
MYTHS ABOUT LEARNING TRAJECTORIES

There are many myths and misunderstandings about young children and STEM¹, and especially about learning trajectories. Let's look at those concerning learning trajectories.

Myth: Learning Trajectories are deficit-based.

Fact: This is perhaps the most severe misunderstanding, because *learning trajectories are asset-based at their core* [3-5]. *Every child at every level of thinking has strengths and potential.* Learning trajectories help educators understand children's assets and capabilities and build upon them—the *opposite* of deficit-based perspectives. Learning trajectories recognize and build on the power of children's thinking.

Myth: Learning trajectories march children through a narrow set of skills.

Fact: Learning trajectories are deeply constructivist [5-8]. They are built upon *children's way of knowing*. That is, from Piaget and subsequent decades of early childhood research we have learned that there are natural ways children think about the world and progressions of these patterns of thinking. In most fields, to differing degrees, these can be described by broad, *conceptual*, levels of thinking. *Understanding how children think helps teachers appreciate children more.* Also, learning trajectories provide guides to teaching practices that are fine-tuned for each level. *Learning trajectories help educators teach in child-centered ways more successfully.*

¹ For math, see 1. Clements, D.H. and J. Sarama, *Myths of early math*. Education Sciences, 2018. **8**(71): p. 1–8, 2. Sarama, J. and D.H. Clements, *5 math myths*, in *Parent & Child*. 2006. p. 44–45..

Myth: Learning trajectories do not consider differences in cultures, ethnicities, and children, including a wide range of approaches to teaching and learning.

Fact: *The levels of a learning trajectory are **broad** because there are many interesting variations and creative ideas within these levels.* Also, a learning trajectories' guides to teaching practice incorporate the Universal Design for Learning and so are accessible to all children.

Learning trajectories and are expressly built to be adaptable to different cultures, groups, and individuals [5, 7]. One important adaptation is for different cultures. Learning trajectories take funds of knowledge from all communities seriously and encourage using such funds [9, 10].

The teaching practices provide *specific research-based guidelines* but *also a broad array* of approaches to teaching and learning. That is, the activities are suggestions that *illustrate* what we know about high-quality experiences for children but are flexible and adaptable to different structures and philosophies in early childhood education.

Myth: Learning trajectories are a rigid sequence.

Fact: *Learning trajectories celebrate diversity!* They explicitly recognize that children may follow different paths, learning two (or more!) levels at the same time, and so forth². The developmental progressions of levels of thinking, research from around the world supports, do describe most children's learning if interpreted with full understanding of the theory, but they adapt quickly to the new, the different, and the creative. But they provide a **lens** that opens our eyes to children's thinking and learning, so that similarities and differences can be noticed, understood, reflected on, and put to good use.

² See our "Frequently Asked Questions (FAQ) about Learning Trajectories" in 5. Clements, D.H. and J. Sarama, *Learning and teaching early math: The learning trajectories approach*. 3rd ed. 2021, New York, NY: Routledge. 380. and on [LearningTrajectories.org](https://learningtrajectories.org).

Myth: Learning trajectories are inappropriate for children with disabilities (CWD).

Fact: Being constructivist, learning trajectories celebrate diversity of every type. CWD may need different supports, but their *learning and thinking* and the progressions of their learning, are, after all, fundamentally human. Without knowledge of learning trajectories, teachers of young children often do not recognize the mismatch between children's thinking and their interactions with them [11], and this is especially so for CWD [5, 12].

Myth: Learning trajectories are unproven.

Fact: Again, research from around the world supports that teachers are more successful with *all* students if they use learning trajectories. Learning trajectories are just a tool, albeit a powerful tool, for understanding learning and teaching [5, 7, 13, 14]. Used widely, they support both teachers and children.

References

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