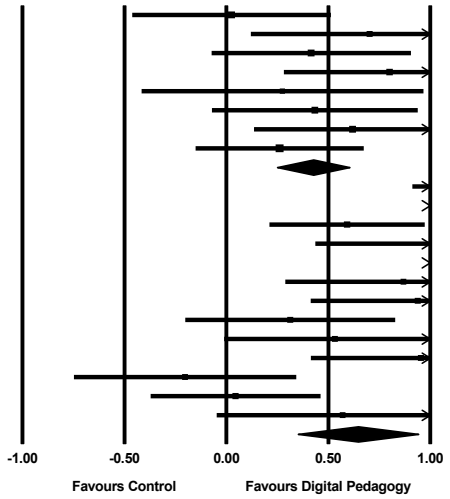
Group by Critical Thinking Construct	Study name	Std diff in means	Standard error	Variance	Lower limit	Upper limit	Z-Value	p-Value
Disposition	Goda et al. (2014)	0.026	0.247	0.061	-0.458	0.510	0.105	0.916
Disposition	Darmawansah et al. (2022)	0.704	0.296	0.087	0.124	1.283	2.379	0.017
Disposition	Liu et al. (2023)	0.417	0.248	0.061	-0.069	0.903	1.682	0.093
Disposition	Yin et al. (2024)	0.801	0.263	0.069	0.286	1.316	3.049	0.002
Disposition	Alpat & Gorgulu (2024)	0.276	0.351	0.123	-0.412	0.964	0.786	0.432
Disposition	Sendag et al. (2024)	0.435	0.256	0.065	-0.067	0.936	1.699	0.089
Disposition	Darmawansah et al. (2025)	0.620	0.245	0.060	0.139	1.101	2.527	0.012
Disposition	Liu & Wang (2024)	0.262	0.209	0.044	-0.147	0.671	1.255	0.210
Disposition		0.428	0.091	0.008	0.251	0.606	4.722	0.000
Mixed	Mohammadi et al. (2022)	1.342	0.218	0.047	0.916	1.769	6.168	0.000
Mixed		1.342	0.218	0.047	0.916	1.769	6.168	0.000
Skill	Yang & Wu (2012)	0.593	0.193	0.037	0.215	0.971	3.078	0.002
Skill	Ebadi & Rahimi (2018)	1.346	0.462	0.213	0.440	2.251	2.913	0.004
Skill	Etemadfar et al. (2020)	1.702	0.357	0.128	1.002	2.402	4.763	0.000
Skill	Hsu & Liang (2021)	0.870	0.294	0.086	0.293	1.446	2.957	0.003
Skill	Algouzi et al. (2023)	0.940	0.266	0.071	0.417	1.462	3.527	0.000
Skill	Jiang et al. (2024)_a	0.314	0.261	0.068	-0.198	0.826	1.203	0.229
Skill	Jiang et al. (2024)_b	0.533	0.276	0.076	-0.007	1.074	1.935	0.053
Skill	Jiang et al. (2024)_c	0.955	0.274	0.075	0.418	1.492	3.488	0.000
Skill	Chang et al. (2024)	-0.202	0.277	0.077	-0.744	0.340	-0.729	0.466
Skill	Shang et al. (2025)	0.046	0.211	0.045	-0.368	0.460	0.218	0.827
Skill	Zhang et al. (2025)	0.571	0.314	0.098	-0.044	1.186	1.820	0.069
Skill		0.648	0.151	0.023	0.353	0.943	4.301	0.000



Meta Analysis