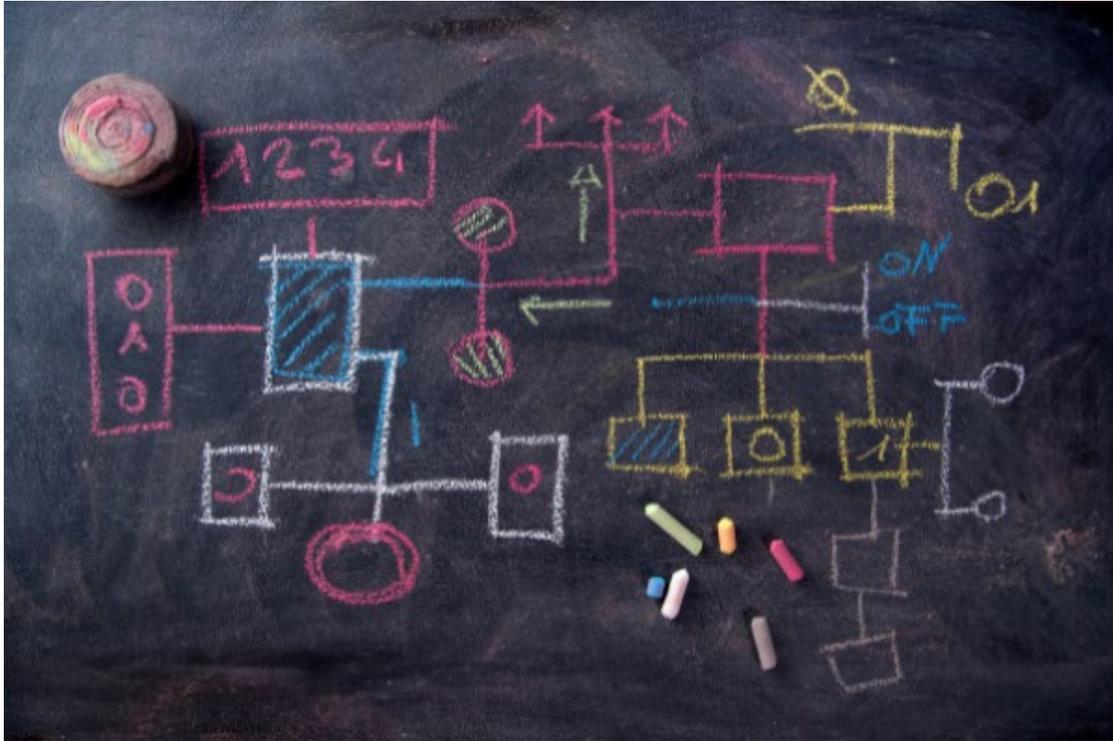


*This special newsletter is coming to you from **Deans for Impact** to support your work in the Learning by Scientific Design Network. Together, we'll continue exploring how we can support novice teachers to use learning-science informed practices in their teaching. This week, let's take a look at the [principle](#) of Deepening Meaning and Learning, zeroing in on the teacher action of using **examples and non-examples**.*

Teacher action

Teachers prompt students to connect (and distinguish) varied examples and contrasting non-examples.

Background: Schema refers to the organization of concepts—how they connect and relate. Thinking about multiple concrete examples helps a learner connect an abstract idea to familiar content, and builds nuance and depth in schema—that is, varied examples help learners avoid undergeneralizing (limiting understanding to the most common example). Non-examples help prevent learners from overgeneralizing, allowing them to see what a concept is not.



Connections to equity and justice

The Danger of a Single Story

In Dr. Chimamanda Ngozi Adichie's TED Talk, "*The Danger of a Single Story*," Adichie describes the effects that narrow stereotypes can have on our understanding of each other, particularly those whose stories are often untold. It is important to ask ourselves how might using examples and non-examples impact how students understand identities and cultures. [Watch here.](#)

One example is the way American Indians are depicted in curriculum and books. Seeing examples like the one on the left may cause students to not understand that there are many American Indian cultures, that American Indians are part of our present and not just the past, and that many American

Indians dress and engage in 'modern' and traditional aspects of their cultures (see example on the right).



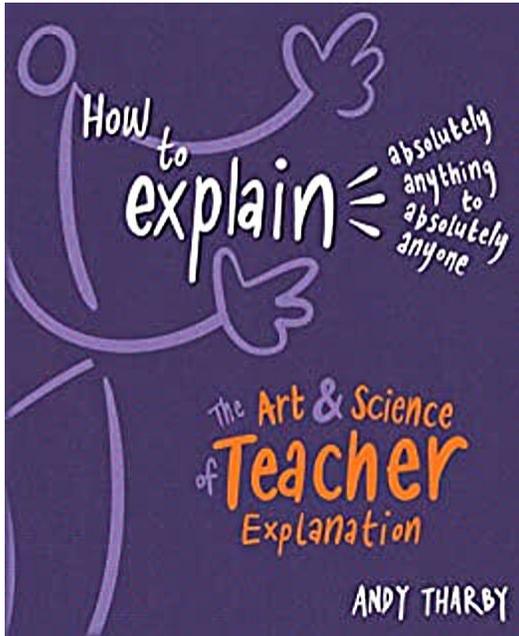
Or take the example of the Black male ballet dancers. By pushing students to articulate explicit core features of a ballet dancer (someone who dances ballet) and not surface features that may be socially normed (ballet dancers are girls, or white), students walk away with a deeper, more accurate understanding of the concept.



Exposing students to multiple varied examples is one of the most powerful ways a teacher can work to undo harmful generalizations or stereotypes.

Connections to classroom practice

Selecting examples and non-examples



In this excerpt from educator Andy Tharby's book, *How to Explain Absolutely Anything to Absolutely Anyone: The Art and Science of Teacher Explanation*, Tharby explores how cognitive research on concrete examples and non-examples can be applied to teaching, particularly when teachers are introducing new concepts. This chapter, "Concepts, Examples, and Misconceptions," reflects specifically on the considerations that teachers should have in mind as they select and plan for the examples and non-examples they'll use to teach into new content in their lessons. [Read it here.](#)

Prompts that teachers can use

Connecting varied examples

"These two examples look really different but they are both examples of ____."

How do we know they are both examples of ____?

Why might someone NOT notice they are both examples of ____?

How would you help someone who didn't notice these examples were similar figure out they are both examples of ___?"

Distinguishing contrasting non-examples

“These two examples appear similar but they are actually really different. One is an example of x, one is an example of y.”

How did you know the second example was an example of y, not an example of x?

How would you have to change each of them to make it an example of the other type (e.g., what would need to change about the first example if it were to be an example of y, not x?)

Why might someone think these are both examples of x or both examples of y? How would you help them see that they are not examples of the same thing?