PRINCIPLES OF E-LEARNING: LESSONS FROM COGNITIVE PSYCHOLOGY

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Cognitive psychology has traditionally been concerned with aspects of thinking of direct relevance to educators; areas such as memory and learning, transfer (using learned concepts to solve new problems), deliberate practice, and skill development are clearly of major concern to educators. Regrettably, many of the findings of cognitive psychology remain unknown to curriculum developers. In particular, as more and more effort is put into developing e-learning, many decisions about presentation are made, often on the basis of what could be done, rather than what *should* be done.

In this talk I review an extensive empirical literature in psychology and medical education to address instructional design questions in three broad domains: learning and retention of knowledge, the role of deliberate practice in learning for transfer, and the appropriate role of simulation in skill development. My conclusions are often of the form "less is more" and are counter to many contemporary developments in instructional design.

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