Journal of Neurodevelopmental Cognition

Supplementary Table S1. Complete search strategies for each database

Source	Exact executed search strategy	Search date	Records retrieved
Scopus	TITLE-ABS-KEY((child* OR adolescen* OR youth* OR teen* OR preschool* OR kindergarten* OR "early childhood" OR schoolchild*OR "school-age*" OR "primary school*" OR "elementary school*" OR "middle school*" OR "secondary school*" OR "high school*" OR "K-12" OR K12 OR pupil* OR student*) AND (creativ* OR "creative think*" OR "divergent think*"OR "convergent think*" OR "creative performance" OR "creative product*" OR "idea generation" OR originalit* OR "idea novelty") AND ("digital technolog*" OR "educational technolog*" OR "emerging technolog*" OR "technology-enhanced" OR "technology-based" OR "digital tool*" OR "creativity support tool*" OR computer* OR software OR "digital platform*" OR "web-based" OR "online learning" OR "mobile app*" OR tablet* OR multimedia OR "video game*" OR "digital game*" OR "serious game*" OR "game-based learning" OR robot* OR coding OR programming OR "digital storytelling" OR "virtual realit*" OR "augmented realit*" OR "mixed realit*" OR "immersive technolog*" OR "artificial intelligence" OR "generative AI" OR ChatGPT OR "large language model*" OR "digital fabrication" OR "3D print*" OR makerspace*) AND ("systematic review" OR "systematic literature review" OR meta-analy* OR "evidence synthesis" OR "review of reviews" OR umbrella))	August 2026	N = 575
ERIC. 1	(child OR children OR childhood OR adolescent OR adolescents OR adolescence OR youth OR youths OR teen OR teens OR teenager OR teenagers OR preschool OR preschools OR preschooler OR preschoolers OR kindergarten OR kindergartens OR "early childhood" OR schoolchild OR schoolchildren OR "school age" OR "school aged" OR "primary school" OR "primary schools" OR "elementary school" OR "elementary schools" OR "middle school" OR "middle schools" OR "secondary school" OR "secondary schools" OR "high school" OR "high schools" OR "K-12" OR K12 OR pupil OR pupils OR student OR students) AND (creativity OR creative OR creatively OR "creative	August 2026	N = 77

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Source	Exact executed search strategy	Search date	Records retrieved
	thinking" OR "divergent thinking" OR "convergent thinking" OR "creative performance" OR "creative product" OR "creative products" OR "idea generation" OR originality OR "idea novelty") AND ("digital technology" OR "digital technologies" OR "educational technology" OR "educational technologies" OR "emerging technology" OR "emerging technologies" OR "technology-enhanced" OR "technology enhanced" OR "technology-based" OR "technology based") AND ("systematic review" OR "systematic reviews" OR "systematic literature review" OR "systematic literature reviews" OR "meta-analysis" OR "meta-analyses" OR "meta analysis" OR "meta analyses" OR "meta-analytic" OR "meta analytic" OR "evidence synthesis" OR "evidence syntheses" OR "review of reviews" OR "umbrella review" OR umbrella)		
ERIC. 2	(child OR children OR childhood OR adolescent OR adolescents OR adolescence OR youth OR youths OR teen OR teens OR teenager OR teenagers OR preschool OR preschools OR preschooler OR preschoolers OR kindergarten OR kindergartens OR "early childhood" OR schoolchild OR schoolchildren OR "school age" OR "school aged" OR "primary school" OR "primary schools" OR "elementary school" OR "elementary schools" OR "middle school" OR "middle schools" OR "secondary school" OR "secondary schools" OR "high school" OR "high schools" OR "K-12" OR K12 OR pupil OR pupils OR student OR students) AND (creativity OR creative OR creatively OR "creative thinking" OR "divergent thinking" OR "convergent thinking" OR "creative performance" OR "creative product" OR "creative products" OR "idea generation" OR originality OR "idea novelty") AND ("digital tool" OR "digital tools" OR "creativity support tool" OR "creativity support tools" OR computer OR computers OR computing OR software) AND ("systematic review" OR "systematic reviews" OR "systematic literature review" OR "systematic literature reviews" OR "meta-analysis" OR "meta-analyses" OR "meta analysis" OR "meta analyses" OR "meta-analytic" OR "meta analytic" OR "evidence synthesis" OR "evidence syntheses" OR "review of reviews" OR "umbrella review" OR umbrella)	August 2026	N = 96
ERIC. 3	(child OR children OR childhood OR adolescent OR adolescents OR adolescence OR youth OR youths OR teen OR teens OR teenager OR teenagers OR preschool OR preschools OR preschooler OR preschoolers OR kindergarten OR kindergartens OR "early childhood" OR schoolchild OR schoolchildren OR "school age" OR "school aged" OR "primary school" OR "primary schools" OR "elementary school" OR "elementary schools" OR "middle school" OR "middle schools" OR	August 2026	N = 25

