

Supplementary Table 1. Search Strategies by Database

Database	Search strategy (Boolean query)	Filters / Limits	Last search date
PubMed	(((("Students"[Title/Abstract] OR "Nursing"[Title/Abstract] OR "undergraduate nursing student"[Title/Abstract] OR "Nurs*"[Title/Abstract] OR "Nursing student*"[Title/Abstract] OR "School Nursing"[Title/Abstract] OR "Nurse"[Title/Abstract])) AND ("Education"[Title/Abstract] OR "Learning"[Title/Abstract])) AND ("Game"[Title/Abstract] OR "Game-based"[Title/Abstract] OR "Gamification"[Title/Abstract])) AND ("Virtual Reality"[Title/Abstract] OR "VR"[Title/Abstract])	Language: English; Publication type: Journal Article; Publication date: April 2014 – March 2025	April 22, 2025
CINAHL (EBSCOhost)	(TI ("Nurs*" OR "Nursing student*" OR "undergraduate nursing student" OR "School Nursing" OR "Nurse") AND TI ("Education" OR "Learning") AND TI ("Game" OR "Game-based" OR "Gamification") AND TI ("Virtual Reality" OR "VR"))	English language; Research Article; Published between April 2014–March 2025	April 22, 2025
CENTRAL (Cochrane Library)	("Nursing student" OR "undergraduate nursing student" OR "Nurse") AND ("Education" OR "Learning") AND ("Game-based" OR "Gamification" OR "Game") AND ("Virtual Reality" OR "VR")	Trials; English language; Publication year: 2014–2025	April 23, 2025
EMBASE (Ovid)	('nursing student':ab,ti OR 'undergraduate nursing student':ab,ti OR 'nurse':ab,ti) AND ('education':ab,ti OR 'learning':ab,ti) AND ('game-based':ab,ti OR 'gamification':ab,ti OR 'game':ab,ti) AND ('virtual reality':ab,ti OR 'VR':ab,ti)	English language; Journal article; 2014–2025	April 23, 2025
RISS (Korea Education & Research Information Service)	("간호학생" OR "간호대학생" OR "간호사") AND ("간호교육" OR "교육" OR "학습") AND ("게이미피케이션" OR "게임기반" OR "게임") AND ("가상현실" OR "VR")	Language: Korean; Publication type: 학술논문; 2014–2025	April 24, 2025

Database	Search strategy (Boolean query)	Filters / Limits	Last search date
KISS (Korean Studies Information Service System)	("간호학생" OR "간호대학생" OR "간호사") AND ("간호교육" OR "학습") AND ("게임기반" OR "게이미피케이션") AND ("가상 현실" OR "VR")	Korean language; Publication year: 2014–2025	April 24, 2025
DBpia	("간호학생" OR "간호사") AND ("간호교육" OR "교육" OR "학 습") AND ("게임기반" OR "게이미피케이션") AND ("가상현실" OR "VR")	Korean language; Academic journal; 2014–2025	April 25, 2025
KMbase (Korean Medical Database)	("간호학생" OR "간호사") AND ("간호교육" OR "학습") AND ("게임" OR "게임기반" OR "게이미피케이션") AND ("가상현실" OR "VR")	Korean language; Journal article; 2014–2025	April 25, 2025