Review of Barbara Oakley's book *A Mind for Numbers*

by Jacob Williams on 2025-02-15
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A few topics that stood out to me:

Spaced repetition. I went through Oakley's "Learning How to Learn" on Coursera several years ago, so I was already familiar with this book's core ideas. Spaced repetition is the one that's had the biggest impact on me: I've been using one of the apps Oakley recommends, Anki, for a long time. It's a really powerful tool for memorizing stuff.

Focused and diffuse modes. The book repeatedly emphasizes that you need to switch between periods of direct focus on a problem and periods where you let your mind work on it in the background. One interesting implication of this it mentions is that procrastination has a non-obvious downside: if you don't put focused attention in until near the deadline, you won't start doing subconscious processing until it's too late to benefit from it.

Interleaving. Oakley says the way textbooks group together problems that require similar approaches can prevent you from learning how to identify the right approach on your own without such hints. She suggests copying a variety of problems onto index cards so that you can't tell which section of the book they came from.

Product vs process. This is something I've gone back and forth on a lot: should I set goals like *finish X today*, or like *spend Y minutes on X today*? Oakley says one reason for preferring the latter (process-driven goals) is that they make it easier to overcome procrastination. "The product is what triggers the pain that causes you to procrastinate."[1]

Memory tricks. Oakley discusses memory tricks like mnemonics, songs, associating ideas with weird imagery, and memory palaces. I almost never use that kind of stuff, but the book insists it's beneficial and that you get faster at it with practice.

Notes I took on each chapter are available at https://brokensandals.net/notes/2025/mind-for-numbers/

1. Barbara A. Oakley, *A mind for numbers: how to excel at math and science (even if you flunked algebra)* (New York: Jeremy P. Tarcher/Penguin, 2014), 102.