations on the ethical use of AI issued by the Office of

Educational Technology (Office of Educational Technology, 2023) and UNESCO (UNESCO, 2022) can also be used to inform the development of guidance on generative AI applications for their educators and learners.

### **Promoting Higher-Order Thinking Skills**

AI-generated content, such as chatbot output, is not free from biases absorbed from the internet. New text is created from a variety of information on the web, sometimes resulting in persuasive language that is incorrect or does not exist (Metz, 2023). In addition, AI hallucinations—defined as “mistakes in the generated text that are semantically or syntactically plausible but are in fact incorrect or nonsensical” (Smith, 2023, para. 2)—are sometimes outputted. This makes it all the more essential to add strategies promoting students’ higher-order thinking skills when utilizing AI.

Educators who allow the use of AI tools in learning activities should educate learners on the importance of researching topics outside of generative AI and confirming generated sources to avoid AI hallucinations. While generative AI information may seem accurate, learners must understand how these programs process their data (Stojanov, 2023). Farrokhnia et al. (2023) provided a learning activity example; educators can assign learners to evaluate an AI-generated output and provide reasons and justifications. Therefore, learners can raise awareness that the internet is full of useful information, although there exist falsehoods and inaccurate claims.

### **Educating Learners on Copyrights**

Copyright laws, proper citation, and fact-checking are currently hot topics surrounding the use of generative AI. For example, author Kris Kashtanova has recently gained attention after the U.S. Copyright Office granted trademarks to parts of Kashtanova’s graphic novel (“Zarya of the Dawn”) but not to the images produced by Midjourney, a generative AI software (Analla & Jonnavithula, 2023). This phenomenon can be used to inform copyright guidelines for future AI-generated content.

Meanwhile, educators may want to coach learners on the benefits of AI software, understanding that it still has some limitations. Instructors can encourage the use of AI in their courses and discuss how to use generated content without violating copyright laws. For example, an instructor can have students research a topic in GPT-4 and write a reflective paper on their findings, noting that generated content is a rough draft and not the final result and reviewing acknowledgment of the use of generative AI. Learners may not want to cite AI programs such as ChatGPT in their references; instead, they ought to indicate the programs used in the writing. Properly citing and reviewing references prior to the use of generative AI can help shape the future of AI use in education.

There is no “one size fits all” approach to incorporating generative AI into education. Educators willing to use AI programs should be educated on current copyright laws and institutional guidelines surrounding AI, and then share this knowledge with students.

### **Conclusion**

The guidelines can include educator best practices for ideating ways to generate educational materials and learning activities that can improve student learning experiences and implement the use of AI tools to enhance learning. Educators who allow the use of AI tools in learning activities should educate learners on the importance of researching topics outside of generative AI and confirming generated sources to avoid AI hallucinations. Educators may want to coach learners on the benefits of AI software, understanding that it still has some limitations.

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