

As part of the EF + STEM project at TERC, we've gathered some recommended resources for learning about Executive Function (EF) as it relates to STEM education. This list will grow and change.



Introduction to Executive Function

[InBrief: Executive Function: Skills for Life and Learning](#)

A five-minute video with overview of Executive Function and Self-Regulation from Harvard Center for the Developing Child.

Diamond, A. (2013). [Executive Functions](#). *Annual Review of Psychology*, 64, 135-168.

An overview of EF from a psychological perspective.

EF + STEM

Gropen, J., Clark, Chiarelli, N., Hoisington, C., & Ehrlich, S. B. (2011). The Importance of Executive Function in Early Science Education. *Child Development Perspectives*, 5(4), 298-304.

An article the role of EF in scientific hypothesis making in early childhood learning.

EF + Learning

Meltzer, L. (Ed.). (2018). *Executive Function in Education: From Theory to Practice*. Guilford Publications.

Lynn Meltzer's edited book is a great collection of seminal papers on EF in education, but unfortunately, it is not available online.

[CIRCL Primer: Neuroscience and Education.](#)

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The Center for Innovative Research in Cyberlearning (CIRCL) pulled together ideas and resources from current NSF educators on neuroscience and executive function.

Zaitchik, Deborah & Solomon, Gregg & Tardiff, Nathan & Bascandziew, Igor. (2016). [Conceptual Change](#). 10.1093/acprof:oso/9780190467630.003.0005.

A learning science article that refers to the biological role of EF in Conceptual Change

EF + LD/UDL/Accessibility

Meltzer, L. & Krishnan, K. (2007). [Executive Function Difficulties and Learning Disabilities: Understandings and Misunderstandings](#). *Executive Function in Education: From Theory to Practice*, 77-105.

This is a seminal chapter from the first edition of Meltzer's book. Her full edited book (second edition) is highly recommended for purchase; see "EF + Learning" above.



EF Interventions

Diamond, A., & Lee, K. (2011). Interventions shown to aid executive function development in children 4 to 12 years old. *Science*, 333(6045), 959-964.

A strong body of work on interventions for EF for young children.

EF by Specific Age Groups

Recommendations being sought.

EF in the Workforce

Recommendations being sought.

EF in Everyday Life

Recommendations being sought.