**Appendix 3:** Search Strategy

**CINAHL with Full Text via EBSCO**(1963+):

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| --- | --- |
| S15 | S13 AND S14  **Limiters** - Published Date: 20110101-20221231 |
| S14 | (MH "Developing Countries") OR (MH "Pacific Islands") OR (MH "Micronesia+") OR (MH "Melanesia+") OR (MH "Polynesia+") OR (MH "Low and Middle Income Countries") OR (MH "Indian Ocean Islands+") OR (MH "Asia, Central+") OR (MH "Asia, Southeastern+") OR (MH "Asia, Western+") OR (MH "China+") OR (MH "Mongolia") OR (MH "Africa+") OR (MH "Central America+") OR (MH "Latin America") OR (MH "South America+") OR (MH "West Indies+") OR (((((low or lower or less\* or middle or limited) N2 (income or resource or economy or economies or gross-domestic or gross-national or gdp or dnp)) or underdeveloped or under-developed or developing or less-developed or lesser-developed or least-developed or underserved or under-served or deprived or disadvantaged or poor\* or transitional or transitional) N2 (nation or nations or country or countries or region or regions or area or areas or world or population\*)) or third-world or global\*) OR Afghan\* or Guinea\* or Somalia\* or Burkina-Faso or Burundi\* or Liberia\* or Sudan\* or Madagascar\* or Syria\* or Chad or Malawi\* or Togo or Congo\* or Mali or Uganda\* or Eritrea\* or Mozambiqu\* or Yemen\* or Ethiopia\* or Niger\* or Gambia\* or Rwanda\* or Guinea\* or Sierra-Leone or Angola\* or Hondura\* or Philippin\* or Algeria\* or India or Samoa\* or Bangladesh\* or Indonesia\* or Belize or Iran or Senegal\* or Benin\* or Kenya\* or Bhutan\* or Kiribati or Sri-Lanka or Bolivia\* or Kyrgyz\* or Tanzania\* or Lao\* or Tajikistan\* or Cambodia\* or Timor\* or Cameroon\* or Mauritania\* or Tunisia\* or Micronesia\* or Ukrain\* or Mongolia\* or Uzbekistan\* or Cote-d-Ivoire or Morocc\* or Djibouti\* or Myanmar\* or Vietnam\* or Egypt\* or Nepal\* or Gaza\* or Palestin\* or El-Salvador\* or Nicaragua\* or Zambia\* or Eswatini or Zimbabwe\* or Ghana\* or Pakistan\* or Haiti\* or Albania\* or Gabon\* or Namibia\* or Georgia\* or Macedonia\* or Argentina\* or Grenada\* or Panama\* or Armenia\* or Guatemala\* or Paraguay\* or Azerbaijan\* or Guyana\* or Peru\* or Belarus\* or Iraq\* or Romania\* or Bosnia\* or Jamaica\* or Russia\* or Botswana\* or Jordan\* or Serbia\* or Brazil\* or Kazakhstan\* or South-Africa\* or Bulgaria\* or Kosovo\* or China or Chinese or Caribbean or Lebanon\* or Colombia\* or Libya\* or Suriname\* or Costa-Rica or Malaysia\* or Thai\* or Cuba\* or Maldives or Tonga\* or Turk\* or Dominican-Republic or Mauritius or Mexic\* or Ecuador\* or Moldova\* or Fiji or Montenegr\* or Africa or Central-America\* or South-America\* or Southeast-Asia |
| S13 | S10 AND S11 AND S12 |
| S12 | MH "Comparative Studies+") OR TI(compar\* or versus or vs or contrast\*) OR AB(compar\* or versus or vs or contrast\*) |
| S11 | (MH "Equipment Design") OR fidelity or realism or realistic\* or high-tech\* or hi-tech or sophisticat\* or computer\* or video\* or camera\* or webcam\* or commercial\* or box-trainer\* or training-box\* or cardboard or mirrored-box\* or mirror-trainer\* or bench-model\* or cost\* or expens\* or inexpens\* or cheap\* or economic\* or homemade or home-made or handmade or hand-made |
| S10 | S8 NOT S9 |
| S9 | TI(case-report\* or (trial N2 protocol) or technical-report) OR PT(case-report\* or (trial N2 protocol) or technical-report) |
| S8 | S3 AND S4 AND S7 |
| S7 | S5 or S6 |
