

## Editorial

### Wherefore Art Thou, Medical Textbooks?

Since ages, medical textbooks have been the cornerstone of providing authentic and reliable sources of medical knowledge to students, forming the backbone of medical education. Within their pages lies the collective wisdom of experts, organized in a manner that allows learners to progressively build a coherent understanding of medicine.

#### ***The Rise of Bots and PDFs***

In recent years, however, a noticeable shift has occurred in the learning habits of medical students. The transition is increasingly apparent; from *books to bots*, and from *textbooks to PDFs*. The once-familiar sight of students engrossed in thick volumes in library reading rooms is gradually becoming uncommon. The books that line the shelves of medical libraries often remain largely undisturbed. Students continue to visit libraries, but increasingly not to read textbooks. For many, the library has become more of a quiet study environment than a place where books themselves are actively consulted. Learning now frequently occurs through downloaded PDFs, online summaries, lecture notes, and, more recently, artificial intelligence-based chatbots.

#### ***Digital Convenience and the Risk of Superficial Learning***

At first glance, this shift appears logical. Why carry heavy textbooks when information can be accessed instantly on digital devices? Online resources offer convenience, portability, and rapid access to information; qualities that align well with the fast-paced environment of modern education. Yet learning medicine involves far more than simply accessing information. It requires depth, conceptual clarity, and a structured understanding of complex biological systems. While online resources and condensed notes are convenient, questions often arise regarding their authenticity, accuracy, and comprehensiveness.

Much of the digital content used by students today is presented in highly distilled formats designed for rapid consumption. Such summaries may be useful for revision, but they often lack the explanatory depth and

contextual detail found in traditional textbooks. Studies comparing reading on screens with reading on paper suggest that comprehension and retention may, in certain contexts, be better with printed text.<sup>1,2</sup> Consequently, students relying primarily on condensed digital materials risk acquiring fragmented or superficial knowledge. This superficiality has important implications. Medicine ultimately involves decisions that affect human lives. Inadequate conceptual understanding may compromise clinical reasoning and judgment. Ensuring that future physicians develop deep and reliable knowledge is therefore not merely an academic concern; it is closely linked to the safety and quality of patient care.

The rapid emergence of artificial intelligence chatbots has further accelerated this transformation in learning behavior. AI tools can generate explanations instantly and summarize complex topics in conversational language. While these tools may help students clarify doubts or review concepts, they also present certain limitations. AI-generated responses may lack contextual nuance, omit critical details, or provide information without appropriate referencing. Overreliance on such tools may encourage passive consumption of information rather than the active, reflective learning essential for medical education.<sup>3</sup> Another important aspect of increasing reliance on digital learning resources is the effect of prolonged screen exposure. Medical students today often spend several hours each day reading from smartphones, tablets, or laptops. Extended screen time has been associated with digital eye strain, headaches, blurred vision, and dryness of the eyes.<sup>4</sup> Prolonged device use may also lead to neck and back pain due to poor posture, commonly referred to as “text neck.” Beyond these physical symptoms, excessive screen exposure may also influence cognitive and psychological well-being. Continuous engagement with digital media has been associated with reduced attention span, cognitive fatigue, sleep disturbances related to blue light exposure, and increased mental stress.<sup>5</sup> For students already coping with demanding academic schedules, these factors may further hinder sustained concentration and deep learning.

### ***Why Textbooks Still Matter***

Textbooks, by contrast, encourage sustained intellectual engagement. They guide readers through subjects in a logical and systematic manner. A well-written textbook explains not only *what* occurs in disease processes but also *why* it occurs. By connecting basic science with clinical manifestations and management, textbooks help learners develop an integrated understanding of medicine. The experience of reading a textbook itself also contributes to learning. Engaging with a printed book often promotes focused attention and reflective thinking. Readers can follow the logical progression of ideas, revisit complex concepts, and absorb nuance without the distractions frequently associated with digital devices. None of this implies that digital resources should be excluded from medical education. On the contrary, online platforms, digital libraries, and educational technologies have significantly expanded access to knowledge. They provide valuable tools for quick reference, revision, and supplementary learning. Artificial intelligence tools may also assist students in clarifying concepts and navigating complex information. The challenge, therefore, is not to reject technological progress but to integrate it wisely. Digital tools should Complement - not replace - the structured learning that textbooks provide.

Medical students must be encouraged to cultivate balanced learning habits. While PDFs, notes, online resources, and AI tools may serve as useful aids, the deep and coherent understanding that medicine demands, is most reliably built through engagement with well-written textbooks. As medical education continues to evolve, an important question remains: in our pursuit of digital convenience, are we gradually sacrificing the intellectual depth that textbooks have long nurtured?

To conclude, textbooks are not merely repositories of information. They are carefully constructed intellectual maps that guide learners through the complexities of medicine. Even in an era increasingly dominated by screens and algorithms, their role in shaping thoughtful and competent physicians remains indispensable.

***Speed may belong to screens, but depth still belongs to books!***

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