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Is spelling memory improved by reading aloud ?

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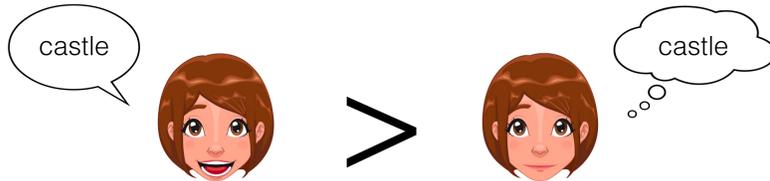
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IS SPELLING MEMORY IMPROVED BY READING ALOUD ?

BACKGROUND

The production effect (MacLeod et al., 2010) : reading a word aloud allows for better memory performance than simply reading it silently



QUESTION

Does the production effect rely only on phonological representations or also on orthographic representations ?

EXPERIMENT 1

Phase 1: learning

pasteau

80 Targets



if the pseudo-word is white : I read it silently
if blue : I read it aloud

- 2s per item
- 25 participants

Phase 2: recognition

Correct answer : « Yes »

pasteau

80 Targets



Correct answer : « No »

ganud

40 Fillers
(phonologically and orthographically different from the targets)



Results

| | Yes responses | RT |
|----------|---------------|--------|
| aloud | 74 % | 1.59 s |
| silently | 43 % | 1.87 s |
| fillers | 18 % | |

Production effect : 31 % (p < .05)

EXPERIMENT 2

Phase 1: learning

as in Experiment 1

- 30 participants

Phase 2: recognition

Correct answer : « Yes »

pasteau

80 Targets



Correct answer : « No »

paftau

80 Fillers
(differed by only 1 phoneme from the targets)



Results

| | Yes responses | RT | Yes (targets) AND No (fillers) |
|----------|---------------|--------|--------------------------------|
| aloud | 59 % | 1.97 s | 34 % |
| silently | 34 % | 2.02 s | 21 % |
| fillers | 27 % | | |

Production effect : 13 % (p < .05)

EXPERIMENT 3

Phase 1: learning

as in Experiment 1

- 31 participants

Phase 2: recognition

Correct answer : « Yes »

pasteau

80 Targets



Correct answer : « No »

pastaud

80 Fillers
(phonologically identical but orthographically different from the targets)



Results

| | Yes responses | RT | Yes (targets) AND No (fillers) |
|----------|---------------|--------|--------------------------------|
| aloud | 62 % | 2.12 s | 28 % |
| silently | 41 % | 2.20 s | 23 % |
| fillers | 40 % | | |

Production effect : 5 % (p < .05)

CONCLUSION

Overall, the results showed that the production effect is mainly based on phonological information but it can be observed even when only orthographic information is available

REFERENCES

MacLeod, C. M., Gopie, N., Hourihan, K. L., Neary, K. R., & Ozubko, J. D. (2010). The production effect: Delineation of a phenomenon. *Journal of Experimental Psychology: Learning, Memory, Cognition*, 36, 671-685. doi: 10.1037/a0018785

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CREDITS

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