| S6 | TI(evaluat\* or assess\* or compar\* or impact\* or effect\* or validat\* or improv\* or measure\* or reliab\* or outcome\* or random\* or control\* or pretest\* or pre-test or pre-post or chang\* or cohort\* or success-rate\* or scor\* or questionnaire\*) OR AB(evaluat\* or assess\* or compar\* or impact\* or effect\* or validat\* or improv\* or measure\* or reliab\* or outcome\* or random\* or control\* or pretest\* or pre-test or pre-post or chang\* or cohort\* or success-rate\* or scor\* or questionnaire\*) |
| S5 | (MH "Educational Measurement") |
| S4 | (MH "Learning+" OR MH "Education+" OR MH "Education Department" OR MH "Professional Competence" OR MH "Clinical Competence+" OR MH "Health Personnel+/ED" OR MH "Multidisciplinary Care Team+" OR MW "ED") |
| S3 | S1 OR S2 |
| S2 | TI(biosimulat\* or simulat\* or telesimulat\* or haptic\* or vignette\* or mechanical-patient\* or positioning-doll\* or bench-train\* or bench-model\* or task-trainer\* or training-box or cadaver\* or (anatom\* N1 model\*) or surgical-model\* or moulage\* or manikin\* or mannikin\* or mannequin\* or harvey or sim-man or mistvr or (mist N1 vr) or vitalsim or simsurgery or laerdal or mock-code\* or crisis-resource-management or crisis-event-management or crew-resource-management or knot-tying or sutur\* or team-training or ((clinical or physical or patient) N1 exam\*) or ((procedur\* or skill\* or experiential or psychomotor or motor-skill\*) N1 (lab or laboratory or training or practice or practise or perform\*)) or (skill\* N1 acqui\*) or skills-course or skills-curricul\* or technical-skill\* or ((procedur\* or surg\* or operati\*) N1 (skill\* or teach\* or technique\*)) or case-scenario\* or practical-course or (practical N1 training) or resuscitat\* or life-support or ACLS or BLS or PALS or CPR or chest-compression\* or arrest or defibrillat\* or cardiopulmonary-rescue) OR AB(biosimulat\* or simulat\* or telesimulat\* or haptic\* or vignette\* or mechanical-patient\* or positioning-doll\* or bench-train\* or bench-model\* or task-trainer\* or training-box or cadaver\* or (anatom\* N1 model\*) or surgical-model\* or moulage\* or manikin\* or mannikin\* or mannequin\* or harvey or sim-man or mistvr or (mist N1 vr) or vitalsim or simsurgery or laerdal or mock-code\* or crisis-resource-management or crisis-event-management or crew-resource-management or knot-tying or sutur\* or team-training or ((clinical or physical or patient) N1 exam\*) or ((procedur\* or skill\* or experiential or psychomotor or motor-skill\*) N1 (lab or laboratory or training or practice or practise or perform\*)) or (skill\* N1 acqui\*) or skills-course or skills-curricul\* or technical-skill\* or ((procedur\* or surg\* or operati\*) N1 (skill\* or teach\* or technique\*)) or case-scenario\* or practical-course or (practical N1 training) or resuscitat\* or life-support or ACLS or BLS or PALS or CPR or chest-compression\* or arrest or defibrillat\* or cardiopulmonary-rescue) |
| S1 | (MH "Simulations+" OR MH "Computerized Clinical Simulation Testing" OR MH "Cadaver" OR MH "Models, Anatomic+" OR MH "Resuscitation/ED" OR MH "Life Support Care+/ED") |

**Embase via Ovid**(1974+):

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| --- | --- | --- |
| **#** | **Query** | **Results** |
| 1 | exp simulation training/ or exp simulation/ or exp simulator/ or cadaver/ or exp anatomic model/ | 447,087 |
