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Book review of Minds Online: Teaching effectively with technology

Minds Online: Teaching effectively with technology, Michelle Miller, Cambridge, MA: Harvard University Press, 2014, 296 pages, ISBN: 978-0674368-24-8.

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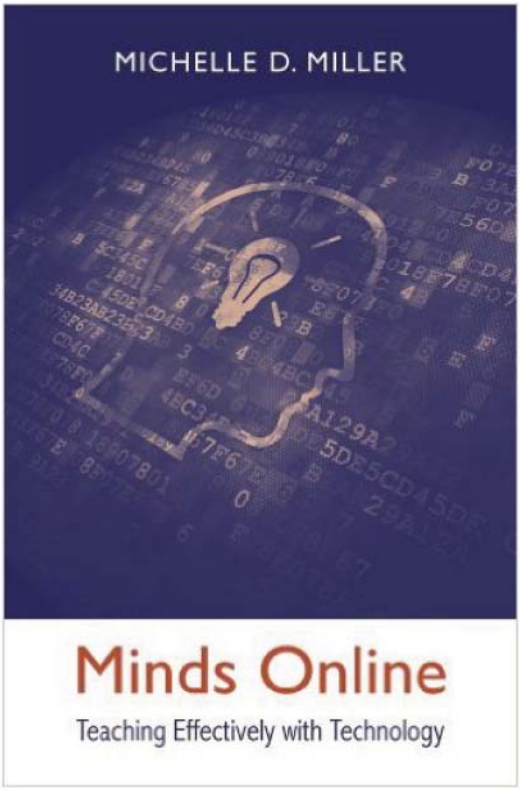

As online learning continues to flourish, educators and institutions frequently question how to leverage emerging technologies in a way that effectively enhances the learning process for students. In *Minds Online*, Miller (2014) suggests that we already have an answer to this question—we just need to know where to look. Reflecting on basic fundamentals found in cognitive psychology, the author advocates a provocative approach: We need to align our teaching with the way the mind works. To show how this alignment is possible, Miller first combs through decades of psychology research, disentangling complex strands of knowledge to present a clearly defined overview of what we already know about the mind. She then puts this knowledge into practice, outlining and demonstrating practical strategies that can easily be incorporated into any online classroom to help enhance the learning process.

One of the best features of this book is its accessibility. Even though the discussion largely focuses on dense studies in psychology, Miller takes the time to clarify obscure details as well as dispel common myths about technology's impact on the mind and education. For instance, although Nicholas Carr's bestseller, *The Shallows*, raises serious concerns over how technology may be rewiring our brains, Miller cautions us to avoid misinterpreting this idea. "Technically speaking," she explains, "computing experience does alter our brains at a neural level, but so does just about anything else that we remember" (p. 45). For this reason, educators should not feel worried or threatened by technology's role in education. Rather, they should embrace emerging technologies and test out innovative ways they can "amplify and expand the repertoire of techniques" (p. xii) within their own classroom. With this reassuring tone, Miller declares technology to be a powerful tool for education, as long as used effectively.

In *Minds Online*, Miller attempts to illustrate the underlying connections between teaching and cognitive psychology mainly through the analysis of three processes: attention, memory, and thinking. The author first explores the components' relevance in psychology and then more clearly identifies how and why each is a significant and unique factor within the online classroom. Take attention and memory, for example, which is essentially our ability to focus on and then reproduce information.

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Miller points out that when we make simple changes, like eliminating in-class lectures commonly found in face-to-face courses, it "lets us redirect student time into the active, focused effort that makes material stick" (p. 106). Similarly, she notes how the online classroom is ideal for fostering higher levels of thinking, in terms of creativity, formal reasoning, decision-making, and problem solving. She explains that in virtual classes, as compared to on-site face-to-face environments, "it's more feasible to offer multiple practice opportunities—case studies, argument analyses, and many more variations" (p. 135) which supports "intellectual habits like critical thinking" (p. 136). Although overly simplified, it's this continual blending of psychological theory with educational application that helps Miller to demonstrate how minds learn differently within online environments.

Time and again, Miller reiterates the notion that designers and instructors need to recognize and exercise their power to continually manipulate the online environment in unique and memorable ways to capture student attention and foster deeper levels of thinking. In fact, in the final chapter of *Minds Online*, Miller attempts to put this reasoning into practice by showcasing a syllabus and information for a cognitively optimized psychology course. Though the author does provide snapshots of recommendations for enhancing student motivation—"assess early and often" (p. 214)—attention—"ask students to respond" (p. 217)—and thinking—"use varied, realistic scenarios for reasoning" (p. 219), while also outlining potential assignments like creative thinking wikis, MiniQuest assignments, and discussion tasks, most of the information and advice is already rather commonplace within virtual classrooms. However, it might prove valuable for instructors completely new to online teaching, or those planning to convert an on-site course into an online course.

Minds Online provides a very thorough yet readable account of what it means to both teach and learn online. Not only does Miller reveal many of the underlying connections between cognitive psychology and online education, she also reaffirms many of the ways in which technology has been and might continue to be used to both enhance and optimize the virtual classroom.

References:

Carr, N. G. (2010). *The shallows: What the Internet is doing to our brains*. New York, NY: W.W. Norton.

Miller, M. (2014). *Minds online: Teaching effectively with technology*. Cambridge, MA: Harvard University Press.