Correction to: Effects of reading interventions implemented for upper elementary struggling readers: a look at recent research

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Correction to: Reading and Writing

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In the original publication of the article, the formatting of the last column of Table 1 was incorrectly displayed. This has been corrected with this Correction.

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The original article can be found online at <https://doi.org/10.1007/s11145-021-10123-y>.

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Table 1 Intervention descriptions and outcomes*Intervention Descriptions and Outcomes*

Study	Selection Criteria Avg. Performance at Pretest**	Intervention Description	Outcomes	Contrast	
Benner, 2007	Identified by school as not responsive to core instruction or interventions. Avg. Found.: 88.88	T: Phonics, word identification, and fluency intervention supplanting core reading instruction C: General education classroom reading instruction	Found. WR & S Fluency	<u>T1 vs C</u> -0.27 -0.35 -0.11	
Bennett et al., 2015	Below grade level on the state standardized test and identified by school as poor readers	T: Computerized program incorporating repeated reading C: Typical school reading instruction	Comp.	<u>T vs C</u> 0.60	
Cirino et al., 2017	Standard score ≤ 90 on the GMRT reading comp. subtest Avg. Found.: 87.85 Avg. Comp.: 79.43	T1: Vocab. and comp. instruction using readings of state history T2: T1 plus instruction in executive functioning and self-regulated learning C: Typical school reading instruction	Comp.*	<u>T1 vs C</u> .37	<u>T2 vs C</u> .25
Connor et al., 2018	Standard score < 98 on the Expressive One Word Picture Vocabulary Test Avg. Found.: 97.5 Avg. Comp.: 85.50	T1: Sensorimotor simulations of abstract concepts with instruction in language, reading comp., and writing T2: Explicit instruction in expository text structure using signal words C: Typical school reading instruction	Found. WR & S Fluency Comp. Comp*	<u>T1 vs C</u> 0.04 -0.01 0.06 0.01 -0.09	<u>T2 vs C</u> -0.06 -0.07 -0.06 0.07 -0.01
Das et al., 2008	Scored ≤ 1 standard deviation below the mean on word identification or pseudoword reading tests Avg. Found.: 83.35	T: General strategy use and specific application to reading and spelling C: Phonics tasks compiled by the school resource teacher	Found. PA WR & S	<u>T vs C</u> 0.20 0.30 0.07	
Das et al., 1995 Study 1	Scored ≤ 12 months below expected age on WRMT word identification or word attack subtest and had lower than average scores in an area of cognitive processing.	T: Cognitive training tasks (repetition, joining, sequencing, matching, verification, and memorizing) both with and without words C: Typical school reading instruction	Found. WR & S	<u>T vs C</u> 0.06	
Das et al., 1995 Study 2	Scored ≤ 12 months below expected age on WRMT word identification or word attack subtest and had lower than average scores in an area of cognitive processing.	T1: Cognitive training tasks (repetition, joining, sequencing, matching, verification, and memorizing) without words. T2: Identical to T1 except training tasks were completed with words C: Previously trained on tasks with and without words	Found. WR & S	<u>T1 vs C</u> 0.35	<u>T2 vs C</u> -0.03
Fuchs et al., 2018	Identified by school as at risk for reading difficulties, scored $> 13^{\text{th}}$ and $< 30^{\text{th}}$ percentile on the TOWRE, Sight Word Efficiency subtest, $< 60^{\text{th}}$ percentile on the reading comp. Iowa Test of Basic Skills, reading comp. subtest, and earned a T-score > 37 on the Weschler Abbreviated Scale of Intelligence vocab. or matrix reasoning subtest Avg. Found.: 94.00	T1: Before and after reading strategies focused on comp. of informational text T2: T1 plus activities to strengthen working memory C: Typical school reading instruction	Comp. Comp.*	<u>T1 vs C</u> 0.56 1.02	<u>T2 vs C</u> 0.64 1.08
Keller et al., 2019	Identified with a learning disability by school	T: Computerized training in phonics, phonemic awareness, spelling, and fluency and teacher-led instruction in decoding, text reading strategies, and mindfulness C: Computerized training in phonics, phonemic awareness, spelling, and fluency and teacher-led phonetic and orthographic activities	Found. WR & S*	<u>T vs C</u> 1.07	

