

Supplementary data (Appendices 1-4)
Appendix 1 - Concept Map for Search Terms

Computer assisted instruction synonyms	Students	Assessments	Physical Exam
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computer assisted instruction or (CAI)	student*	knowledge	physical exam*
computer assisted learning or (CAL)	health occupation students	test score	physical assessment
computer based learning	interns	exam	physical exam/educational methods
computer based instruction	residents	survey & questionnaires	
	fellows	test taking skills	
e-learning or elearning	medical fellows	OSCE	
online learning	trainee	objective structured clinical exam	
on-line learning	graduate medical education	MCQ	
internet based education	occupation therapy student	clinical competence	
internet based instruction	physical therapy student	educational measurement	
internet learning	nutrition student	program evaluation	
web-based learning	nursing student	clinical exam skills	
distance education	chiropractic student		

remote learning	dental student		
virtual learning	osteopathic student		
virtual education	speech therapy student physician assistant student		

Appendix 2 - Final Search Strategies

Search Strategy - Medline (Ovid)

1. Computer assisted instruction/
2. CAI.mp
3. computer assisted learning.mp
4. CAL.mp
5. Computer based learning
6. Computer based instruction
7. Internet based education
8. Internet based instruction
9. Education, distance
10. e-learning
11. elearning
12. Internet learning
13. web-based learning
14. On-line learning
15. Online learning
16. Electronic learning
17. Remote learning
18. Virtual learning
19. Virtual education
20. Online education
21. Students/
22. Students, Health Occupations/
23. "Internship and Residency"/

24. Fellows
25. Medical fellows
26. Intern\$
27. Trainee\$
28. Education, Medical, Graduate/
29. Occupational therapy student\$
30. Physical therapy student\$
31. Nutrition student\$
32. Students, nursing/
33. Chiropractic student\$
34. Students, dental/
35. Osteopathic student\$
36. Speech therapy student\$
37. Physician assist\$
38. Knowledge/
39. Test score\$
40. Exam\$
41. "Surveys and questionnaires"/
42. Test taking Skills/
43. OSCE
44. Objective structured clinical examin\$
45. MCQ
46. Multiple choice question\$
47. Clinical competence/
48. Educational measurement/
49. Program evaluation/

50. Clinical exam skill\$
51. Physical examination/
52. Physical exam
53. Physical assessment
54. Physical examination/ed, mt [education, methods]
55. 1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12 or 13 or 14 or 15 or 16 or 17 or 18 or 19 or 20
56. 21 or 22 or 23 or 24 or 25 or 26 or 27 or 28 or 29 or 30 or 31 or 32 or 33 or 35 or 36 or 37
57. 38 or 39 or 40 or 41 or 42 or 43 or 44 or 45 or 46 or 47 or 48 or 49 or 50
- 58 51 or 52 or 53 or 54
59. 55 and 56 and 57 and 58
60. Limit to English
61. Limit 60 to yr = 2001 – current

Search Strategy: ERIC - Education Resources Information Center - (EBSCOHost)

1. Computer assisted learning
2. computer based learning
3. computer based instruction
4. internet-based education
5. internet based instruction
6. distance education
7. e-learning
8. interent klearning
9. web based learning
10. online learning
11. electronic learning

12. remote learning
13. viryual learning
14. virtual education
15. online education
16. cal
17. cai
18. S1 OR S2 OR S3 OR S4 OR S5 OR S6 OR S7 OR S8 OR S9 OR S10 OR S11 OR S12 OR S13 OR S14 OR S15 OR S16 OR S17
19. Students
20. Health occupation students
21. Internship
22. Residencies
23. Fellow*
24. Intern*
25. Trainee*
26. Graduate medical education
27. Occupational therapy student*
28. Physical therapy student*
29. Nutrition student*
30. Nursing student
31. Chiropractic student*
32. Dental student*
33. Osteopathic student*
34. Speech therapy student*
35. Physician assistant
36. Knowledge
37. Test score OR test scores
38. Exam*

39. Survey*
40. Questionnaire*
41. Test taking skill*
42. OSCE
43. Objective structured clinical exam
44. MCQ
45. Multiple choice questionnaire*
46. Clinical competency
47. Educational measure*
48. Clinical exam* skill*
49. Clinical exam skills
50. S36 OR S37 OR S38 OR S39 OR S40 OR S41 OR S42 OR S43 OR S44 OR S45 OR S46 OR S47 OR S48 OR S49
51. "Physical exam"
52. "Physical examination"
53. "Physical assessment"
54. S51 OR S52 OR S53
55. S19 OR S20 OR S21 OR S22 OR S23 OR S24 OR S25 OR S26 OR S27 OR S28 OR S29 OR S30 OR S31 OR S32 OR S33 OR S34 OR S35
56. S18 AND S50 AND S54 AND S55
57. Limiters - Date Published: 20010101-20161231

