

Supplementary information

The early effects of external and internal strategies on working memory updating training

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Supplementary Table S1 online

**Classification scheme for strategy types based on participants' self-reports at posttest.
The examples were created as an aid for the independent raters.**

Strategies	Examples
Rehearsal	<ul style="list-style-type: none"> • “I repeated the digits silently in my mind” • “I repeated a list of letters in my mind”
Grouping	<ul style="list-style-type: none"> • “I created groups of 3 digits” • “I grouped the letters in pairs”
Updating	<ul style="list-style-type: none"> • “I created a group of digits in my mind and dropped the last digit when a new digit appeared”
Grouping and comparison	<ul style="list-style-type: none"> • “I split the digits into different series, and compared those to each other”
Semantics	<ul style="list-style-type: none"> • “I created words from the letters (e.g., C-R-S = Corn – Rose – Sand)” • I converted the digits to melodies, e.g., 1356 = DO-MI-SO-LA”
Phonology	<ul style="list-style-type: none"> • “I made up lists based on first syllables of the digit words” [<i>n.b. the names for digits are multisyllabic in Finnish</i>]
Imagery	<ul style="list-style-type: none"> • “I tried to associate each digit with some image in my mind”
Familiarity	<ul style="list-style-type: none"> • “I chose the letters that felt most familiar”
Guessing	<ul style="list-style-type: none"> • “I just used intuition” • “I started somewhere in the middle of the sequence, and did not memorize the first digits in the sequence at all”
Other strategies	<ul style="list-style-type: none"> • “I made up a song based on the letters” • “I counted the digits with my fingers”
No strategy use	<ul style="list-style-type: none"> • “I tried to keep all the digits in my mind” • “I put the [<i>visually presented</i>] digits in my visual memory”

Supplementary Table S2 online

The frequency of occurrence of reported strategy types by the control participants (active and passive controls combined) in the three n-back tasks at posttest

Strategy	Trained n-back task		n-back task with letters		n-back task with colors	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
No strategy	14	18.4	22	29.3	24	32.0
Rehearsal	18	23.7	16	21.3	25	33.3
Updating	7	9.2	7	9.3	6	8.0
Grouping	14	18.4	7	9.3	6	8.0
Grouping and comparison	16	21.1	14	18.7	9	12.0
Semantics	0	0.0	2	2.7	1	1.3
Phonology	1	1.3	2	2.7	1	1.3
Imagery	1	1.3	1	1.3	1	1.3
Familiarity	0	0.0	1	1.3	0	0.0
Guessing	1	1.3	1	1.3	1	1.3
Other strategy	4	5.3	2	2.7	1	1.3