

Teaching Tip

**An Approach to Reducing Cognitive Load in the Teaching
of Introductory Database Concepts**

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ABSTRACT

This paper presents a goal-based scenario approach to teaching introductory database concepts to undergraduates using two different scaffolding methods. One method, termed *worked-out examples*, attempts to reduce extraneous cognitive load by requiring students to complete increasingly complex missing parts of worked out examples. The other method, termed *progressive practice*, attempts to reduce intrinsic cognitive load by requiring students to complete increasingly more complex scenarios, beginning with a simple example and culminating in an alternative form of the target scenario. Classroom results with these methods have been positive, and are discussed.

Keywords: Problem-based Learning, Constructivism, Scaffolding, Cognitive Load, Database Concepts