Creating Desirable Difficulties

I hope you all had a wonderful Spring Break!

A few weeks ago, professors of psychology Robert and Elizabeth Bjork visited campus as part of Trinity's Distinguished Scientists Lecture series. In a chapter circulated before a conversation with the Bjorks in the Collaborative, they described “desirable difficulties” and how these difficulties can “trigger encoding and retrieval processes that support learning, comprehension, and remembering” (p. 58).

Given that it is midterm season, the Bjorks' recommendations related to desirable difficulties, detailed below, could also be shared with students in order to help them better study for exams:

- **Vary the conditions of learning**
  
  “Varying the conditions of practice—even varying the environmental setting in which study sessions take place—can enhance recall on a later test. For example, studying the same material in two different rooms rather than twice in the same room leads to increased recall of material” (p. 58).

- **Space study sessions on a given topic**
  
  “Although massing practice (for example, cramming for exams) supports short-term performance, spacing practice (for example, distributing presentations, study attempts, or training trials) supports long-term retention” (p. 59).

- **Interleave instruction on separate topics**
  
  “Interleaving the practice of separate topics or tasks is an excellent way to introduce spacing…. When participants [of a recent study] were asked to learn the styles of each of 12 artists based on a sample of 6 paintings by each artist, interleaving a given artist's paintings among the paintings by other artists—versus presenting that artist's paintings one after another (blocking)—enhanced participants' later ability to identify the artist responsible for each of a series of new paintings” (p. 60).

- **Use tests as a way to study**
  
  “An effect that rivals the spacing effect for its generality and significance for instruction and learning is the generation effect, which refers to the long-term benefit of generating an answer, solution, or procedure versus being presented that answer, solution, or procedure. Basically, any time that you, as a learner, look up an answer or have somebody tell or show you something that you could, drawing on current cues and your past knowledge, generate instead, you rob yourself of a powerful learning opportunity…. The basic message is that we need to spend less time restudying and more time testing ourselves” (p. 61).

All of these findings are also well aligned with the ongoing support that Stacy Davidson, Director for Academic Support, has been providing to Trinity students as part of the new Student Success Center.
-Emily

--
Emily O. Gravett, Ph.D.
Assistant Director of Programs
Collaborative for Learning and Teaching
Trinity University
San Antonio, TX 78212
Ph: (210) 999-8496