

## Problems with a Purpose: Evoking Empathy to Support STEM Learning

### **Resource List**

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#### **Resources:**

[Using Narratives to support Empathy and Engineering: A guide for museum practitioners](#). Dorothy Bennett, Suzy Letourneau, Katherine MacMillan Culp (NYSCI)

[Understanding How Narrative Elements Can Shape Girls' Engagement in Museum-Based Engineering Design Tasks](#). Research articles and other resources from NYSCI's partnership with Amazeum, the Tech Interactive, and Creativity Labs at UC Irvine.

[Learning Unboxed Podcast focused on the Engineering and Empathy PreK/K project](#): Corbin, Annalies. (2019). Engineering and Empathy, featuring Melissa Higgins and Michelle Cerrone (Boston Children's Museum). *Learning Unboxed*, episode 59.

#### **Research Summaries:**

[Principles of Child Development and Learning and Implications That Inform Practice](#), NAEYC. [Research summary and a list of additional resources]

McDonald, N. M., & Messinger, D. S. (2011). [The development of empathy: How, when, and why](#). *Moral behavior and free will: A neurobiological and philosophical approach*, 333-359.

Walther, J., Miller, S. E., & Sochacka, N. W. (2017). [A model of empathy in engineering as a core skill, practice orientation, and professional way of being](#). *Journal of Engineering Education*, 106(1), 123-148.

Young, A., Khalil, K. A., & Wharton, J. (2018). [Empathy for animals: A review of the existing literature](#). *Curator: The Museum Journal*, 61(2), 327-343.