

# Associations Between Exposures and Learning Outcomes

Outcome	Specific Outcome	Exposure	Age Group	Pop.	Study Design	Lead Author, Date	r with 95% CI	I <sup>2</sup>	K	N	
Learning	General	Screen-based intervention: Augmented reality	Mixed	General	Mixed or unclear	Tekedere, 2016	0.33 [ 0.25, 0.42]	68%	15	1,474	
	General	Screen-based intervention: Education (touch screen)	Young	General	Experimental	Xie, 2018	0.21 [ 0.15, 0.28]	86%	79	5,810	
	General	Screen-based intervention: Literacy (Abracadabra)	Mixed	General	Experimental	Major, 2021	0.09 [ 0.06, 0.12]	90%	15	52,377	
	General	TV programs and movies: General	Mixed	General	Cross-sectional	Adelantado-Renau, 2019	-0.10 [-0.15, -0.04]	98%	18	62,135	
	General	TV programs and movies: General	Mixed	General	Mixed or unclear	Williams, 1982	-0.09 [-0.13, -0.04]	96%	23	86,507	
	General	Video games: Educational (instructional support)	Children	General	Experimental	Wouters, 2013	0.15 [ 0.05, 0.25]	66%	16	1,287	
	General	Video games: General	Mixed	General	Cross-sectional	Adelantado-Renau, 2019	-0.08 [-0.12, -0.04]	40%	10	4,276	
	General	e-Books: Narration	Mixed	General	Experimental	Takacs, 2014	0.11 [ 0.05, 0.17]	56%	50	2,288	
	Literacy and numeracy	Screen use: Educational apps	Young	General	Experimental	Kim, 2021	0.11 [ 0.07, 0.16]	0%	15	2,011	
	Motivation	Video games: Educational	Children	General	Experimental	Wouters, 2013	0.16 [ 0.02, 0.31]	84%	10	1,183	
	Motivation	Video games: Educational (with competition)	Children	General	Mixed or unclear	Arztmann, 2022	0.26 [ 0.17, 0.35]	82%	15	9,318	
	General	Screen use: General	Mixed	General	Cross-sectional	Adelantado-Renau, 2019	-0.11 [-0.24, 0.01]	98%	18	13,100	

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r with 95% and 99.9% CIs