

A State of the Field Review of E-learning in Canada: A Rough Sketch of the Evidence, Gaps and Promising Directions¹

Philip C. Abrami, Robert M. Bernard, C. Anne Wade, Richard F. Schmid, Eugene Borokhovski,
Rana Tamim, Michael Surkes, Gretchen Lowerison, Dai Zhang, Iolie Nicolaidou,
Sherry Newman, Lori Wozney & Anna Peretiatkowicz

*Centre for the Study of Learning and Performance
Concordia University
Montreal, Quebec*

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Locating the Material

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¹ The Canadian Council on Learning funded this state-of-the-field review under a contract to Abrami, Bernard, Wade and Schmid. The opinions expressed herein are solely those of the authors. Inquiries about the review should be directed to Dr. Philip C. Abrami, Centre for the Study of Learning and Performance, Concordia University, 1455 DeMaisonneuve Blvd. W., Montreal, Quebec, H3G 1M8. Phone: 514-848-2424 x2102. E-mail: abrami@education.concordia.ca. Website: <http://doe.concordia.ca/csllp/>

Section I: Overview of Information Retrieval Methods

Our review entitled *State of the Field Review of E-learning in Canada* is the result of a systematic search of the literature on current public, policy-making, practitioner and scientific opinions and positions related to the topic of e-learning in the following theme areas, Adult Learning, Early Childhood Learning, Elementary and Secondary Learning, Health and Learning, and Postsecondary Learning.

Scope of Search

Specifically, literature from the last five years (2000-2005) for the following areas was located:

- the policy and decision makers' perspective (e.g. policy papers, grey literature),
- public perception (e.g. national and provincial media),
- practitioners' perspectives (trade periodicals),
- theoretical and empirical reviews by scholars (published articles and dissertations), and
- primary studies in Canadian contexts.

In the first four instances, emphasis was placed on locating French and English Canadian literature, although international sources were also consulted. In the last instance, only primary studies (quantitative and qualitative) on e-learning conducted in Canada were located.

Retrieval Tools

1. The following databases and web-based sources were consulted to locate relevant items within each sector.

Policy: AACE Digital Library, CPI.Q, ERIC, FRANCIS, Google, Source OECD, individual websites (see Section II for specific sites)

Public (Media): Biblio Branchée, Canadian Newsstand, CBCA Current Events, CPI.Q

Practitioner (Trade): AACE Digital Library, CBCA Current Events, CBCA Education, CPI.Q, EBSCO Academic Search Premier, ERIC, individual websites (see Section II for specific sites)

Scholarly articles and reviews: AACE Digital Library, CBCA Education, Cochrane Library, EPPI, ERIC, EBSCO Academic Search Premier, FRANCIS, Google Scholar, Medline, ProQuest Digital Dissertations and Theses Full-text, PsycINFO.

2. Additionally, manual searches of selected journals were performed: *Canadian Journal of Learning and Technology*, *Journal of Distance Education*, and the *International Review of Research in Open and Distance Learning*. Finally, branching (scanning of bibliographic references at the end of selected articles) was used. (see Section II for details).

General Search Strategies

Search terms were selected from the following definition of e-learning:

“E-learning is the development of knowledge and skills through the use of information and communication technologies (ICTs) to support interactions for learning—interactions with content, with learning activities and tools, and with other people.”

A variety of broad terms related to the use of technology in education were used. These included electronic learning, distance education, distance learning, online instruction, multimedia instruction, online courses, web-based learning, virtual classrooms, computer mediated communication, computer-based instruction, computer-assisted instruction, “technology uses in education”, telemedicine, and ehealth.

Specific applications of technology (e.g. learning objects, digital portfolios, specific instructional software etc.) were not used as keywords or descriptors within individual searches, given this would have significantly widened the scope of retrieval. Note however, in some cases the use of a broad term such as “elearning” retrieved items that may have discussed specific applications of technology use within the document and these items were included in this review.

Controlled vocabulary terms were used whenever possible, thus the actual terms used varied according to the field (education, psychology, medicine) searched and the controlled vocabulary used within a particular retrieval tool.

Results

A total of 2042 entries were identified through the searches of which 1146 were subsequently reviewed, given the time constraints of this project. Also only items that were easily located at Concordia were reviewed.

