



The Importance of Being Wrong II

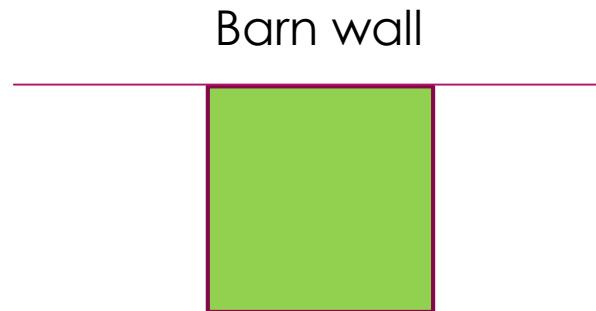
DAVID SUMMERGRAD AND LAURA CALLIS

Reflect

- ▶ Describe a time when you were wrong.
- ▶ Did you learn anything from it?
- ▶ Did you get better at something because of it?

A little math

- ▶ What is the largest area that you can fence with 24 feet of fencing?
- ▶ We have a barn wall that we can build our pen against. Now what is the biggest area we can fence in?



Reflect

- ▶ This problem purposefully led you down the wrong path.
- ▶ How did it feel to be wrong in this instance?
- ▶ Did it help you think differently?

Neuroscience: Mistakes are your brain growing

► <https://www.youcubed.org/resources/mistakes-video/>

Key Points

- ▶ Neuroscientists have found that when we make mistakes, our brain is growing – *even if we aren't aware that we are making a mistake*
- ▶ Learners with **growth mindset** see their mistakes as **opportunities for learning**
- ▶ Learners with a **fixed mindset** see their mistakes as **evidence that they are not good at something**
- ▶ **Examining** mistakes gives you **insight** into an idea in a way that getting the right answer does not
- ▶ Examining mistakes, outliers, non-examples, also grows the field.
 - ▶ Are there any famous mistakes in your field that contributed to knowledge?

Strategies for Encouraging the Sharing and Productive Use of Mistakes and Misconceptions