Table 1 (continued)

Kim et al., 2011	Below proficient on the state reading assessment	T: After-school intervention with whole group comp. and vocab. lessons, and computer-based individualized practice with found. and comp. skills C: Typical district after-school program	Found. WR & S Fluency Comp.	T vs C <u>4th gr.</u> 0.15 0.16 0.15 -0.06	T vs C <u>5th gr.</u> 0.06 0.07 0.04 0.50	
Kim et al., 2010	Below proficient on the state reading assessment Avg. Found.: 91.77 Avg. Comp.: 91.34	T: After-school intervention program with small group fluency, comp., and decoding lessons; independent reading, and computer-based individualized practice with found. and comp. skills C: Typical district after-school program	Found. Fluency Comp.	T vs C -0.02 0.01		
Mason et al., 2013	Identified by school as having difficulty with writing and reading comp. and scored in lowest range on state reading and writing tests	T1: Self-regulated strategy development in comp. strategies for before, during, and after reading T2: T1 plus informative paragraph writing instruction C: Access to instructional passages	Comp. Comp.*	<u>T1 vs C</u> 0.58 0.79	<u>T2 vs C</u> 0.55 0.51	
Mathes & Fuchs, 1993	Identified with a learning disability in reading, received reading instruction in a special education setting, had IEP objectives in reading, and had an instructional reading level between primer and one grade below their grade level	T1: Peer tutoring using repeated reading T2: Peer tutoring using continuous reading C: Typical school reading instruction	Found. Fluency Comp.	<u>T1 vs C</u> -0.52 -0.33	<u>T2 vs C</u> 0.37 0.67	
Miciak et al., 2018	Standard score ≤ 85 on the GMRT Avg. Found.: 85.59 Avg. Comp.: 79.43	T1: Two-year reading intervention with vocab., individualized word study, text reading, and comp. instruction using social studies texts; year 1 outcomes T2: One-year reading intervention identical to T1 T3: Two-year reading intervention identical to T1 with added self-regulation and goal setting; year 2 outcomes C: Typical school reading instruction	Found. WR & S Fluency Comp.	<u>T1 vs C</u> 0.03 -0.03 0.16 -0.002	<u>T2 vs C</u> -0.11 -0.05 -0.05 -0.15	<u>T3 vs C</u> 0.18 0.22 0.26 -0.002
O'Connor et al., 2002	Read < 80 words per minute on beginning second-grade text and scored < 2.2. grade equivalent on the WRMT Avg. Found.: 82.28 Avg. Comp.: 89.36	T1: Phonemic awareness, phonics and word analysis, fluency building, comp. strategies, and integrated spelling or writing using instructional level reading materials T2: Identical to T1 except reading materials matched general education classroom C: Typical school reading instruction	Found. PA WR & S Fluency Comp. Comp.*	<u>T1 vs C</u> 1.05 1.37 1.15 0.78 0.78 1.19	<u>T2 vs C</u> 1.02 1.58 1.22 0.45 1.02 1.24	
O'Connor et al., 2007	Read 20-80 word per minute on grade level passages and earned a standard score > 69 on the PPVT Avg. Found.: 89.49 Avg. Comp.: 87.86	T1: Repeated reading T2: Continuous reading with same text as T1 C: Typical school reading instruction	Found. WR & S Fluency Fluency* Comp.	<u>T1 vs C</u> 0.66 0.75 0.48 0.78 0.99	<u>T2 vs C</u> 0.36 0.34 0.41 0.66 0.73	
Reed et al., 2019	Below grade level benchmarks on Fall and Winter FASTBridge Oral Reading Fluency assessment	T: Summer reading program with whole group instruction, small group instruction individualized to student need, and literacy centers C: No summer reading program	Found. WR & S Comp.	T vs C 0.06 0.28		
Ring et al., 2012	Below grade level oral reading rate and either below proficient on state reading assessment or below grade level on the Texas Primary Reading Inventory Avg. Found.: 97.20 Avg. Comp.: 97.81	T: Word-level phonics, fluency using word lists and connected texts, and comp. instruction C: Fluency using connected text only and comp.	Found. WR & S Fluency Comp.	T vs C 0.14 0.07 0.15 -0.13		

