

What is a Growth Mindset?

The idea of a “growth mindset” stems from the work of Carol Dweck, first published in her book *Mindset: The New Psychology of Success* in 2006. To summarize a large body of work, a learner with a “growth mindset” believes that intelligence can grow by working through challenges and fixing mistakes. In contrast, a “fixed mindset” is characterized by the belief that talent is innate.

The Growth Mindset in STEM

Jo Boaler studies applying growth mindset in teaching math, and shares her findings in her book *Mathematical Mindsets: Unleashing Students' Potential through Creative Math, Inspiring Messages and Innovative Teaching*. She battles the stereotypes stemming from a fixed mindset, such as “I’m not a math person,” by developing effective teaching tools backed by her research. She makes these tools, aimed primarily at the K-12 level, available to instructors through YouCubed at Stanford to help teachers enable their students to succeed in math.

Cultivating a Growth Mindset as a Learner into the College STEM Classroom:

- **Skills are not innate and can be learned and improved.**

Practice makes perfect! Completing more practice problems will enable you to develop the learned skills, and it’s okay to feel like you’re struggling while learning.

- **Focus on the thinking process rather than attaining the correct answer.**

General chemistry consists of multicomponent questions. Document your thinking process, to find which steps are “muddier” for you and do not just focus on attaining a particular solution.

- **Think of mistakes as learning moments, not a reflection on ability or skill.**