Includes: Of the 1146 reviewed, 726 were selected for inclusion:

Public opinion: 235
Research Studies (Canadian): 152
Practitioner: 131
Scholarly reviews: 120
Policy Documents: 88

Excludes: Of the 1146 reviewed, 420 were excluded for the following reasons:

- (1) Not e-learning: 198
- (2) Related to elearning in the workplace: 43
- (3) Other reasons (specified with a comment): 51
- (4) Primary research conducted outside of Canada: 128

Section II: Search Strategies by Retrieval Tool

This section provides the original search strategies that were used to locate items. A brief description is provided, along with the code that was assigned to retrieved items, and the total number of records that were imported into our inhouse ProCite database.

A. Databases

AACE Digital Library (Searches conducted Sept. 27, 2005)

Description: The purpose of this search was to locate scholarly reviews on elearning.

Code: AACE

Total: 92 recs

Strategy:

(elearn* OR "electronic learn*" OR e-learn*) AND ("quantitative synthesis" OR "literature review" OR "meta analysis" OR "narrative review" OR "qualitative review") – **92 records**

Search: All journals and proceedings

Limit to: title; abstract and 2000-2005

Search 2

Description: The purpose of this search was to locate Canadian empirical studies on elearning.

Code: N/A

Total: 0 recs

Strategy:

elearn* AND canad* - 0 recs

"electronic learn*" AND canad* - 0 recs

e-learn* AND canad* - 0 recs

"distance learn*" AND canad* - 0 recs

"distance education" AND canad* - 0 recs

technology AND learn* AND canad* - 1 rec

technology AND schools AND canad* - 0 recs

ICT AND learn* AND canad* - 0 recs

ICT AND schools AND canad* - 0 recs

computers AND learn* AND canad* - 0 recs

computers AND schools AND canad*

"online learn*" AND canad* - 0 recs

"web-based learn*" AND canad* - 0 recs

Search: All journals and proceedings

Limit to: title; abstract and 2000-2005

Biblio Branchée (Search conducted Sept. 18/05)

Description: The purpose of this search was to locate French language newspaper articles on eLearning. Note: Free text search performed as subject search option not available. Did not retrieve short articles.

Code: BB

Total: 35 recs

Strategy:

TEXT=(L'apprentissage virtuel | L'apprentissage en ligne | elearning | e-learning | "electronic learning")

Canadian Newstand (File 1985 – Aug. 3, 2005; Search conducted August 5 and 22, 2005)

Description: The purpose of this search was to locate Canadian newspaper articles on e-learning in education. Note: Did not retrieve brief articles; or articles discussing applications of technology or computer /IT education.

Code: CDN NEWS

Total: 258/283

Strategies:

Search 1:

ENHAI ((e-learn* or elearn* or "technology use" or "computer use" or "web-based learn*" or "online learn*" or "electronic learn*")) OR ENHAI ("distance education" or "distance learn*") AND ENHAI ((education or classrooms or schools or universities or postsecondary or colleges or daycares or "early childhood") AND PDN(>1/1/2000) AND PDN(<8/5/2005) AND NOT (workplace or employer* or employee*) – **242/341 records**

Database: Canadian Newsstand

Look for terms in: Citation and document text

Publication type: All publication types

Search 2:

("laptop program*" or "virtual classroom*" or "mobile classroom*") AND ((education or schools or universities or postsecondary or colleges or daycares or "early childhood")) AND PDN (>1/1/2000) AND PDN(<8/5/2005) AND NOT (workplace or employe*) – **34 records**

Database: Canadian Newsstand

Publication type: All publication types

Search 3:

ENHAI (e-learn* or elearn* or "technology use" or "computer use" or "web-based learn*" or "online learn*" or "electronic learn*") OR ENHAI ("distance education" or "distance learn*") AND ENHAI ("adult learn*" or "lifelong learn*")) AND PDN (>1/1/2000) AND PDN (<8/6/2005) AND NOT (workplace or employe*) – **7 records**

Database: Canadian Newsstand

Publication type: All publication types

Search 4 (Search conducted Aug. 28/05):

Description: This is the second set of searches for articles on health and e-learning. Brief articles or articles discussing applications of technology or computer /IT education were not retrieved.

