



Replacing “Artificial Intelligence” with “Augmented Intelligence” for a more Informed and Responsible Use of Technology in Medical Education

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Dear Editor

Artificial Intelligence (AI) has rapidly transformed various sectors, including medical education, with the introduction of advanced tools that can enhance learning and teaching methods. These AI-powered systems, ranging from language models to intelligent tutoring systems, offer innovative ways to support and augment human capabilities. They create personalized learning experiences, provide immediate feedback, and serve as a vast repository of knowledge at students’ fingertips. However, the rapid integration of AI into education also raises questions about its implications on learning outcomes, ethical use, and the preservation of critical thinking skills.

The recent article on the integration of AI-powered language models in physiology education underscores the significant opportunities and challenges these technologies present to us (1). It discusses how AI can support student learning by providing personalized assistance and facilitating critical thinking. However, the article also emphasizes the need for ongoing dialogue and ethical considerations to ensure these tools are used responsibly and effectively. Aligning with the American Medical Association’s emphasis on responsible use of technology, it is proposed

that we shift from referring these models from “Artificial Intelligence” to “Augmented Intelligence” particularly in the context of medical education (2).

Framing AI as “Augmented Intelligence” can foster a more accurate understanding and responsible usage of these technologies in medical education. AI-powered tools, when used as augmented intelligence, can significantly enhance critical thinking and support student learning. They can help students craft effective prompts, engage deeply with the material, and develop a more profound understanding of complex concepts. This approach not only improves learning outcomes but also prepares students for future problem-solving tasks where technology aids human cognition (3).

To successfully integrate augmented intelligence tools into medical education, it is essential to establish and follow ethical usage norms. As highlighted by the *3-E – Ethics, Evidence & Equity* Framework by the American Medical Association, educators must emphasize that these tools are responsible and supported by data which supplements to and not replacements for, foundational skills and critical thinking (4). Students should be encouraged to view these technologies as resources that enhance their

learning experience, not as shortcuts to bypass the effort required to understand and apply knowledge.

Developing guidelines for the ethical use of augmented intelligence tools is crucial. These guidelines should promote academic integrity, ensuring that students understand the importance of maintaining honesty and effort in their academic pursuits (5). Educators should focus on teaching students how to use these tools responsibly, highlighting the importance of using AI to complement their learning rather than relying on it entirely.

Thus, the shift from "Artificial Intelligence" to "Augmented Intelligence" reflects a more accurate and responsible use of these technologies in medical education. By emphasizing their supportive role and adhering to ethical usage norms, educators can leverage augmented intelligence to create a dynamic, interactive, and enriching learning environment. This approach not only enhances critical thinking and personalized learning but also upholds the high standards of medical education, preparing students for the complexities of their future professional roles.

Authors' Contribution

All authors contributed to the discussion,

read and approved the manuscript and agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated resolved.

Conflict of Interest

The authors declare no conflicts of interest.

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