Search Strategy – SCOPUS

((TITLE-ABS-KEY ((computer assisted instruction))
OR TITLE-ABS-KEY (cai)
OR TITLE-ABS-KEY (computer assisted learning)
OR TITLE-ABS-KEY (cal)
OR TITLE-ABS-KEY (computer based learning)
OR TITLE-ABS-KEY (computer based instruction)

OR TITLE-ABS-KEY (internet based education)
OR TITLE-ABS-KEY (internet based instruction)
OR TITLE-ABS-KEY (distance education)
OR TITLE-ABS-KEY (elearning)
OR TITLE-ABS-KEY (e-learning)
OR TITLE-ABS-KEY (internet learning)
OR TITLE-ABS-KEY (web based learning)
OR TITLE-ABS-KEY (web-based learning)
OR TITLE-ABS-KEY (on-line learning)
OR TITLE-ABS-KEY (online learning)
OR TITLE-ABS-KEY (electronic learning)
OR TITLE-ABS-KEY (remote learning)
OR TITLE-ABS-KEY (virtual learning)
OR TITLE-ABS-KEY (virtual education)
OR TITLE-ABS-KEY (online education))) AND ((TITLE-ABS-KEY ((student))
OR TITLE-ABS-KEY (students health occupations)
OR TITLE-ABS-KEY (internship)
OR TITLE-ABS-KEY (residency)
OR TITLE-ABS-KEY (fellows)
OR TITLE-ABS-KEY (medical fellows)
OR TITLE-ABS-KEY (trainee)
OR TITLE-ABS-KEY (graduate medical education)
OR TITLE-ABS-KEY (occupational therapy student)
OR TITLE-ABS-KEY (physical therapy student)
OR TITLE-ABS-KEY (nutrition student)
OR TITLE-ABS-KEY (nursing student)
OR TITLE-ABS-KEY (chiropractic student)
OR TITLE-ABS-KEY (dental student)

OR TITLE-ABS-KEY (physician assistant)
OR TITLE-ABS-KEY (speech therapy student)
OR TITLE-ABS-KEY (osteopathic student))) AND ((TITLE-ABS-KEY ((knowledge))
OR TITLE-ABS-KEY (test score)
OR TITLE-ABS-KEY (exam)
OR TITLE-ABS-KEY (survey)
OR TITLE-ABS-KEY (questionnaire)
OR TITLE-ABS-KEY (test taking skill)
OR TITLE-ABS-KEY (osce)
OR TITLE-ABS-KEY (objective structured clinical exam)
OR TITLE-ABS-KEY (mcq)
OR TITLE-ABS-KEY (multiple choice questionnaire)
OR TITLE-ABS-KEY (clinical competence)
OR TITLE-ABS-KEY (clinical exam skills)
OR TITLE-ABS-KEY (educational measurement)
OR TITLE-ABS-KEY (program evaluation))) AND ((TITLE-ABS-
KEY ((physical examination))
OR TITLE-ABS-KEY (physical exam)
OR TITLE-ABS-KEY (physical examination, education, methods)))
AND (LIMIT-TO (PUBYEAR, 2016)
OR LIMIT-TO (PUBYEAR , 2015)
OR LIMIT-TO (PUBYEAR , 2014)
OR LIMIT-TO (PUBYEAR , 2013)
OR LIMIT-TO (PUBYEAR , 2012)
OR LIMIT-TO (PUBYEAR , 2011)
OR LIMIT-TO (PUBYEAR , 2010)
OR LIMIT-TO (PUBYEAR , 2009)
OR LIMIT-TO (PUBYEAR , 2008)
OR LIMIT-TO (PUBYEAR , 2007)

OR LIMIT-TO (PUBYEAR , 2006)
OR LIMIT-TO (PUBYEAR , 2005)
OR LIMIT-TO (PUBYEAR , 2004)
OR LIMIT-TO (PUBYEAR , 2003)
OR LIMIT-TO (PUBYEAR , 2002)
OR LIMIT-TO (PUBYEAR , 2001))
AND (LIMIT-TO (LANGUAGE , "English"))

Appendix 3 – Search Strategy for Grey Literature

American Association of Medical Colleges

<https://www.aamc.org/>

The Association of American Medical Colleges is a not-for-profit association dedicated to transforming health care through innovative medical education, cutting-edge patient care, and groundbreaking medical research. Its members comprise all 145 accredited U.S. and 17 accredited Canadian medical schools; nearly 400 major teaching hospitals and health systems, including 51 Department of Veterans Affairs medical centers; and more than 80 academic societies.

