Study, Feedback and Recall

Brenda Taylor-Moody & Jodi Price
University of Alabama in Huntsville

Introduction

Self-regulated learning (SRL) involves the choice of which items to study, what order to study and how much time to study each item before moving to the next item. Three models of SRL yield predictions about how participants make these decisions. The region of proximal learning (RPL; Metcalfe, 2002) model proposes that individuals will choose easy items to study first, while the discrepancy reduction model (DRM; Dunlosky & Hertzog, 1998) suggests that more difficult items will be selected first. The agenda based regulation (ABR; Ariel, Dunlosky & Bailey, 2009) model suggests that the selection of items depends upon either habitual processes (e.g., selecting items in a left-to-right reading order) or setting a goal, formulating a plan, and allocating study time to achieve that goal.

The current research examined whether feedback (none, item, global, combination) provided during the Trial 1 recall test would affect participants' learning agendas and item selections in Trial 2.. Of interest was whether people would select easy or difficult items first and how presentation format and feedback would interact to influence participants' selection decisions.

Method

Participants

- ***N* = 69** UAHunstville students (*M* age = 25, *SD*= 7.75)

Design

- 2 x (Presentation) x 3(Item Difficulty) x 4 (Feedback) mixed factorial design

Materials

36 Chinese Characters

- 12 Easy(人= person), 12 Medium(北= forest), and 12 Difficult (黄 = yellow)
- Four 3x3 grids per trial, 30 s per grid

Examples of the EMD and DME Presentation Formats

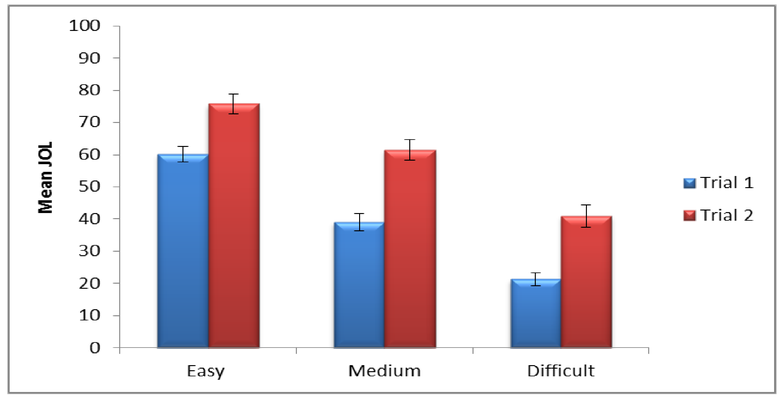
Easy	Medium	Difficult
人 - person	在 - now	是 - is
王 - king	林 - forest	说 - explain
一 - one	学 - study	家 - home

Difficult	Medium	Easy
是 - is	在 - now	人 - person
说 - explain	林 - forest	王 - king
家 - home	学 - study	一 - one

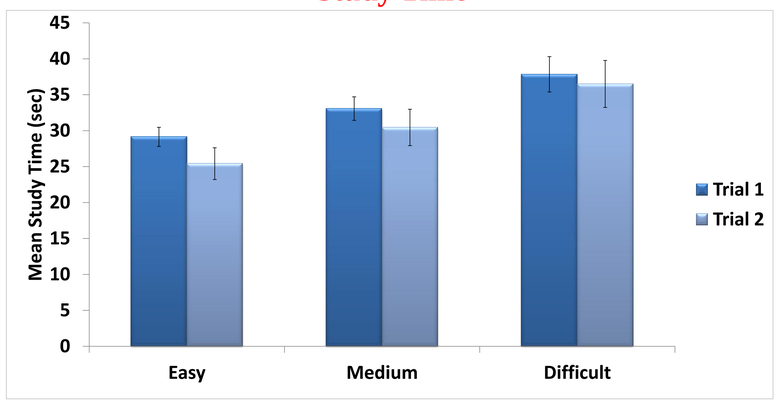
Procedure

- **Ease of learning judgments (EOLs)** collected for each of the 36 Chinese characters(1=easy, 9=difficult)
- **Each Trial**
  - **Study Phase**:4 **(**3x3) grids with 3 easy, 3 medium, and 3 difficult characters per grid presented in either an easy-medium-difficult or difficult-medium-easy order
  - **Delayed judgments of learning (JOLs)** (0= no confidence, 100=definitely will recall)
  - **Recall with condition-specific feedback:**
    - **None** (control)
    - **Item:** "You got this simple item correct."
    - **Global**: You got 10 items correct: 8 easy, 1 medium, 1 difficult."
    - **Combo:** item + global

Judgments of Learning

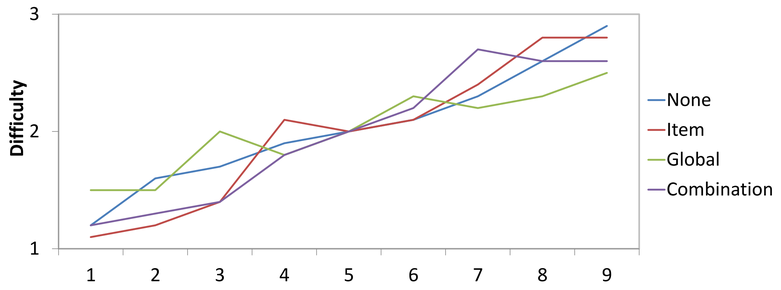


Study Time

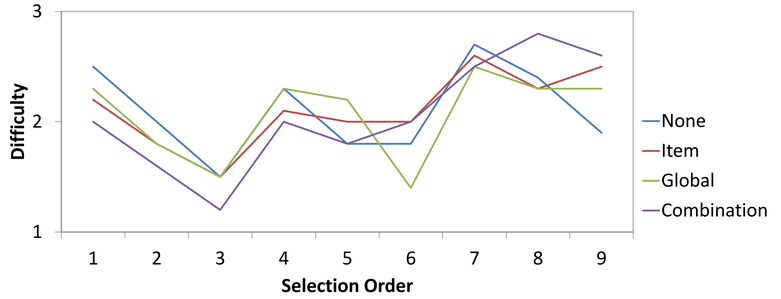


Selection Results

Easy Items Presented First (EMD)



Difficult Items Presented First (DME)



Discussion

- Confidence in recall decreased, but study time increased as the difficulty level of the Chinese characters increased.
- Selections were influenced more by presentation format than feedback. Participants selected more easy and difficult items when they appeared first than when they appeared last.

References

Ariel, R., Dunlosky, J., & Bailey, H. (2009). Agenda-based regulation of study time allocation. When agendas override item-based monitoring. *Journal of Experimental Psychology: General*, *133*, 432-447. doi:10.1037/a0015928

Dunlosky J., & Hertzog, C. (1998)Training programs to improve learning in later adulthood: Helping older adults educate themselves. *Metacognition in educational theory and practice* (pp. 249-275). Mahwah , NJ US: Lawrence Erlbaum Associates Publishers.

Metcalfe, J. (2002). Is study time allocated selectively to region of proximal learning? *Journal of Experimental Psychology: General*, *131*(3), 159-163. doi:10.1037/0096-3445.131.3.349

Acknowledgments

This research was made possible due to the generous funding from the President's/Provost's office, the Vice President for Research, the Chemistry Department through their patent account, and the Alabama Space Grant Consortium