Six Cognitive Strategies for Effective Learning

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Cognitive psychology applied to education

Learning strategy

Teaching strategy

Memory
Attention
Perception
The lab to classroom model

- **Basic Laboratory**
  - In the lab with simple materials
  - (e.g., word lists, nonsense syllables)

- **Applied Laboratory**
  - In the lab with relevant materials
  - (e.g., textbook chapters, video lectures)

- **Applied Classroom**
  - In the classroom with relevant materials
  - (e.g., teachers altering their instruction)

Planning

Spaced Practice
"...with any considerable number of repetitions a suitable distribution of them over a space of time is decidedly more advantageous than the massing of them at a single time."

(Ebbinghaus, 1885/1964, p. 89)
Spacing – An All-rounder

Vocabulary learning
(e.g., Bahrick et al., 1993; Kornell, 2009; Bloom & Shuell, 1981)

Fact learning
(e.g., DeRemer & D'Agostino, 1974)

Text passages
(e.g., Gordon, 1925; Rawson & Kintsch, 2005; Verkoeijen et al., 2008)

Problem solving
(e.g., Cook, 1934; Grote, 1995)

Motor skills
(e.g., Baddeley & Longman, 1978; Shea et al., 2000; Goedert & Miller, 2008)

Musical instrument learning
(e.g., Simmons, 2007)

Works in many domains

Evidence from the Laboratory
Rawson & Kintsch (2005)

- Participants studied a lengthy science text
Evidence from the Laboratory
Rawson & Kintsch (2005)

Evidence from the Laboratory
Rawson & Kintsch (2005)
Massed Teaching

Spaced Teaching

Image from Class Teaching blog, Durrington School, UK

Spacing Plan

Inspired by Mr Benney, Penyrheol Comprehensive School, UK