Celebrate mistakes in class so that we can **all** learn from the mistakes

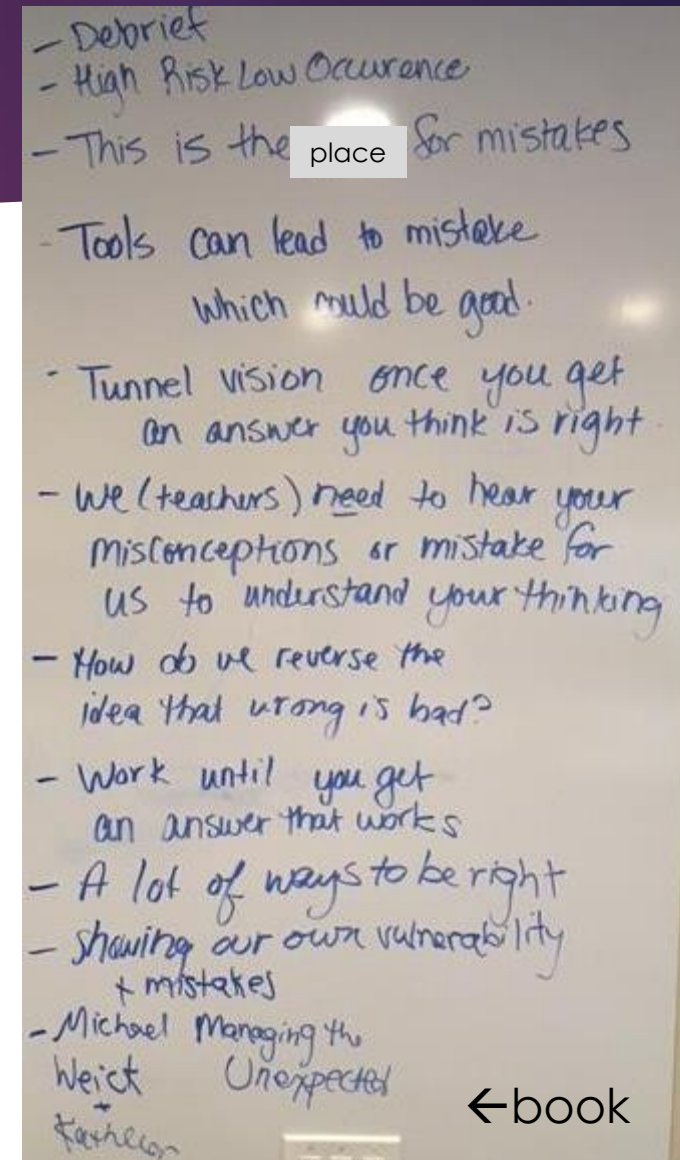
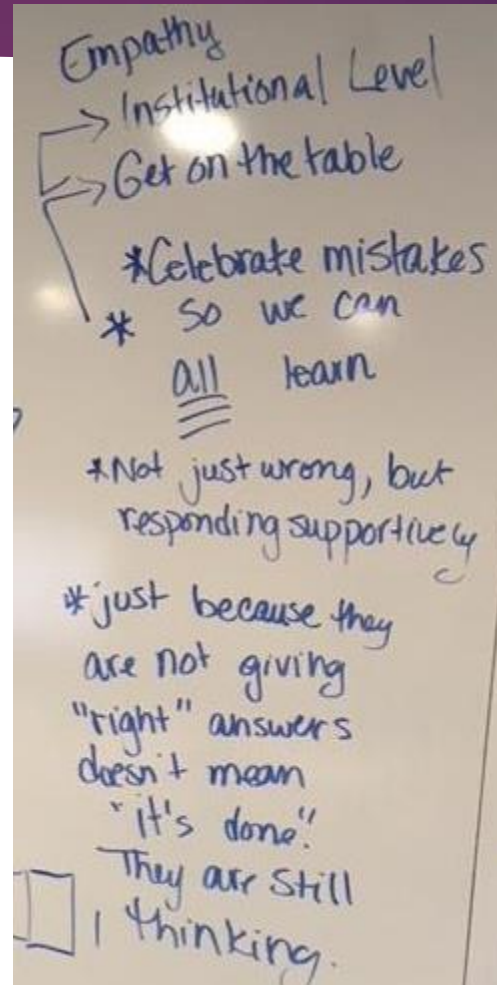
"Thank you – you got it on the table. Now we can talk about it." The mistake could be something that occurs at an institutional level – from racial discrimination to mathematical misunderstandings of children. The mistake itself is worth talking about and deconstructing.

When responding to a mistake, be supportive, not just "no, that's wrong."

Just because they are not giving the "right" answers doesn't mean "it's done" – that is, the learning is still happening.

Check our assumptions and encourage students to check their assumptions – assumptions can give you tunnel vision.

Even if you get the answer right, it is worth examining mistakes.



What about your practice?

- ▶ What are common misconceptions or mistakes in your discipline?
- ▶ What could you do to encourage the examination of such misconceptions and mistakes in your class?

Resources

- ▶ Moser, Schroder, Heeter, Morgan, Lee (2011). Mind your errors: Evidence for a Neural Mechanism Linking Growth Mind-Set to Adaptive Posterror Adjustments. *Psychological Science*.
- ▶ Videos and Articles on Mindset and Mistakes, particularly relevant to mathematics: <https://www.youcubed.org/>
- ▶ *Being Wrong* by Kathryn Schulz
- ▶ *How Doctors Think* by Jerome Groopman

To Continue the Conversation (Attendees Contact Info)

Presenters:

- ▶ Laura Callis, x2130, laura.callis@curry.edu (Faculty Center, Math & Science)
- ▶ David Summergrad, dsummerg0910@curry.edu (Education)

Attendees

- ▶ Seth Davis, seth.davis@curry.edu (Writing)
- ▶ Karen Hussar, khussar0214@curry.edu (Nursing)
- ▶ Maureen Murphy, mmurphy0106@curry.edu (Nursing)
- ▶ Kerrie Aborn, kaborn@curry.edu (Career Center)
- ▶ Jen Balboni, jbaldoni0608@curry.edu (Criminal Justice)
- ▶ D-L Garren, dlgarren@curry.edu (Communication)
- ▶ Emily MacIntyre, emilymacintyre@curry.edu (Nursing)
- ▶ Brenda Wrigley, brenda.wrigley@curry.edu (Communication)