Code: CDN NEWS2

Total: 12/17 records

Strategy:

("distance learning" or "distance education") AND (medic* or "health care") AND PDN(>1/1/2000) AND PDN(<8/28/2005) – **6 records**

Database: Canadian Newsstand

Look for terms in: Citation and abstract

("electronic learning" or elearn* or e-learn*) AND (medic* or "health care") AND PDN(>1/1/2000) AND PDN(<8/28/2005) – **3 records**

Database: Canadian Newsstand

Look for terms in: Citation and abstract

("technology use" or "computer use" or "use of technology" or "use of computers") AND (medic* or "health care")
AND PDN(>1/1/2000) AND PDN(<8/28/2005) – 8 records
Database:Canadian Newsstand

CBCA Current Events (Searches conducted August 7, and Aug. 28 2005)

Description: The purpose of this search was to locate articles on e-learning in schools from newspapers, newswires, newsmagazines, as well as television and radio transcripts from CBC and CTV. Primarily Canadian content. Note: Online instruction is used for electronic learning

Code: CBCA

Total: 134/135

Strategy:

SU (ONLINE INSTRUCTION or DISTANCE LEARNING or "computer uses" or technology or computers or "personal digital assistants")
OR (elearn* or e-learn* or "electronic learn**")
AND SU (education or classrooms or schools or "adult learning")
AND PDN(>1/1/2000) AND PDN(<8/6/2005)
AND NOT SU("computer applications" or business or computer science or video games or information technology) – 135 records

Search 2 (Search conducted Aug. 28, 2005)

Description: The purpose of this second search was to locate articles on e-learning and health care from newspapers, newswires, newsmagazines, as well as television and radio transcripts from CBC and CTV. Primarily Canadian content. Note: Online instruction is used for electronic learning

Code: CBCA2

Total: 25/27 records

Strategy:

("technology use" or "computer use" or "use of technology" or "use of computers") AND (medic* or "health care") AND PDN(>1/1/2000) AND PDN(<8/28/2005) – 2 records
Database:CBCA Current Events
Look for terms in: Citation and abstract

(elearn* or e-learn* or "electronic learning") AND ENHAI(medic* or "health care") AND PDN(>1/1/2000) AND PDN(<8/28/2005) = 16 records
Database:CBCA Current Events
Look for terms in: Citation and document text

("distance education" or "distance learning") AND ENHAI(medic* or "health care") AND PDN(>1/1/2000) AND PDN(<8/28/2005)
Database:CBCA Current Events – 9 records
Look for terms in: Citation and document text

CBCA Education (Search conducted August 14, 2005)

Description: The purpose of this search was to locate scholarly and trade publications related to e-learning. Primarily Canadian content.

Code: CBCA_ED

Total: 189/191 records

1. SU(ONLINE INSTRUCTION or DISTANCE LEARNING OR "computer uses" or technology or computers)

OR (elearn* or e-learn* or "electronic learn*")
AND SU(education or classrooms or schools or "adult learning" or "adult students")
AND PDN(>1/1/2000) AND PDN(<8/14/2005)
AND NOT SU(courses or narratives or "computer skills" or "web sites" or grants or games) – **191 records**

2. SU(ONLINE INSTRUCTION or DISTANCE LEARNING or "computer uses" or technology or computers)
OR (elearn* or e-learn* or "electronic learn*")
AND SU (early childhood education)
AND PDN (>1/1/2000) AND PDN(<8/14/2005) – **1 record**

Cochrane Library (Search conducted on Sept. 13, 2005)

Description: The purpose of this search was to locate reviews and scholarly material on e-learning within the health sector. Note: All databases (Reviews, DARE) within Library 2005, Issue 3 were searched.

Code: COCHRANE

Total: 42/60 records

Strategy:

- #1 e next learning or "electronic learning" or elearning in All Fields in all products - **4 records**
#2 "education, distance" in Keywords in all products- **19 records**
#3 "web based learning" or "computer assisted instruction" in All Fields in all products **17 records**
#4 (education, medical or learning) in Keywords and (telemedicine or internet or ehealth) in Keywords and canad* in All Fields in all products - **11 records**
#5 (education, medical or learning) in Keywords and (telemedicine or internet or ehealth or computers) in Keywords and canad* in All Fields in all products - **20 records**

CPI.Q (Searches conducted August 11, and Aug. 14, 2005)

Description: The purpose of this search was to locate international (but primarily Canadian) journal, magazine and newspapers articles on e-learning. Brief articles (e.g. under 600 words), or articles discussing applications of technology or computer education were not retrieved.

