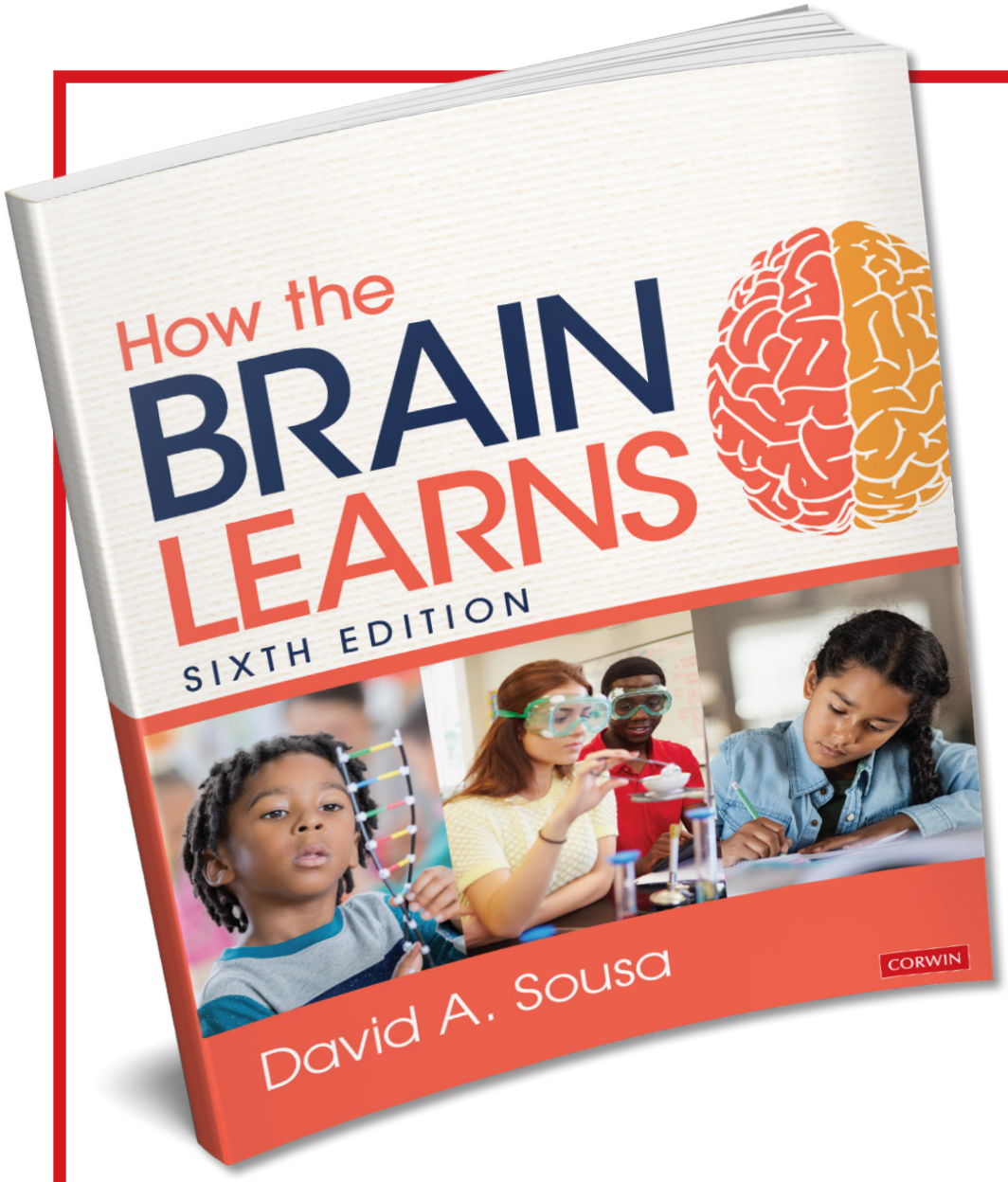

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Avoid Teaching Concepts That Are Very Similar

Teachers often use similarity to introduce new topics. They say, "You already learned something about this topic when we . . ." This helps students to use positive transfer by recalling similar items from long-term storage that can assist in learning new information. But as we saw in the Chapter 3 discussion on learning motor skills, similarity can also be a problem.

Whenever two concepts have many more similarities than differences, such as latitude and longitude, mitosis and meiosis, or simile and metaphor, there is a high risk that the learner cannot tell them apart. In effect, the similarities overwhelm the differences, resulting in the learner attaching the same memory retrieval cues to both concepts. Thus, when the learner uses that cue later to retrieve information, it could produce either or both concepts, and the learner may not recognize which is correct.

How to Deal With This Problem. When planning a lesson with two very similar concepts, list their similarities and differences. If the number of similarities and differences is about the same, there is less chance the students will be confused, but if the number of similarities is far greater than the differences, confusion is likely. In that case, try the following:

- **Teach the two concepts at different times.** Teach the first concept. Make sure that the students thoroughly understand it, can explain it, and can practice it correctly. Then teach a related concept to give the first concept time to be consolidated accurately and fully into long-term memory. Teach the second concept a few weeks later. Now consolidated information from the first concept acts for positive transfer in learning the second concept.
- **Teach the difference(s) first.** Another option is to start by teaching the difference(s) between the two concepts. This works better with older students because they have enough prior learnings to recognize subtle differences. For example, teach that the only real difference between latitude and longitude is their orientation in space and that this can cause confusion when labeling a location. Focusing on and practicing the difference gives learners the warnings and the cues they need to separate the two similar concepts and identify them correctly in the future.

It seems so logical that two concepts that have many similarities should be taught at the same time. And so, for years, teachers have struggled with introducing concepts like the following in the same lesson: latitude and longitude; mitosis and meiosis; simile, analogy, and metaphor; complementary and supplementary angles; monarchy, oligarchy, and plutocracy; writing lowercase *b*, *d*, *p*, and *q;* and many others. But the very fact that they are *so* similar can lead to retrieval problems.

To see how similarity may affect your work, try this activity:

A. Think about and list two or more concepts that are so similar they could cause confusion.

B. How could these concepts be presented to minimize confusion?