Table 1 (continued)

Ritchey et al., 2012	Identified with $\geq 40\%$ probability of reading risk using reading assessments and teacher rating scales Avg. Found.: 85.32 Avg. Comp.: 86.54	T: Comp. strategies, fluency, vocab., and decoding strategies instruction using science texts with embedded motivational components C: Typical school reading instruction only	Found. WR & S WR & S* Fluency Comp. Comp.*	<u>T vs C</u> 0.21 0.01 0.55 0.23 -0.09 0.31
Ritchey et al., 2017	Identified with difficulties in reading comp. by school and scored $< 30^{\text{th}}$ percentile on the TOSREC Avg. Comp.: 84.6	T: Comp. and decoding strategies instruction using science texts C: Typical school reading instruction only	Found. Fluency Comp. Comp.*	<u>T vs C</u> -0.09 0.20 0.73
Roberts et al., 2018	Scored $\leq 25^{\text{th}}$ percentile on the TOSREC	T1: After-school intervention with individualized computerized and small group lessons focused on word reading, fluency, and comp. T2: After-school reading intervention with computerized instruction and small group lessons focused on text reading and comp. C: No after-school reading intervention	Comp.	<u>T1 vs C</u> <u>T2 vs C</u> -0.03 -0.12
Swanson & O'Connor 2009	Standard score > 70 on PPVT and read < 85 words per minute on a grade level passage Avg. Found.: 91.21 Avg. Comp.: 81.25	T1: Repeated reading of connected texts T2: Continuous reading of connected texts. C: Typical school reading instruction	Found. WR & S Fluency Comp.	<u>T1 vs C</u> <u>T2 vs C</u> -0.33 -0.52 -0.41 -0.62 -0.16 -0.33 -0.15 -0.18
Thames et al., 2008	Lowest quartile of performance on state reading assessment	T: Individualized instruction in vocab. and comp. strategies supplanting core reading instruction C: Typical school reading instruction	Comp.*	<u>T1 vs C</u> 0.55
Therrien, et al., 2006	Identified with a learning disability in reading or at risk for reading failure and had instructional reading level of first to fourth grade. Avg. Found.: 81.66	T: Passages matched to student performance read two to four times to meet fluency criterion and comp. questions answered with scaffolding C: Typical school reading instruction	Found. WR & S Fluency	<u>T vs C</u> 0.05 0.07 0.04
Torgesen et al., 2001	Identified with a learning disability by school, scored ≥ 1.5 standard deviations below average on WRMT word attack and word identification subtests, and performed below grade level on phonological awareness test of Lindamood assessment. Avg. Found.: 71.25 Avg. Comp.: 79.48	T: Focused on phonemic awareness, encoding, and decoding at the word level. C: Focused on word recognition and fluency, phonics and oral reading with text comp. with practice split equally between word and text level.	Found. WR & S WR & S* Fluency Comp.	<u>T vs C</u> 0.32 0.18 -0.50 0.20 -0.06
Toste et al., 2019	Identified by their schools as the lowest performing readers not receiving intensive reading interventions and scored $< 25^{\text{th}}$ percentile on either subtest of the TOWRE Avg. Found.: 91.43 Avg. Comp.: 88.72	T1: Focused on vowel sounds, decoding, spelling, and fluency with multisyllabic words T2: T1 plus motivational beliefs training C: Typical school reading instruction	Found. WR & S Fluency Found.* WR & S* Comp.	<u>T1 vs C</u> <u>T2 vs C</u> 0.28 0.59 0.37 0.66 0.14 0.49 2.00 2.12 0.06 0.15
Vadasy & Sanders 2008	Scored at-risk on DIBELS and were identified by their teachers as having low fluency or comp. Avg. Found.: 88.82 Avg. Comp.: 79.43	T: Fluency with repeated reading, vocab., and comp. instruction using nonfiction science and social studies passages C: Typical school reading instruction	Found. WR & S Fluency Comp. Comp.*	<u>T vs C</u> 0.03 0.11 -0.01 0.39 0.30

