

The Effect of Worked Examples and Retrieval Practice on Primary School Students' Mathematical Problem-Solving Performance

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Hand-out:
The Effect of Worked Examples and Retrieval Practice
on Primary School Students' Mathematical Problem-Solving Performance

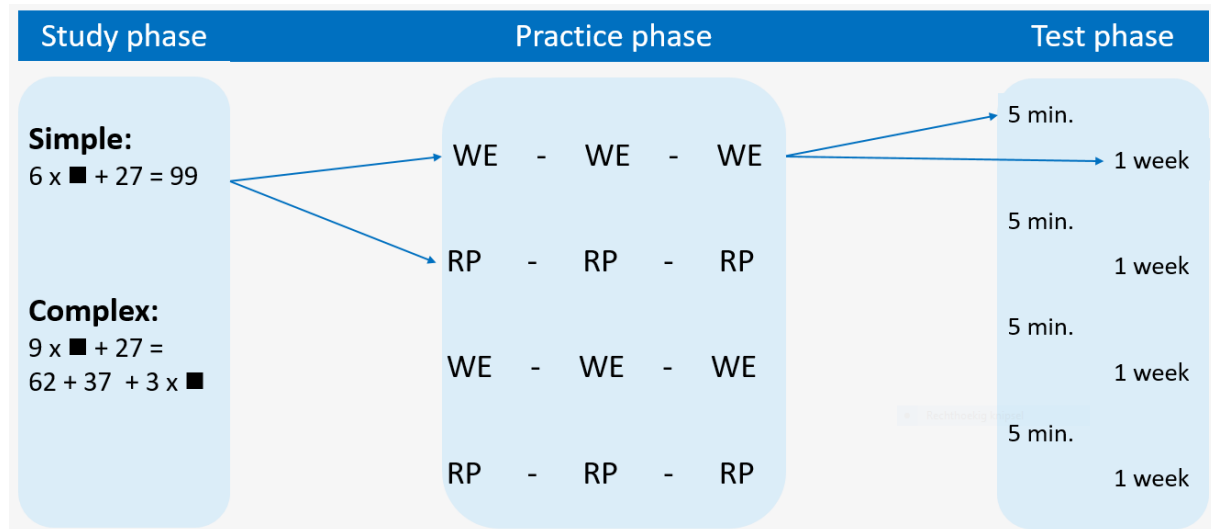
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Problem statement

Design

We plan to use a 2 (Task Complexity: simple vs. complex) x 2 (Practice Strategy: worked examples vs. retrieval practice) x 2 (Retention Interval: 5 minutes vs. 1 week) between-subjects design, with 22 participants per cell ($N = 176$).

Procedure



Hypotheses

		Practice Strategy			
		Worked examples (WE)		Retrieval practice (RP)	
		RI = 5 min.	RI = 1 week	RI = 5 min.	RI = 1 week
Task	Simple	A	E	B	F
Complexity	Complex	C	G	D	H

Note. RI = Retention Interval; a-h = mean problem-solving performance on the test.

Round-table questions

- How do problem-solving and retrieval practice relate to one another?
 - Which components does problem-solving comprise?
 - Which of these components does retrieval practice benefit?
 - What is the role of cognitive load?
- Our experimental design does not include the “ideal” practice strategy for Task Complexity = high and Retention Interval = 1 week. (How) could we incorporate this in a next study?
- How to design educational research that contributes to improving educational practice *and* to expanding theoretical insight?
 - Is the present study an example of such research?
 - How could the present study be improved to contribute more to improving educational practice and/or to expanding theoretical insight?