Source	Exact executed search strategy	Search date	Records retrieved
	"secondary school" OR "secondary schools" OR "high school" OR "high schools" OR "K-12" OR K12 OR pupil OR pupils OR student OR students) AND (creativity OR creative OR creatively OR "creative thinking" OR "divergent thinking" OR "convergent thinking" OR "creative performance" OR "creative product" OR "creative products" OR "idea generation" OR originality OR "idea novelty") AND ("digital platform" OR "digital platforms" OR "web-based" OR "web based" OR "online learning" OR "mobile app" OR "mobile apps" OR "mobile application" OR "mobile applications" OR tablet OR tablets OR multimedia) AND ("systematic review" OR "systematic reviews" OR "systematic literature review" OR "systematic literature reviews" OR "meta-analysis" OR "meta-analyses" OR "meta analysis" OR "meta analyses" OR "meta-analytic" OR "meta analytic" OR "evidence synthesis" OR "evidence syntheses" OR "review of reviews" OR "umbrella review" OR umbrella)		
ERIC. 4	(child OR children OR childhood OR adolescent OR adolescents OR adolescence OR youth OR youths OR teen OR teens OR teenager OR teenagers OR preschool OR preschools OR preschooler OR preschoolers OR kindergarten OR kindergartens OR "early childhood" OR schoolchild OR schoolchildren OR "school age" OR "school aged" OR "primary school" OR "primary schools" OR "elementary school" OR "elementary schools" OR "middle school" OR "middle schools" OR "secondary school" OR "secondary schools" OR "high school" OR "high schools" OR "K-12" OR K12 OR pupil OR pupils OR student OR students) AND (creativity OR creative OR creatively OR "creative thinking" OR "divergent thinking" OR "convergent thinking" OR "creative performance" OR "creative product" OR "creative products" OR "idea generation" OR originality OR "idea novelty") AND ("video game" OR "video games" OR "digital game" OR "digital games" OR "serious game" OR "serious games" OR "game-based learning" OR "game based learning") AND ("systematic review" OR "systematic reviews" OR "systematic literature review" OR "systematic literature reviews" OR "meta-analysis" OR "meta-analyses" OR "meta analysis" OR "meta analyses" OR "meta-analytic" OR "meta analytic" OR "evidence synthesis" OR "evidence syntheses" OR "review of reviews" OR "umbrella review" OR umbrella)	August 2026	N = 16
ERIC. 5	(child OR children OR childhood OR adolescent OR adolescents OR adolescence OR youth OR youths OR teen OR teens OR teenager OR teenagers OR preschool OR preschools OR preschooler OR preschoolers OR kindergarten OR kindergartens OR "early childhood" OR schoolchild OR	August 2026	N = 45

