SpotLight on Dynamics of Individual Learning

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Abstract

How do individuals learn a complex task? Averaging performance over a group of individuals implicitly assumes that only one set of methods exists for accomplishing the task and that all learners acquire those methods in the same sequence. Rather than profiling a mythical "average subject", we focus on individuals using SpotLight – a tool for analyzing changes in individual performance as a complex task is learned. Specifically, we investigate 9 individuals who spent 31 hours learning the task of Space Fortress (SF). The SpotLight enables us to uncover the evolution of strategies and the iterative efforts of individuals to explore and devise new ways to improve performance. To our surprise, these players seem to have followed a common 'design for the weakest link' rule, in which after the current weakest link of performance is strengthened, an individual's attention turns to the next weakest link.