Individual findings of the meta-analysis at a glance

According to Bisra et al. (2018). Inducing self-explanation: A meta-analysis.

Moderator variable	Moderator levels	Effect size g	Number of studies (k)
1. Intervention			
Inducement format (sig.)	Interrogative	0.56*	36
	Imperative	0.40*	12
	Predirected	0.70*	8
	Fill-in-the-blank	0.90*	2
	Multiple choice	0.24	2
	Mixed	0.58*	8
	Not reported	1.03*	1
Self-explanation elicited (sig.)	Justify	0.42*	20
	Conceptualize	0.87*	13
	Explain	0.68*	12
	Mixed	0.70*	8
	Justify for another	0.43*	8
	Metacognitive	0.19	3
	Anticipatory	1.37*	1
	Other	0.32*	4
Task type (n.s.)	Solve problems	0.48*	20
	Study text	0.79*	14
	Study worked examples	0.36*	8
	Study cases	0.43*	4
	Study simulation	0.24*	2
	Other	0.55*	13
	Mixed	0.77*	8
Subject (n.s.)	Science	0.57*	25
	Math	0.44*	16
	Social sciences	0.56*	6
	Computer science	0.76*	9
	Mixed	0.31*	1
	Other	0.59*	12
Content specificity (n.s.)	Specific	0.51*	41
	General	0.68*	22
	Both	0.51*	6
Inducement timing (n.s.)	Concurrent	0.52*	57
	Retrospective	0.57*	8
	Beginning	1.24*	4
Duration for all groups (n.s)	< 30 min	0.71*	17
	30–60 min	0.60*	13
	1–2 h	0.44*	6
	> 2 h	0.46*	6
	Not reported	0.48*	27
Media type (n.s.)	Digital	0.55*	42
	Print	0.55*	21
	Video	0.83*	1
	Other	0.63*	4
	Not reported	0.25	1
Interactivity (n.s.)	Computer-based instruction	0.59*	7
	Intelligent tutoring system	0.48*	7
	Simulation	0.38*	5
	None	0.58*	50
Diagram in materials (n.s.)	Yes	0.59*	23
	No	0.53*	43
	Not reported	0.66*	3
Visual pedagogical agent (sig.)	Yes	0.64	3
	No	0.53*	65
	Not reported	1.28*	1

Moderator variable	Moderator levels	Effect size g	Number of studies (k)
2. Method			
Comparison treatment (sig.)	No additional explanation	0.67*	41
	Instructional explanation	0.35*	6
	Other strategy/technique	0.30*	7
	Mixed	0.46*	15
Knowledge type (n.s.)	Conceptual	0.60*	33
	Procedural	0.47*	3
	Both	0.51*	33
Learning outcome (n.s.)	Comprehension	0.28	3
	Inference	1.80*	2
	Recall	0.50*	6
	Problem solving	0.44*	14
	Transfer	0.53*	14
	Mixed	0.60*	15
	Other	0.60*	12
Test format (n.s.)	Essay questions	0.62	3
	Fill-in-the-blank questions	0.62*	1
	Multiple-choice questions	0.41*	7
	Problem questions	0.55*	10
	Short-answer questions	0.67*	19
	Mixed	0.43*	16
	Other	0.65*	13
Duration differences among groups (n.s.)	Greater for SE group	0.72*	16
	Greater for non-SE group	0.35*	1
	Equal for all groups	0.41*	5
	Not reported	0.51*	47
Diagram in test (n.s.)	Yes	0.66*	13
	No	0.52*	49
	Not reported	0.51	2
Treatment fidelity[1] (n.s.)	Yes, analyzed	0.61*	31
	No	0.41*	21
	Yes, followed-up	0.59*	11
	Not reported	0.73*	6
3. Learner Characteristics			
Education level (n.s.)	Elementary	0.48*	10
	High school	0.43*	13
	Undergraduate	0.61*	42
	Professional program	0.68*	4
4. Context			
Region (sig.)	North America	0.53*	42
	Europe	0.48*	18
	East Asia	1.91*	6
	Australia/New Zealand	0.45	2
	Mixed	0.21	1

Note:

sig = Overall, the moderator variable has a significant influence on the effect sizes found in the studies. How large or small the effect sizes are in the primary studies can therefore also be explained with the help of this moderator variable.

(n.s.) = Overall, the moderator variable has no significant influence on the effect sizes found in the studies, even if the values of the moderator levels vary significantly in some cases. Based on the available data, this moderator variable cannot be used to explain whether primary studies show larger or smaller effect sizes.

● = Across all studies belonging to this moderator level, there is a significant effect with the indicated effect size.

[1] Verified = Studies were conducted to verify that subjects actually applied self-explanations. Re-initiated = If subjects did not self-explain, the prompt was given again to ensure that they did.