

Components of Instruction:

Toward a Theoretical Tool for Instructional Design

Presenter: M. David Merrill
Department of Instructional Technology
Utah State University

“The cutting edge of science is reductionism, the breaking apart of nature into its natural components.” (Wilson, 1998)

Engineering science is putting together fundamental scientific laws with design procedures in an organized and purposeful way. Its purpose is the development of theoretical tools for design. (Vincenti, 1990).

In this presentation we will describe a theoretical tool for designing effective, efficient, and appealing tutorial and experiential instructional products and environments. Instructional components defines knowledge objects as a way to describe the necessary and appropriate components of knowledge to be taught. Instructional components describes components of instructional strategies and defines instructional strategies as algorithms for showing, or asking the student to provide, the elements of knowledge objects. We will show examples of instructional design using instructional components.

Objectives. Participants in this workshop acquire precise techniques for analyzing content and synthesizing instructional strategies for for kinds-of, how-to, and what-happens instruction.