Source	Exact executed search strategy	Search date	Records retrieved
	schoolchildren OR "school age" OR "school aged" OR "primary school" OR "primary schools" OR "elementary school" OR "elementary schools" OR "middle school" OR "middle schools" OR "secondary school" OR "secondary schools" OR "high school" OR "high schools" OR "K-12" OR K12 OR pupil OR pupils OR student OR students) AND (creativity OR creative OR creatively OR "creative thinking" OR "divergent thinking" OR "convergent thinking" OR "creative performance" OR "creative product" OR "creative products" OR "idea generation" OR originality OR "idea novelty") AND (robot OR robots OR robotics OR coding OR programming OR "digital storytelling") AND ("systematic review" OR "systematic reviews" OR "systematic literature review" OR "systematic literature reviews" OR "meta-analysis" OR "meta-analyses" OR "meta analysis" OR "meta analyses" OR "meta-analytic" OR "meta analytic" OR "evidence synthesis" OR "evidence syntheses" OR "review of reviews" OR "umbrella review" OR umbrella)		
ERIC. 6	(child OR children OR childhood OR adolescent OR adolescents OR adolescence OR youth OR youths OR teen OR teens OR teenager OR teenagers OR preschool OR preschools OR preschooler OR preschoolers OR kindergarten OR kindergartens OR "early childhood" OR schoolchild OR schoolchildren OR "school age" OR "school aged" OR "primary school" OR "primary schools" OR "elementary school" OR "elementary schools" OR "middle school" OR "middle schools" OR "secondary school" OR "secondary schools" OR "high school" OR "high schools" OR "K-12" OR K12 OR pupil OR pupils OR student OR students) AND (creativity OR creative OR creatively OR "creative thinking" OR "divergent thinking" OR "convergent thinking" OR "creative performance" OR "creative product" OR "creative products" OR "idea generation" OR originality OR "idea novelty") AND ("virtual reality" OR "augmented reality" OR "mixed reality" OR "immersive technology" OR "immersive technologies") AND ("systematic review" OR "systematic reviews" OR "systematic literature review" OR "systematic literature reviews" OR "meta-analysis" OR "meta-analyses" OR "meta analysis" OR "meta analyses" OR "meta-analytic" OR "meta analytic" OR "evidence synthesis" OR "evidence syntheses" OR "review of reviews" OR "umbrella review" OR umbrella)	August 2026	N = 20
ERIC. 7	(child OR children OR childhood OR adolescent OR adolescents OR adolescence OR youth OR youths OR teen OR teens OR teenager OR teenagers OR preschool OR preschools OR preschooler OR preschoolers OR kindergarten OR kindergartens OR "early childhood" OR schoolchild OR schoolchildren OR "school age" OR "school aged" OR "primary school" OR "primary schools" OR	August 2026	N = 47

Source	Exact executed search strategy	Search date	Records retrieved
	"elementary school" OR "elementary schools" OR "middle school" OR "middle schools" OR "secondary school" OR "secondary schools" OR "high school" OR "high schools" OR "K-12" OR K12 OR pupil OR pupils OR student OR students) AND (creativity OR creative OR creatively OR "creative thinking" OR "divergent thinking" OR "convergent thinking" OR "creative performance" OR "creative product" OR "creative products" OR "idea generation" OR originality OR "idea novelty") AND ("artificial intelligence" OR "generative AI" OR ChatGPT OR "large language model" OR "large language models" OR "digital fabrication" OR "3D print" OR "3D printing" OR makerspace OR makerspaces) AND ("systematic review" OR "systematic reviews" OR "systematic literature review" OR "systematic literature reviews" OR "meta-analysis" OR "meta-analyses" OR "meta analysis" OR "meta analyses" OR "meta-analytic" OR "meta analytic" OR "evidence synthesis" OR "evidence syntheses" OR "review of reviews" OR "umbrella review" OR umbrella)		
Web of Science Core Collection	TS=((child* OR adolescen* OR youth* OR teen* OR preschool* OR kindergarten* OR "early childhood" OR schoolchild* OR "school-age*" OR "primary school*" OR "elementary school*" OR "middle school*" OR "secondary school*" OR "high school*" OR "K-12" OR K12 OR pupil* OR student*) AND (creativ* OR "creative think*" OR "divergent think*" OR "convergent think*" OR "creative performance" OR "creative product*" OR "idea generation" OR originalit* OR "idea novelty") AND ("digital technolog*" OR "educational technolog*" OR "emerging technolog*" OR "technology-enhanced" OR "technology-based" OR "digital tool*" OR "creativity support tool*" OR computer* OR software OR "digital platform*" OR "web-based" OR "online learning" OR "mobile app*" OR tablet* OR multimedia OR "video game*" OR "digital game*" OR "serious game*" OR "game-based learning" OR robot* OR coding OR programming OR "digital storytelling" OR "virtual realit*"OR "augmented realit*" OR "mixed realit*"OR "immersive technolog*" OR "artificial intelligence"OR "generative AI" OR ChatGPT OR "large language model*"OR "digital fabrication" OR "3D print*" OR makerspace*) AND ("systematic review" OR "systematic literature review" OR meta-analy* OR "evidence synthesis" OR "review of reviews" OR umbrella))	August 2026	
Google Scholar. 1	("systematic review" OR "meta-analysis") creativity (child OR adolescent OR student) (technology OR digital OR computer)	August 2026	N = 64
Google Scholar. 2	("systematic review" OR "meta-analysis") "creative thinking" (school OR student) (game OR robot OR coding OR "virtual reality" OR "artificial intelligence")	August 2026	N = 100

