

Desirable Difficulties

Learning conditions that trigger encoding and retrieval processes that support learning, comprehension, and remembering.

Varying Conditions of Practice

"When instruction occurs under conditions that are constrained and predictable, learning tends to become contextualized. Material is easily retrieved in that context, but the learning does not support later performance if tested at a delay, in a different context, or both."

Spacing Study Sessions

"Spacing practice supports long-term retention of material. It is one of the most general and robust effects from across the entire history of experimental research on learning and memory."

Interleaving Instruction

"Interleaving the practice of separate topics or tasks is an excellent way to introduce spacing and other learning dynamics. Having to resolve the interference among the different things under study forces learners to notice similarities and differences among them...which then foster both retention and transfer."

Generating Information and Using Tests as Learning Events

"When a learner looks up an answer or has somebody tell or show them something that they could, drawing on current cues and past knowledge, generate instead, they rob themselves of a powerful learning opportunity."

Bjork, E. L., & Bjork, R. A. (2011). Making things hard on yourself, but in a good way: Creating desirable difficulties to enhance learning. *Psychology and the real world: Essays illustrating fundamental contributions to society*, 2(59-68).