Table 1 (continued)

Vaughn et al., 2016	Standard score ≤ 85 on the GMRT Avg. Found.: 85.59 Avg. Comp.: 88.68	T: Vocab., comp., fluency and individualized multisyllabic word study C: Typical school reading instruction	Found. WR & S Fluency Comp.	<u>T vs C</u> -0.05 -0.08 0.05 -0.11		
Vaughn, et al., 2019	Standard score ≤ 85 on the TOSREC Avg. Found.: 86.66	T: Word study, fluency, and comp. instruction with self-regulation components including goal-setting and comp. monitoring C: Typical school reading instruction	Found. WR & S WR & S* Fluency Comp.	<u>T vs C</u> 0.19 0.12 0.48 0.27 0.07		
Wanzek & Roberts 2012	Identified as at high risk for reading disabilities by school and scored $\leq 25^{\text{th}}$ percentile on comp. subtest of the GMRT Avg. Found.: 93.88 Avg. Comp.: 82.17	T1: Multicomponent intervention with a focus on word recognition T2: Multicomponent intervention with a focus on comp. instruction T3: Intervention above according to area of need C: Typical school reading instruction	Found. WR & S Comp.	<u>T1 vs C T2 vs C T3 vs C</u> -0.04 -0.13 -0.03 0.27 0.29 -0.02		
Wanzek et al., 2017	Scored $\leq 30^{\text{th}}$ percentile on the reading comp. subtest of the GMRT	T: Phonics and word recognition, fluency, vocab., and comp. with a focus on text reading and comp. after the first 6 weeks C: Typical school reading instruction	Found. WR & S Comp.	<u>T vs C</u> -0.05 0.11		
Xin & Rieth, 2001	Identified with a disability and receiving special education reading instruction	T: Video and class discussion used to teach content vocab. C: Dictionaries and class discussion used to teach content vocab.	Comp.*	<u>T vs C</u> 0.34		
Young et al., 2015	Score below proficiency on a school assessment and identified by the school as demonstrating the greatest reading need	T: Fluency with texts adjusted according to student performance using neural impress method and repeated reading with brief comp. C: Typical school reading instruction only	Found. Fluency Fluency* Comp.	<u>T vs C</u> 0.16 0.74 0.36		

Note. T = Treatment; C = Comparison; Avg. = Average; Found. = Foundational; PA = Phonological awareness; WR & S = Word reading and spelling; Comp. = Comprehension; Vocab. = Vocabulary; GMRT = Gates-MacGinitie Reading Test; WRMT = Woodcock Reading Mastery Test; TOWRE = Test of Word Reading Efficiency; TOSREC = Test of Silent Reading Efficiency and Comprehension; PPVT = Peabody Picture Vocabulary Test; * denotes unstandardized outcome; ** average performance at pretest was determined using available standard scores

T treatment, *C* comparison, *Avg.* average, *Found.* Foundational, *PA* phonological awareness, *WR & S* word reading and spelling, *Comp.* comprehension, *Vocab.* vocabulary, *GMRT* gates-MacGinitie Reading Test, *WRMT* woodcock reading mastery test, *TOWRE* test of word reading efficiency, *TOSREC* test of silent reading efficiency and comprehension, *PPVT* peabody picture vocabulary test

* Unstandardized outcome

** Average performance at pretest was determined using available standard scores

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