Supplementary Table S2. Critical appraisal results for included studies using the JBI-Qualitative Critical Appraisal Checklist

ID	Review	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Descriptive count
1	Zhang & Zhu (2024; online 2022)	Y	Y	Y	Y	N	N	Y	Y	Y	Y	Y	Y=9; N=2; U=0
2	Peng et al. (2025)	Y	Y	Y	Y	N	N	Y	Y	Y	Y	Y	Y=9; N=2; U=0
3	Xiong et al. (2025)	Y	Y	Y	Y	Y	U	Y	Y	Y	Y	Y	Y=10; N=0; U=1
4	Zaremohzzabieh et al. (2024)	Y	Y	Y	Y	Y	Y	U	Y	Y	Y	Y	Y=10; N=0; U=1
5	Sapounidis et al. (2025)	Y	Y	Y	Y	N	N	Y	Y	Y	Y	Y	Y=9; N=2; U=0
6	Yalcinalp & Avci (2019)	Y	Y	N	N	N	N	Y	Y	N	Y	Y	Y=6; N=5; U=0
7	Mazhar & Arseven (2026)	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y=10; N=1; U=0
8	Liu et al. (2022)	Y	Y	Y	Y	N	N	N	Y	Y	Y	Y	Y=8; N=3; U=0
9	Wang et al. (2024)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y=11; N=0; U=0
10	Alshehri et al. (2026)	Y	Y	Y	Y	U	Y	Y	N	Y	Y	Y	Y=9; N=1; U=1
11	Chai et al. (2026)	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y=10; N=1; U=0
12	Lin et al. (2024)	Y	Y	Y	Y	N	N	Y	Y	Y	Y	Y	Y=9; N=2; U=0
13	Li et al. (2022)	Y	Y	Y	Y	N	N	N	Y	N	Y	Y	Y=7; N=4; U=0
14	Fielding & Murcia (2022)	Y	Y	Y	Y	N	N	N	Y	Y	Y	Y	Y=8; N=3; U=0
15	Chen et al. (2026)	Y	Y	Y	Y	N	N	Y	N	Y	Y	Y	Y=8; N=3; U=0
	Yes, n	15	15	14	14	5	5	11	12	12	15	15	
	No, n	0	0	1	1	9	9	3	3	3	0	0	
	Unclear, n	0	0	0	0	1	1	1	0	0	0	0	

Note. Y = yes; N = no; U = unclear; NA = not applicable.

Q1. Is the review question clearly and explicitly stated?

Q2. Were the inclusion criteria appropriate for the review question?

ID	Review	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Descriptive count
Q3. Was the search strategy appropriate?													
Q4. Were the sources and resources used to search for studies adequate?													
Q5. Were the criteria for appraising studies appropriate?													
Q6. Was critical appraisal conducted by two or more reviewers independently?													
Q7. Were there methods to minimize errors in data extraction?													
Q8. Were the methods used to combine studies appropriate?													
Q9. Was the likelihood of publication bias assessed?													
Q10. Were recommendations for policy and/or practice supported by the reported data?													
Q11. Were the specific directives for new research appropriate?													