

When two memories are better than one: Effects of others' knowledge states on metacognitive control of recall

Scott H. Fraundorf and Aaron S. Benjamin
University of Illinois



How does information about *others' knowledge states* influence recall?
» e.g. knowing someone's performance on a test

METHOD

COVER STORY

Competing against a past participant
» Opponent's performance is actually experimentally manipulated

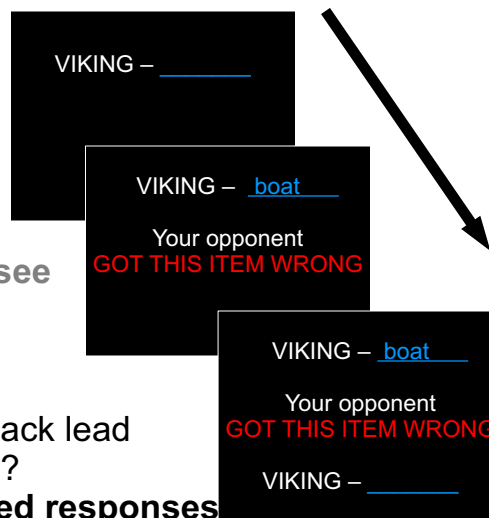
STUDY PHASE

Study word pairs

- > **Easy** pairs: Semantically related
VIKING—HELMET, CAREER—COLLEGE
 - > **Hard** pairs: Re-pairings of cues and targets
VIKING—COLLEGE, CAREER—HELMET
- Expect different retrieval experience for easy vs hard items

CUED RECALL TEST (EXPERIMENT 1)

(1) Make initial guess



(2) See if "opponent" got item **correct**, **incorrect**, or **did not see** item

(3) Make 2nd guess

- » Did opponent feedback lead you to rethink item?
- » Test **rate of switched responses**

PREDICTIONS

How is opponent feedback used?

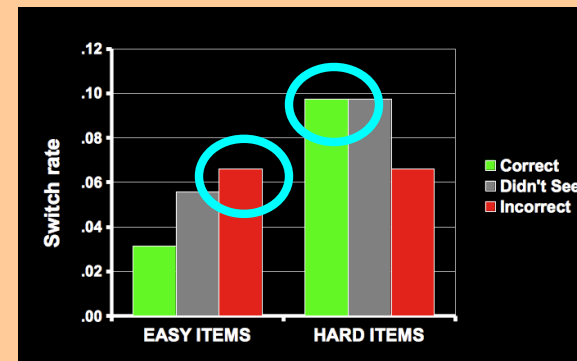
- > **Difficulty monitoring**
» Increase effort for items others had difficulty with
» **More switches** when opponent got item **wrong**
- > **Mismatch monitoring**
» Rethink if feedback mismatches own experience
» **More switches** in **mismatch conditions**:
EASY / INCORRECT HARD / CORRECT

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Email: sfraund2@illinois.edu

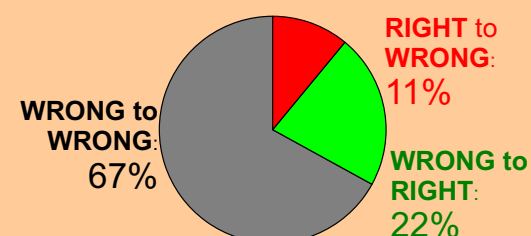
EXPERIMENT 1: TWO GUESSES



Switches more common in **mismatch conditions**

Mismatch effect true for both...

- > **Additions/subtractions**
VIKING-- boat → VIKING-- _____
- > Switches **between 2 words**
VIKING-- boat → VIKING-- helmet

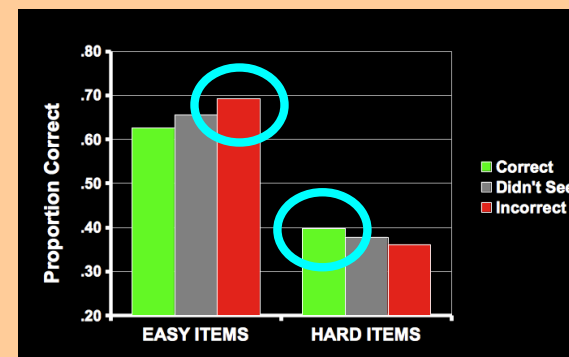
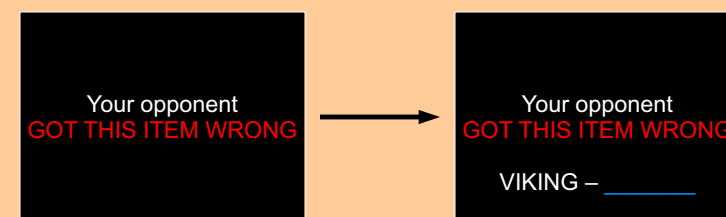


Additional consideration is helpful: Switches **benefit performance...**

...but switches too infrequent in Experiment 1 to reliably improve final accuracy.

EXPERIMENT 2: ONE GUESS

See opponent feedback *first*, make only one guess
» May lead to *more* use of opponent feedback



Performance increases in **mismatch conditions**

CONCLUSION

Information about **others' knowledge states** used in control of recall

- > Participants sensitive to **mismatch** conditions
- > Affects both **how much** and **what** is reported
- > Can **improve accuracy** of reporting