Choosing Help Leads to Better Help: The role of active learning in help-seeking during a memory integration task

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Introduction

- Active learning is the process of actively engaging and participating in one's own learning, rather than just passively receiving information (Freeman, et. al., 2014).
- One active learning strategy is help-seeking because it requires the learner to decide if they need help and apply the help received (Karabenick & Berger, 2013).
- There is limited research investigating the causal relationship between active help-seeking and learning benefits, specifically during memory learning tasks.
- **The current study** sought to investigate the causal role of active help-seeking during a memory integration task. We predicted students would be able to better integrate knowledge when help was available than when help was not available. Furthermore, we predicted that actively sought help would be more beneficial to knowledge integration and long-term retention than passively provided help.

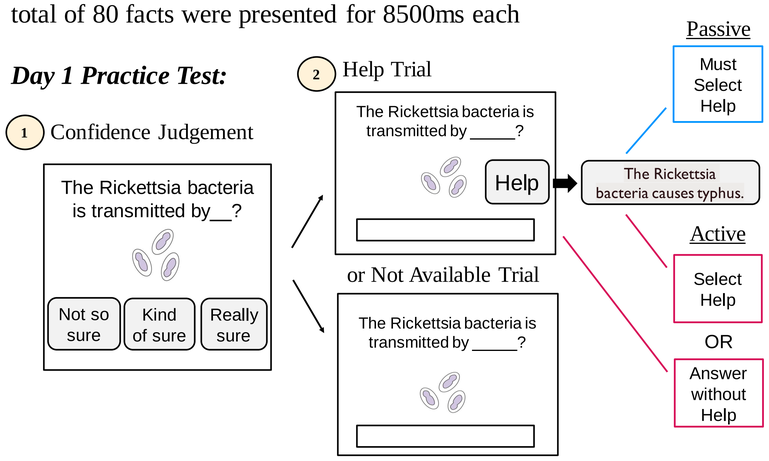
Method

Participants

- $N = 26$, $N_{females} = 17$, $M_{age} = 22.3$, $SD_{age} = 4.6$
- $N_{Active} = 17$, $N_{Passive} = 9$
- Participants completed a 2-day online memory task.

Day 1 Encoding: participants studied 2 lists of 40 related fact pairs; a total of 80 facts were presented for 8500ms each

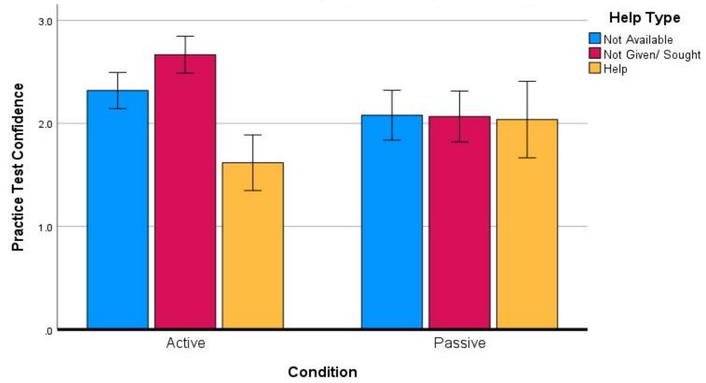
Day 1 Practice Test:



Day 2 Final Test: participants were asked the 40 derivation questions. They reported their confidence and answered without help.

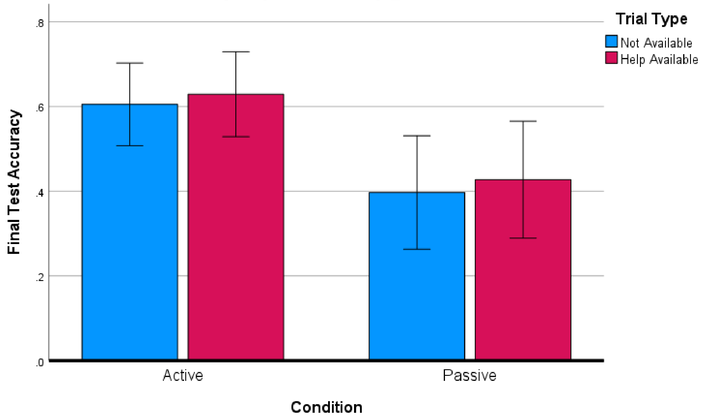
Results

Practice Test Confidence by Help Type and Condition



In the Active condition, confidence was lower when help was sought ($M = 1.6$, $SE = .13$) and higher when help was not sought ($M = 2.7$, $SE = .09$) compared to when help was not available ($M = 2.3$, $SE = .08$), suggesting participants adaptively sought help. In the Passive condition, we did not observe any difference in confidence across conditions. This was expected since help was provided on specific predetermined trials as opposed to actively sought when needed.

Final Test Accuracy by Trial Type and Condition



Accuracy on the final test did not differ between help available and help not available trials for either the Active ($M_{helpavailable} = .63$, $SE_{helpavailable} = .05$, $M_{notavailable} = .61$, $SE_{notavailable} = .05$) or Passive conditions ($M_{helpavailable} = .43$, $SE_{helpavailable} = .06$, $M_{notavailable} = .40$, $SE_{notavailable} = .06$), suggesting that the available help did not improve long-term memory integration. Interestingly, we observed that participants performed much better overall in the Active compared to Passive condition.

Conclusion

- Participants adaptively sought help when they were least certain.
- Although participants final test performance did not benefit from having earlier help available compared to help not available trials, the Active condition performed much better overall. These results suggest that having the opportunity to actively engage in help-seeking may improve general task performance compared to more passive tasks, and this exposure to active help-seeking may improve performance even beyond when help can be actively sought (e.g., help not available trials).
- Future analyses will examine how student's confidence when they choose to seek vs. not seek help influences how much they benefit from help. We predict that students who use their metacognitive assessments to guide their help-seeking decisions will be the most likely to benefit from help.
- Future work may investigate whether different types of help and/or the additional of feedback after the practice test may impact the benefit of help-seeking not be beneficial in supporting integration in adults.

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