Code: CPI_DE; CPI_COMPUTERS; CPI_ELEARN; CPI_MISC

Total: 67/71 records and 7/10 records

Strategy:

- R1 su "distance education" and da (1/1/2000 to 8/10/2005) – **43 records?**
- R1 (ke (electronic learn* or e-learn* or elearn*) not "distance education") and da (1/1/2000 to 8/13/2005) – **6/59 records**
- R1 ((technology or computer* or "personal digital") and (education* or schools or "adult learn*")) and da (1/1/2000 to 8/14/2005) and ke (canad*); Limited to Title; Abstract; Citation – **14/59 records**
- Note: there were 618 records without restricting to Canada

Subject searches for: Computers and Children; Educational Technology-Analysis; Educational Technology-Canada; Educational Technology-Comparative analysis; Educational Technology-Forecasts and Trends; Educational Technology- Economic Aspects; Educational Technology-Social aspects; Educational Technology-Study and Teaching – **10 records**

Search 2 (Search conducted August 28, 2005)

Description: The purpose of this second search was to locate international (primarily Canadian) journal, magazine and newspapers articles on e-learning in health. Brief articles (e.g. under 600 words) or articles discussing applications of technology or computer education were not retrieved.

Code: CPI HEALTH

Total: 27/33 records

Description: Second set of searches for health and technology. Did not retrieve brief articles (e.g. under 600 words), or articles discussing applications of technology or computer education.

Strategy:

R2 tx ("distance education" or "distance learn*" or e-learn* or "electronic learn*") and da (1/1/2000 to 8/28/2005) and ke (health or medic*) – **7 records**

R2 Keyword search (in title, citation, abstract): technology application
Limited by: date: 1/1/2000 to 8/28/2005; keyword: health or medic* - **26 records**

EBSCO Academic Search Premier (Search conducted Sept. 5, 2005)

Description: The purpose of this search was to locate studies on e-learning conducted in Canada. Note: This database is updated on a daily basis.

Code: ASP

Total: 25 records

Strategy:

#3 (S3 And S2) and Limiters - Scholarly (Peer Reviewed) Journals; Published Date: 200001-200510 – **25 records**

#2 GE canada

#1: SU ("computer assisted instruction" or "distance education" or "internet in education" or "online instruction") Or SU ("educational technology" or multimedia) Not SU business

ERIC (Used CSA version – last update in Aug. (monthly); Searches performed Sept. 5, 2005; automatic updates received throughout September)

Description: Three searches were performed to retrieve studies, reviews, and policy documents on e-learning. This first search was restricted to literature reviews (or related terms) for the last 5 years.

Code: ERIC REVIEW

Total: 102 records

Strategy:

(DE=((distance education) or (computer assisted instruction))) or (DE=(technology integration)) or (DE=(computer uses in education)) or (DE=(web based instruction)) or (DE=(online courses)) or (DE=((virtual classrooms) or internet)) or (elearn* or "electronic learning" or e-learn*) or (DE=((computer based instruction) or (computer simulation) or (multimedia instruction))) or (DE=((computer mediated communication) or courseware)) or (DE=(teleconferencing or (information technology)))
AND PY>2000 and < 2006 – 11973 records

AND (("literature review" or "systematic review" or "meta analysis" or "quantitative review") or ("narrative review" or "best evidence synthesis" or "qualitative review")) – **102 records**

Date Range: 2000 to 2006

Search 2

Description: The purpose of this second search was to locate empirical studies conducted in Canada on e-learning. Restricted to research reports or research evaluative and canad* for the

last 5 years. Did not restrict by age group. Also NOTed out the previous set so there should not be duplicates. Note that canad* may have picked up those with an affiliation in Canada thus the term may not appear in the abstract.

Code: ERIC PRIMARY

Total: 233 records

Strategy:

(PT=reports research or PT=reports evaluative)

AND ((DE=((technology uses in education) or (computer use*))) or ((DE=((distance education) or (computer assisted instruction))) or (DE=(technology integration)) or (DE=(computer uses in education)) or (DE=(web based instruction)) or (DE=(online courses)) or (DE=((virtual classrooms) or internet)) or (elearn* or "electronic learning" or e-learn*) or (DE=((computer based instruction) or (computer simulation) or (multimedia instruction))) or (DE=((computer mediated communication) or courseware)) or (DE=(teleconferencing or (information technology))))))

AND canad*- **233 records**

Date Range: 2000 to 2006

Search 3

Description: The purpose of this third search was to locate policy documents related to eLearning. Also NOTed out previous results to avoid duplicates. Did not restrict by age group.