| 2 | (biosimulat\* or simulat\* or telesimulat\* or haptic\* or vignette\* or mechanical-patient\* or positioning-doll\* or bench-train\* or bench-model\* or task-trainer\* or training-box or cadaver\* or (anatom\* adj1 model\*) or surgical-model\* or moulage\* or manikin\* or mannikin\* or mannequin\* or harvey or sim-man or mistvr or (mist adj1 vr) or vitalsim or simsurgery or laerdal or mock-code\* or crisis-resource-management or crisis-event-management or crew-resource-management or knot-tying or sutur\* or team-training or ((clinical or physical or patient) adj1 exam\*) or ((procedur\* or skill\* or experiential or psychomotor or motor-skill\* or dexterity) adj1 (lab or laboratory or training or practice or practise or perform\*)) or (skill\* adj1 acqui\*) or skills-course or skills-curricul\* or technical-skill\* or ((procedur\* or surg\* or operati\*) adj1 (skill\* or teach\* or technique\*)) or case-scenario\* or practical-course or (practical adj1 training) or resuscitat\* or life-support or ACLS or BLS or PALS or CPR or chest-compression\* or arrest or defibrillat\* or cardiopulmonary-rescue).ab,kf,ti,dq. | 1,580,307 |
| 3 | 1 or 2 | 1,693,187 |
| 4 | exp learning/ or continuing education/ or curriculum/ or educational technology/ or in service training/ or interdisciplinary education/ or interprofessional education/ or exp medical education/ or "outcome of education"/ or problem based learning/ or exp teaching/ or virtual learning environment/ or exp health student/ or exp paramedical education/ or teaching/ or clinical competence/ or nursing competence/ or professional competence/ or ed.fs. | 1,094,503 |
| 5 | 3 and 4 | 97,641 |
| 6 | (evaluat\* or assess\* or compar\* or impact\* or effect\* or validat\* or improv\* or measure\* or reliab\* or outcome\* or random\* or control\* or pretest\* or pre-test or pre-post or chang\* or cohort\* or success-rate\* or scor\* or questionnaire\*).ab,hw,kf,ti. | 25,622,930 |
| 7 | 5 and 6 | 84,371 |
| 8 | limit 7 to conference abstract | 23,657 |
| 9 | 7 not 8 | 60,714 |
| 10 | limit 9 to yr="2000 -Current" | 55,659 |
| 11 | case report/ or case-report\*.pt,ti. | 2,726,367 |
| 12 | exp clinical trial protocol/ | 1,579 |
| 13 | ((trial adj2 protocol) or technical-report).pt,ti. | 2,940 |
| 14 | or/11-13 | 2,730,451 |
| 15 | 10 not 14 | 54,795 |
| 16 | exp high-fidelity simulator/ or high fidelity simulation training/ or exp high-fidelity simulation/ or equipment design/ | 91,369 |
| 17 | (fidelity or realism or realistic\* or high-tech\* or hi-tech or sophisticat\* or computer\* or video\* or camera\* or webcam\* or commercial\* or box-trainer\* or training-box\* or cardboard or mirrored-box\* or mirror-trainer\* or bench-model\* or cost\* or expens\* or inexpens\* or cheap\* or economic\* or homemade or home-made or handmade or hand-made).ab,kf,ti,dq,hw. | 4,149,250 |
| 18 | or/16-17 | 4,208,869 |
| 19 | 15 and 18 | 19,816 |
| 20 | exp comparative study/ or (compar\* or versus or vs or contrast\*).ab,kf,ti. | 10,424,619 |
| 21 | 19 and 20 | 7,871 |
| 22 | developing country/ or exp Africa/ or exp central asia/ or northern asia/ or exp south asia/ or exp western asia/ or exp china/ or mongolia/ or philippines/ or exp southeast asia/ or exp "South and Central America"/ or exp Mexico/ or exp Pacific islands/ | 1544007 |
| 23 | (((((low or lower or less\* or middle or limited) adj2 (income or resource or economy or economies or gross-domestic or gross-national or gdp or dnp)) or underdeveloped or under-developed or developing or less-developed or lesser-developed or least-developed or underserved or under-served or deprived or disadvantaged or poor\* or transitional or transitional) adj2 (nation or nations or country or countries or region or regions or area or areas or world or population\*)) or third-world or global\*).ab,kf,ti. | 852654 |
