Instructional Design for Advanced Learners: Establishing Connections between the Theoretical Frameworks of Cognitive Load and Deliberate Practice

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Cognitive load theory (CLT) has been successful in identifying instructional formats that are more effective and efficient than conventional problem solving in the initial, novice phase of skill acquisition. However, recent findings regarding the "expertise reversal effect" have begun to stimulate cognitive load theorists to broaden their horizon to the question of how instructional design should be altered as a learner's knowledge increases. To answer this question, it is important to understand how expertise is acquired and what fosters its development. Expert performance research, and, in particular, the theoretical framework of deliberate practice have given us a better understanding of the principles and activities that are essential in order to excel in a domain. This article explores how these activities and principles can be used to design instructional formats based on CLT for higher levels of skills mastery. The value of these formats for e-learning environments in which learning tasks can be adaptively selected on the basis of online assessments of the learner's level of expertise is discussed.

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