

Chunking

Only dip in to read what is of interest to you - these readings are entirely optional.

Chapters 4 and 7 of *A Mind for Numbers* are especially helpful in providing helpful information and additional exercises related to the materials of Module 2.

Worthwhile Additional Popular Works

- Robyn Scott, "[The 30 Second Habit That Can Have a Big Impact On Your Life](#)," Feb 18, 2014, *The Huffington Post*. This is actually a wonderful article on chunking!
- David Glenn, "[Divided Attention](#)," February 28, 2010, *The Chronicle of Higher Education*.
- Errol Morris, "[The Anosognosic's Dilemma: Something's Wrong but You'll Never Know What It Is \(Part 1\)](#)," June 20, 2010, *The New York Times, Opinionator*.
- Johns Hopkins Medicine, "[Memories of errors foster faster learning](#)," August 14, 2014, *Science Daily*. Yes, mistakes really do help you learn!
- Travis Bradberry, "[Multitasking Damages Your Brain And Career, New Studies Suggest](#)," October 8, 2014, *Forbes*.
- Sue Shellenbarger, "[The Power of the Doodle: Improve Your Focus and Memory](#)," July 29, 2014, *The Wall Street Journal*.
- Colin Gerber, "[Memory Consolidation and Productivity Can Both Be Improved by Taking Breaks](#)," *Quora*, November, 2014.
- Steven C. Pan, "[The Interleaving Effect: Mixing It Up Boosts Learning](#)," *Scientific American*, August 4, 2015.

Heavier-Duty References (as mentioned in this week's videos)

Video: What is a Chunk?

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Video: How to Form a Chunk - Part 1

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- Bransford, John D, A. L. Brown, R. R. Cocking, M Suzanne Donovan, and JW Pellegrino. "How People Learn." Washington, DC:National Academy Press, 2000.
- Brent, Rebecca, and Richard M. Felder. "Learning by Solving Solved Problems." *Chemical Engineering Education* 46, no. 1 (2012): 29-30.
- Cho, Soohyun, Arron W. S. Metcalfe, Christina B. Young, Srikanth Ryali, David C. Geary, and Vinod Menon. "Hippocampal-Prefrontal Engagement and Dynamic Causal Interactions in the Maturation of Children's Fact Retrieval." *Journal of Cognitive Neuroscience* 24, no. 9 (2012): 1849-66.
- Cooper, Graham, and John Sweller. "Effects of Schema Acquisition and Rule Automation on Mathematical Problem-Solving Transfer." *Journal of Educational Psychology* 79, no. 4 (1987): 347.
- Cree, George S, and Ken McRae. "Analyzing the Factors Underlying the Structure and Computation of the Meaning of Chipmunk, Cherry, Chisel, Cheese, and Cello (and Many Other Such Concrete Nouns)." *Journal of Experimental Psychology - General* 132, no. 2 (2003): 163-200.
- Gobet, F., and N. Charness, eds. *Chess and Games*. edited by K. Anders Ericsson, Neil Charness, Paul Feltovich and Robert R. Hoffman, Cambridge Handbook on Expertise and Expert Performance: Cambridge University Press, 2006.
- Gobet, F., and G. Clarkson. "Chunks in Expert Memory: Evidence for the Magical Number Four... or Is It Two?." *Memory* 12, no. 6 (2004): 732-47.
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Video: How to Form a Chunk - Part 2

- Brent, Rebecca, and Richard M. Felder. "Learning by Solving Solved Problems." *Chemical Engineering Education* 46, no. 1 (2012): 29-30.
- Cho, Soohyun, Arron W. S. Metcalfe, Christina B. Young, Srikanth Ryali, David C. Geary, and Vinod Menon. "Hippocampal-Prefrontal Engagement and Dynamic Causal Interactions in the Maturation of Children's Fact Retrieval." *Journal of Cognitive Neuroscience* 24, no. 9 (2012): 1849-66.
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Video: Illusions of Competence, the Importance of Recall, Mini-testing, and Making Mistakes

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Video: The Value of a Library of Chunks: Compaction, Transfer, Creativity, and the Law of Serendipity

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Video: Overlearning, Choking, the Einstellung Effect, and Interleaving

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In Video Questions