| 24 | (Afghan\* or Guinea\* or Somalia\* or Burkina-Faso or Burundi\* or Liberia\* or Sudan\* or Madagascar\* or Syria\* or Chad or Malawi\* or Togo or Congo\* or Mali or Uganda\* or Eritrea\* or Mozambiqu\* or Yemen\* or Ethiopia\* or Niger\* or Gambia\* or Rwanda\* or Guinea\* or Sierra-Leone or Angola\* or Hondura\* or Philippin\* or Algeria\* or India or Samoa\* or Bangladesh\* or Indonesia\* or Belize or Iran or Senegal\* or Benin\* or Kenya\* or Bhutan\* or Kiribati or Sri-Lanka or Bolivia\* or Kyrgyz\* or Tanzania\* or Lao\* or Tajikistan\* or Cambodia\* or Timor\* or Cameroon\* or Mauritania\* or Tunisia\* or Micronesia\* or Ukrain\* or Mongolia\* or Uzbekistan\* or Cote-d-Ivoire or Morocc\* or Djibouti\* or Myanmar\* or Vietnam\* or Egypt\* or Nepal\* or Gaza\* or Palestin\* or El-Salvador\* or Nicaragua\* or Zambia\* or Eswatini or Zimbabwe\* or Ghana\* or Pakistan\* or Haiti\* or Albania\* or Gabon\* or Namibia\* or Georgia\* or Macedonia\* or Argentina\* or Grenada\* or Panama\* or Armenia\* or Guatemala\* or Paraguay\* or Azerbaijan\* or Guyana\* or Peru\* or Belarus\* or Iraq\* or Romania\* or Bosnia\* or Jamaica\* or Russia\* or Botswana\* or Jordan\* or Serbia\* or Brazil\* or Kazakhstan\* or South-Africa\* or Bulgaria\* or Kosovo\* or China or Chinese or Caribbean or Lebanon\* or Colombia\* or Libya\* or Suriname\* or Costa-Rica or Malaysia\* or Thai\* or Cuba\* or Maldives or Tonga\* or Turk\* or Dominican-Republic or Mauritius or Mexic\* or Ecuador\* or Moldova\* or Fiji or Montenegr\* or Africa or Central-America\* or South-America\* or Southeast-Asia).ab,kf,ti. | 2110208 |
| 25 | or/22-24 | 3177441 |
| 26 | 21 and 25 | 901 |
| 27 | Limit 26 to yr="2011 -Current" | 730 |

**MEDLINE via Ovid**(1946+ and Epub Ahead of Print, In-Process & Other Non-Indexed Citations and Ovid MEDLINE(R) Daily):

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| --- | --- | --- |
| **#** | **Query** | **Results** |
| 1 | exp Simulation Training/ or exp computer simulation/ or Cadaver/ or exp Models, Anatomic/ or Crew Resource Management, Healthcare/ or exp Resuscitation/ed or exp Life Support Care/ed | 352,726 |
| 2 | (biosimulat\* or simulat\* or telesimulat\* or haptic\* or vignette\* or mechanical-patient\* or positioning-doll\* or bench-train\* or bench-model\* or task-trainer\* or training-box or cadaver\* or (anatom\* adj1 model\*) or surgical-model\* or moulage\* or manikin\* or mannikin\* or mannequin\* or harvey or sim-man or mistvr or (mist adj1 vr) or vitalsim or simsurgery or laerdal or mock-code\* or crisis-resource-management or crisis-event-management or crew-resource-management or knot-tying or sutur\* or team-training or ((clinical or physical or patient) adj1 exam\*) or ((procedur\* or skill\* or experiential or psychomotor or motor-skill\* or dexterity) adj1 (lab or laboratory or training or practice or practise or perform\*)) or (skill\* adj1 acqui\*) or skills-course or skills-curricul\* or technical-skill\* or ((procedur\* or surg\* or operati\*) adj1 (skill\* or teach\* or technique\*)) or case-scenario\* or practical-course or (practical adj1 training) or resuscitat\* or life-support or ACLS or BLS or PALS or CPR or chest-compression\* or arrest or defibrillat\* or cardiopulmonary-rescue).ab,kf,ti. | 1,270,985 |
| 3 | 1 or 2 | 1,441,577 |
| 4 | exp Learning/ or exp curriculum/ or exp Educational Measurement/ or exp inservice training/ or exp teaching/ or exp Education, Professional/ or exp Students, Health Occupations/ or exp Schools, Health Occupations/ or exp Faculty/ or ed.fs. or exp Health Occupations/ed or exp Patient Care Team/ | 1,065,715 |
| 5 | 3 and 4 | 72,360 |
| 6 | exp Educational Measurement/ | 159,969 |
| 7 | (evaluat\* or assess\* or compar\* or impact\* or effect\* or validat\* or improv\* or measure\* or reliab\* or outcome\* or random\* or control\* or pretest\* or pre-test or pre-post or chang\* or cohort\* or success-rate\* or scor\* or questionnaire\*).ab,hw,kf,ti. | 19,708,693 |
