



Learning a skill and the role of Uke – insights from Elite Sport

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Blocked vs Random learning

Error free learning

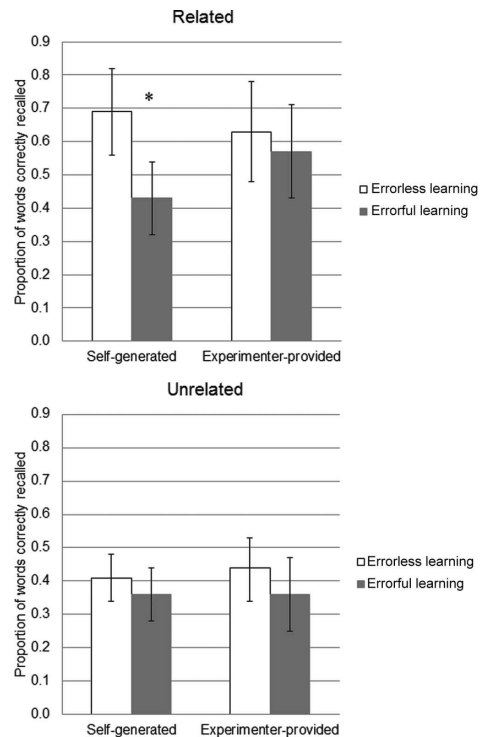
Implicit vs explicit learning

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<https://scholar.google.com/citations?user=W6VYwmpKEk4C&hl=en>

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Error free learning

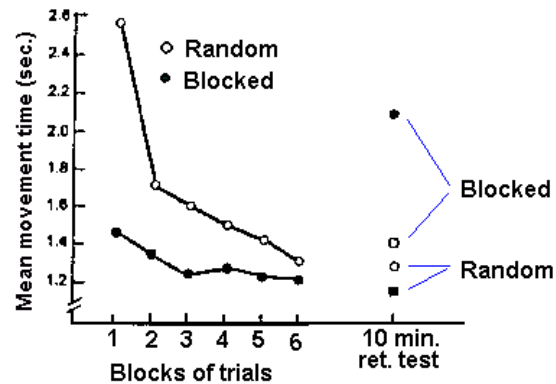


- Correction and feedback can impair the learning path
- Cognitive correction processes impede motor learning
- Negative feedback is a stronger pathway than positive feedback

https://www.researchgate.net/figure/Free-recall-performance-as-a-function-of-learning-errorless-errorful-and-generation_fig2_221750210

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Blocked vs. Random learning



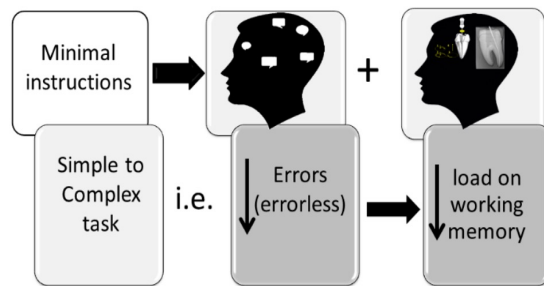
- Blocked learning – repetitive learning – little variation
- Random learning – lots of variation
- Blocked learning is faster but poorer retention, resilience under stress
- Random learning is slower, greater retention and stress resilience

Jarus, T. (1994). Motor learning and occupational therapy: The organization of practice. *American Journal of Occupational Therapy*, 48, 810-816.

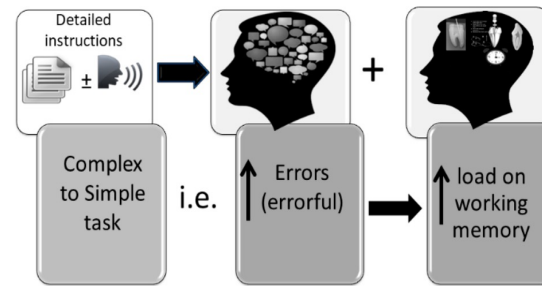
Shea, J.B., & Morgan, R.L. (1979). Contextual interference effects on the acquisition, retention, and transfer of a motor skill. *Journal of Experimental Psychology: Human Learning and Memory*, 5, 183.

Implicit vs explicit learning

a. Implicit Learning



b. Explicit Learning



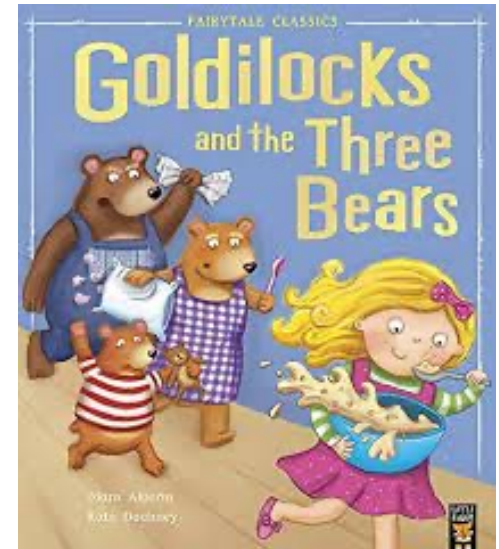
- Being taught or instructed
- Cognitive load
- Experiencing aikido
- Exhaustion training, getting the conscious mind out of the way

<https://www.mdpi.com/2304-6767/9/6/68/htm>

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Conclusions

- Uke is the teacher
- Rote learning is powerful in early stages
- Learning is a multimodal activity,
- Aikido traditional paradigm has many learning modalities
- Guiding learning is a complex skill
- Feedback by Uke can drastically change learning process
- Random and implicit modalities are needed to unlock higher levels of learning
- Uke needs to provide “goldilocks” feedback, that is unique and appropriate to Nage’s learning needs.
 - Limpfish, dominance behaviour, blocking-of-movement correction, multiple explicit minute verbal correction are all sub optimal behaviors.



Other learning paradigms

- Stress testing
- Deliberate variability
- Mantra training