American Distance Education Consortium (ADEC)

<http://adec.edu/>

A consortium of state and land grant institutions for the creation and provision of high quality, economical distance education programs and services to diverse audiences.

Council on Medical Education

<http://www.ama-assn.org/ama/pub/about-ama/our-people/ama-councils/council-medical-education.page?>

The Council focuses on policy development and implementation activities through liaison and collaboration with other key organizations in medical education, support for the accreditation of undergraduate and graduate medical education programs, and collection and dissemination of critical medical education data and products/services.

EDUCAUSE

<http://www.educause.edu/>

A nonprofit association whose mission is to advance higher education by promoting the intelligent use of information technology.

Google Scholar

www.scholar.google.com

Google Scholar provides a simple way to broadly search for scholarly literature. From one place, you can search across many disciplines and sources: articles, theses, books, abstracts and court opinions, from academic publishers, professional societies, online repositories, universities and other web sites.

Grey Net International

<http://www.greynet.org/>

GreyNet further seeks to identify and distribute information on and about grey literature in networked environments. Its main activities include the International Conference Series on Grey Literature, the creation and maintenance of web-based resources, a moderated Listserv, a combined Distribution List, The Grey Journal (TGJ), as well as curriculum development in the field of grey literature

International Association for Medical Education

<https://www.amee.org/home>

The Association for Medical Education in Europe (AMEE) is a worldwide organisation with members in 90 countries on five continents. Members include teachers, educators, researchers, administrators, curriculum developers, deans, assessors, students and trainees in medicine and the healthcare professions.

Medical Education Online

<http://med-ed-online.net/index.php/meo/index>

Medical Education Online is a peer-reviewed international Open Access journal for disseminating information on the education and training of physicians and other health care professionals.

Online Learning Consortium (formerly Sloan Consortium)

<http://onlinelearningconsortium.org/>

The Online Learning Consortium (OLC) is the leading professional organization devoted to advancing quality online learning by providing professional development, instruction, best practice publications and guidance to educators, online learning professionals and organizations around the world.

OpenDoar - The Directory of Open Access Repositories

<http://www.opendoar.org/>

OpenDOAR provides a quality-assured listing of open access repositories around the world. *OpenDOAR* staff harvest and assign metadata to allow categorisation and analysis to assist the wider use and exploitation of repositories. Each of the repositories has been visited by *OpenDOAR* staff to ensure a high degree of quality and consistency in the information provided: *OpenDOAR* is maintained by SHERPA Services, based at the Centre for Research Communications at the University of Nottingham.

Proquest Dissertation and Theses

http://www.libraries.rutgers.edu/indexes/digital_diss

Dissertations & Theses includes records for foreign dissertations beginning in the year 1637 and U.S. dissertations beginning with the first one, accepted in 1861.

United States Distance Learning Association (USDLA)

<https://www.usdla.org/>

A non-profit association formed to promote the development and application of distance learning for education and training.

Appendix 4 – Data Extraction Form

DATA EXTRACTION FORM

Researcher:

Date:

Study Identification	
Citation	
Country of origin	
Funding source	
Study Characteristics	
Study aim	
Study design	
Study setting	
Study inclusion criteria	

Study exclusion criteria			
Total Study Participant Characteristics			
Total N at baseline			
Total N at conclusion			
Group Characteristics	Intervention Group	Comparison Group	Control Group
Total n at baseline			
Total n at conclusion			
Student/Trainee			
Education Level			
Healthcare Discipline			
Intervention and Setting	Intervention Group	Comparison Group	Control Group
Study setting of the CAI			

Description of the CAI			

Duration			
Frequency			
Outcomes Data	Intervention Group	Comparison Group	Control Group
Knowledge score pre CAI			
Knowledge score post CAI			
Skill Assessment score pre CAI			
Skill Assessment score post CAI			
Additional Group and Scores			

Additional Results			
Study Conclusions			
Additional Comments			
Additional Comments/ Findings			