| 8 | 6 or 7 | 19,748,812 |
| 9 | 5 and 8 | 62,212 |
| 10 | limit 9 to yr="2000 -Current" | 54,452 |
| 11 | case reports/ or case-report\*.pt,ti. | 2,294,973 |
| 12 | clinical trial protocol/ or (trial adj2 protocol).pt,ti. | 8,607 |
| 13 | technical report/ or technical-report.pt,ti. | 3,941 |
| 14 | or/11-13 | 2,307,060 |
| 15 | 10 not 14 | 53,901 |
| 16 | High Fidelity Simulation Training/ or Equipment Design/ | 154,316 |
| 17 | (fidelity or realism or realistic\* or high-tech\* or hi-tech or sophisticat\* or computer\* or video\* or camera\* or webcam\* or commercial\* or box-trainer\* or training-box\* or cardboard or mirrored-box\* or mirror-trainer\* or bench-model\* or cost\* or expens\* or inexpens\* or cheap\* or economic\* or homemade or home-made or handmade or hand-made).ab,kf,ti,hw. | 2,572,826 |
| 18 | or/16-17 | 2,677,346 |
| 19 | 15 and 18 | 22,075 |
| 20 | Comparative study/ or Comparative Effectiveness Research/ or (compar\* or versus or vs or contrast\*).ab,kf,ti. | 8,197,734 |
| 21 | 19 and 20 | 9,191 |
| 22 | Developing Countries/ or exp africa/ or exp caribbean region/ or exp central america/ or exp latin america/ or exp south america/ or asia, central/ or exp asia, northern/ or exp asia, southeastern/ or exp asia, western/ or china/ or mongolia/ or exp islands/ or exp oceania/ | 1647824 |
| 24 | (((((low or lower or less\* or middle or limited) adj2 (income or resource or economy or economies or gross-domestic or gross-national or gdp or dnp)) or underdeveloped or under-developed or developing or less-developed or lesser-developed or least-developed or underserved or under-served or deprived or disadvantaged or poor\* or transitional or transitional) adj2 (nation or nations or country or countries or region or regions or area or areas or world or population\*)) or third-world or global\*).ab,kf,ti. | 686362 |
| 25 | (Afghan\* or Guinea\* or Somalia\* or Burkina-Faso or Burundi\* or Liberia\* or Sudan\* or Madagascar\* or Syria\* or Chad or Malawi\* or Togo or Congo\* or Mali or Uganda\* or Eritrea\* or Mozambiqu\* or Yemen\* or Ethiopia\* or Niger\* or Gambia\* or Rwanda\* or Guinea\* or Sierra-Leone or Angola\* or Hondura\* or Philippin\* or Algeria\* or India or Samoa\* or Bangladesh\* or Indonesia\* or Belize or Iran or Senegal\* or Benin\* or Kenya\* or Bhutan\* or Kiribati or Sri-Lanka or Bolivia\* or Kyrgyz\* or Tanzania\* or Lao\* or Tajikistan\* or Cambodia\* or Timor\* or Cameroon\* or Mauritania\* or Tunisia\* or Micronesia\* or Ukrain\* or Mongolia\* or Uzbekistan\* or Cote-d-Ivoire or Morocc\* or Djibouti\* or Myanmar\* or Vietnam\* or Egypt\* or Nepal\* or Gaza\* or Palestin\* or El-Salvador\* or Nicaragua\* or Zambia\* or Eswatini or Zimbabwe\* or Ghana\* or Pakistan\* or Haiti\* or Albania\* or Gabon\* or Namibia\* or Georgia\* or Macedonia\* or Argentina\* or Grenada\* or Panama\* or Armenia\* or Guatemala\* or Paraguay\* or Azerbaijan\* or Guyana\* or Peru\* or Belarus\* or Iraq\* or Romania\* or Bosnia\* or Jamaica\* or Russia\* or Botswana\* or Jordan\* or Serbia\* or Brazil\* or Kazakhstan\* or South-Africa\* or Bulgaria\* or Kosovo\* or China or Chinese or Caribbean or Lebanon\* or Colombia\* or Libya\* or Suriname\* or Costa-Rica or Malaysia\* or Thai\* or Cuba\* or Maldives or Tonga\* or Turk\* or Dominican-Republic or Mauritius or Mexic\* or Ecuador\* or Moldova\* or Fiji or Montenegr\* or Africa or Central-America\* or South-America\* or Southeast-Asia).ab,kf,ti. | 1727829 |
| 26 | or/22-25 | 3019595 |
| 27 | 21 and 26 | 1095 |
| 28 | limit 27 to yr="2011 -Current" | 840 |