



Thank you

FOR YOUR
INTEREST IN
CORWIN

Please enjoy this complimentary excerpt from *Tools for Teaching Conceptual Understanding, Secondary*, by Julie Stern, Krista Ferraro, and Juliet Mohnkern. This excerpt makes the case for conceptual learning and debunks the myth that simply covering the material will cause students to retain it.

LEARN MORE about this title, including Features, Table of Contents and Reviews.

Balancing Conceptual Thinking, Skills Practice, Memorization, and Review

Many teachers worry about the amount of time that instruction for conceptual understanding takes, especially compared with traditional instruction. We used to think that the depth of study into a concept and corresponding topics inevitably meant that we had to spend more time with fewer topics, which was scary. But the better we got at teaching this way, we realized students learn *more* factual content because they actually remember what they’ve learned and are able to make insight-ful connections throughout the year demonstrating a depth of understanding.

In fact, we were forced to confront the **myth** that so many of us hold dear: *If we cover material (e.g., tell students something or go over it in class), they will learn it.* This is some-thing many teachers are convinced is true despite so much evidence to the contrary. It may feel more efficient in the short term to spoon-feed students with information or explain step-by-step how to do something. But when they lack depth of under-standing they either repeat incorrectly, partially, or forget. Anyone teaching for longer than two months has seen this. Two lessons later, one week later, one month later, the following school year—we are repeatedly shocked by what students either misunderstand, partially understand, or forget.

When students lack depth of understanding they either repeat incorrectly, partially, or forget.

Consider the metaphors explained in this short excerpt from *The Art of Redesigning Instruction* (Paul, n.d.):

When we teach in “mother robin” fashion—trying to mentally chew up everything for our students so we can put it into their intellectual beaks to swallow—students tend to become, if I can slightly mix my metaphor,

“Polly parrot” learners: “I can’t understand anything unless you tell me exactly how and what to say and think. I need you to figure out everything for me. I shouldn’t have to do more than repeat what you or the textbook say.”

Unfortunately, the more students grow in this direction, the more teachers try to amplify their mother robin teaching to accommodate it. Growth on either side produces a compensating growth on the other. By the Middle School level most students are deeply entrenched in learning, and teachers in teaching, nothing but lower order, fragmented, surface knowledge. Teachers feel by this level that they have no choice but to think for their students, or worse, that they should not require any thinking at all, that students are not really capable of it.

We love this article and suggest reading it in its entirety. It reminds us that our solution to the problem of chronic forgetting—more review, more discrete practice, more work to “break it down” for students—often only makes the problem worse—not to mention the time that is wasted in doing this!

The words of a conceptual teacher:

“Every time I taught this lesson before by explaining it and demonstrating it, a few lessons later students couldn’t recall exactly why the elements burned differently. When I taught this lesson conceptually and inductively, the misconceptions were far fewer because they are connecting their observation with the concepts—and can remember what they observed between the concepts on an emotional level.” —Julia Briggs, IB Chemistry teacher

Let us say this: Research—and all of our experience—says that if students deeply understand the conceptual relationships of an academic discipline, they will retain facts better and be able to transfer what they’ve learned (Bransford, 2000; Bruner, 1977; Hattie, 2012; Newmann, Bryk, & Nagaoka, 2001). If they don’t deeply understand, they will forget and need it to be repeated again and again, year after year. Most teachers think about their course in isolation. Many do not realize the incredible amount of repetition that happens year after year in almost all of the subject areas, especially language arts and mathematics. In a topic-based, coverage-centered teaching model, the results are plain and simple: Students forget. It’s as if they go home at night, lay down, and everything falls out of their ears and onto the floor! We understand the need for skills practice and memorization to the point of automaticity. Balance is important, and it is wise to spend some time each week developing students’ memory and speed at recall of important facts or basic skills. As a general practice, it makes sense to allow time for this *after* we have hooked students with an interesting conceptual question, concept-attainment

lessons, and at least one exploration of an abstract conceptual relationship grounded in an interesting context of factual content. Understanding first, drills for automaticity second.

Conclusion

This chapter provides four instructional frameworks to help guide teachers as we experiment with lesson planning for deep, conceptual learning. This is not an exhaustive list of how we can foster students' ability to uncover conceptual relationships and transfer their understanding. No matter what instructional design method you use or your school uses, remember to keep conceptual relationships as the goal as you plan and you will be well on your way.

Chapter Review

- How do conceptual questions help students learn? How do thought-provoking questions help teachers plan?
- How do specific contexts deepen student understanding about conceptual relationships?
- Why is it essential for students to use factual evidence to support their statements of conceptual relationships?
- How might you convince someone that teaching conceptually is worth the time it takes?