John Sweller

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My research is in the area of cognitive processes and instructional design. In the 1970's and early 1980's I was engaged in isolating some general principles influencing learning and problem solving performance. Since then, I have been concerned with applying these principles to learning and problem solving in most curriculum areas. With many colleagues, both local and international, I have developed cognitive load theory as part of this process. The theory is now a contributor to both research and debate on issues associated with human cognitive architecture, its links to evolution by natural selection, and the instructional design consequences that follow. It is one of the few theories to have generated a large range of novel instructional designs from our knowledge of human cognitive architecture. The following instructional design effects have flowed from cognitive load theory: goal-free, worked example, split-attention, redundancy, modality, element interactivity, isolated-interacting elements, imagination, expertise reversal, completion, variable examples, guidance fading, transient information and collective working memory effects. These effects have been studied by many groups of researchers from around the globe. Based on any commonly used citation index, the work has been cited on over 10,000 occasions.