Code: ERIC POLICY

Total: 160 records

Description:

Strategy:

DE=(Policy or "Policy Analysis" or "Policy Formation")

AND ((DE=((technology uses in education) or (computer use*))) or ((DE=((distance education) or (computer assisted instruction))) or (DE=(technology integration)) or (DE=(computer uses in education)) or (DE=(web based instruction)) or (DE=(online courses)) or (DE=((virtual classrooms) or internet)) or (elearn* or "electronic learning" or e-learn*) or (DE=((computer based instruction) or (computer simulation) or (multimedia instruction))) or (DE=((computer mediated communication) or courseware)) or (DE=(teleconferencing or (information technology)))))) - **427 records**

records

Date Range: 2000 to 2006

Francis (Search conducted on August 21)

Description: The purpose of this search was to locate policy-related docs. Note: Most of the files are indexed in French and English.

Code: FRANCIS

Total: 41 records

Strategy:

#3 (((educational policy) in DEE,DEF,ODE,SA) and (((NTIC or e-learning) in DEE,DEF,ODE,SA) and ((LA:FNCS = ENGLISH) or (LA:FNCS = FRENCH)) and (PY:FNCS = 2000-2006)) - **41 records**

records

#2 ((educational policy) in DEE,DEF,ODE,SA) - 2844 records

#1 ((NTIC or e-learning) in DEE,DEF,ODE,SA) - 1131 records

Search 2 (File updated May/05; Search conducted Sept. 11, 2005)

Description: This search was designed to retrieve Canadian studies on e-learning.

Code: FRANCIS PRIMARY

Total: 48/49 records

Strategy:

#10 (canad*) and (((("case study" or research or evaluation) in DEE,DEF,ODE,SA) and (((learn* or instruction or education) in DEE,DEF,ODE,SA) and (((("educational technology" or internet or multimedia) in DEE,DEF,ODE,SA) or ((NTIC or "distance study" or technology or internet or

Computer-based-interactive-learning-environment) in DEE,DEF,ODE,SA) or (e-learn* or elearn* or "electronic learning")))) (49 records)

#9 canad*(28198 records)

#8 (("case study" or research or evaluation) in DEE,DEF,ODE,SA) and (((learn* or instruction or education) in DEE,DEF,ODE,SA) and (((("educational technology" or internet or multimedia) in DEE,DEF,ODE,SA) or ((NTIC or "distance study" or technology or internet or Computer-based-interactive-learning-environment) in DEE,DEF,ODE,SA) or (e-learn* or elearn* or "electronic learning")))(783 records)

#7 ("case study" or research or evaluation) in DEE,DEF,ODE,SA(42222 records)

#6 ((learn* or instruction or education) in DEE,DEF,ODE,SA) and (((("educational technology" or internet or multimedia) in DEE,DEF,ODE,SA) or ((NTIC or "distance study" or technology or internet or Computer-based-interactive-learning-environment) in DEE,DEF,ODE,SA) or (e-learn* or elearn* or "electronic learning"))(4192 records)

#5 (learn* or instruction or education) in DEE,DEF,ODE,SA(46775 records)

#4 (("educational technology" or internet or multimedia) in DEE,DEF,ODE,SA) or ((NTIC or "distance study" or technology or internet or Computer-based-interactive-learning-environment) in DEE,DEF,ODE,SA) or (e-learn* or elearn* or "electronic learning")(23390 records)

#3 ("educational technology" or internet or multimedia) in DEE,DEF,ODE,SA(10930 records)

#2 (NTIC or "distance study" or technology or internet or Computer-based-interactive-learning-environment) in DEE,DEF,ODE,SA(22311 records)

#1 e-learn* or elearn* or "electronic learning"(248 records)

Search 3 (Search conducted on Sept. 11, 2005)

Description: This search was designed to retrieve reviews on educational technology.

Code: FRANCIS REVIEW

Total: 5 records

Strategy:

#14 (("systematic review" or "qualitative review") or ("literature review" or "meta analysis" or "quantitative synthesis" or "narrative review")) and (((learn* or instruction or education) in DEE,DEF,ODE,SA) and (((("educational technology" or internet or multimedia) in DEE,DEF,ODE,SA) or ((NTIC or "distance study" or technology or internet or Computer-based-interactive-learning-environment) in DEE,DEF,ODE,SA) or (e-learn* or elearn* or "electronic learning")))) (12 records – 5 selected)

#13 ("systematic review" or "qualitative review") or ("literature review" or "meta analysis" or "quantitative synthesis" or "narrative review")(1266 records)

#6 ((learn* or instruction or education) in DEE,DEF,ODE,SA) and (((("educational technology" or internet or multimedia) in DEE,DEF,ODE,SA) or ((NTIC or "distance study" or technology or internet or Computer-based-interactive-learning-environment) in DEE,DEF,ODE,SA) or (e-learn* or elearn* or "electronic learning"))(4192 records)

#5 (learn* or instruction or education) in DEE,DEF,ODE,SA(46775 records)

#4 (("educational technology" or internet or multimedia) in DEE,DEF,ODE,SA) or ((NTIC or "distance study" or technology or internet or Computer-based-interactive-learning-environment) in DEE,DEF,ODE,SA) or (e-learn* or elearn* or "electronic learning")(23390 records)

#3 ("educational technology" or internet or multimedia) in DEE,DEF,ODE,SA(10930 records)

#2 (NTIC or "distance study" or technology or internet or Computer-based-interactive-learning-environment) in DEE,DEF,ODE,SA(22311 records)

#1 e-learn* or elearn* or "electronic learning"(248 records)

ProQuest Dissertations and Theses (Search conducted Sept.11/05)

Description: The purpose of this search was to locate unpublished studies on e-learning conducted in the last two years. Thus results were restricted to PY=2004-2005.

Code: DAI

Total: 4 records

Strategy:

(SU(education*) AND (IF(Online education) OR IF(Internet) OR IF(E-learning) OR IF(Distance education)) AND canad*) AND PDN(>9/11/2003) – **4 records**

PsycINFO (File updated Aug./05; Searches conducted Sept. 11, 2005;)

Description: The purpose of this search was to locate scholarly reviews on e-learning. Restricted to CC=35 (educational psychology) and reviews. Did not retrieve items that discussed a literature review as part of a study.

Code: PSYCINFO REVIEW

Total: 10/15 records

Strategy:

- #9 ("literature review" or "meta analysis" or "quantitative synthesis" or "narrative review" or "systematic review" or "qualitative review" or "research synthesis" or "best evidence synthesis") and ((cc=35) and (((internet or hypermedia or "computer simulation") in MJ,MN,AG,PO,KC) or (("computer assisted instruction" or "computer mediated communication" or "electronic communication") in MJ,MN,AG,PO,KC) or ((distance learning or distance education) in MJ,MN,AG,PO,KC) or (elearn* or e-learn* or "electronic learning")))) **22 records – selected 15**

- #8 "literature review" or "meta analysis" or "quantitative synthesis" or "narrative review" or "systematic review" or "qualitative review" or "research synthesis" or "best evidence synthesis" 4111

- #7 (cc=35) and (((internet or hypermedia or "computer simulation") in MJ,MN,AG,PO,KC) or (("computer assisted instruction" or "computer mediated communication" or "electronic communication") in MJ,MN,AG,PO,KC) or ((distance learning or distance education) in MJ,MN,AG,PO,KC) or (elearn* or e-learn* or "electronic learning")) 1975

- #6 ((internet or hypermedia or "computer simulation") in MJ,MN,AG,PO,KC) or (("computer assisted instruction" or "computer mediated communication" or "electronic communication") in MJ,MN,AG,PO,KC) or ((distance learning or distance education) in MJ,MN,AG,PO,KC) or (elearn* or e-learn* or "electronic learning") 6192

- #5 (internet or hypermedia or "computer simulation") in MJ,MN,AG,PO,KC 4303

- #4 ("computer assisted instruction" or "computer mediated communication" or "electronic communication") in MJ,MN,AG,PO,KC 2723

- #3 (distance learning or distance education) in MJ,MN,AG,PO,KC 317

- #2 cc=35 28550

- #1 elearn* or e-learn* or "electronic learning" 119

Search 2

Description: The purpose of this search was to locate Canadian studies on e-learning. Restricted to CC=35 (educational psychology) and canad* in TI or AB of AF. Note: Some studies may have been picked up that were not performed in Canada but researchers were from Canada.

Code: PSYCINFO PRIMARY

Total: 83/89 records

Strategy:

#12 (((canad*) in TI) or (((canad*) in AF)or(canad*) in AB))) and ((cc=35) and (((internet or hypermedia or "computer simulation") in MJ,MN,AG,PO,KC) or (("computer assisted instruction"

or "computer mediated communication" or "electronic communication") in MJ,MN,AG,PO,KC) or ((distance learning or distance education) in MJ,MN,AG,PO,KC) or (elearn* or e-learn* or "electronic learning")) (89 records)

#11 ((canad*) in TI) or (((canad*) in AF) or((canad*) in AB))(23936 records)

#7 (cc=35) and (((internet or hypermedia or "computer simulation") in MJ,MN,AG,PO,KC) or ("computer assisted instruction" or "computer mediated communication" or "electronic communication") in MJ,MN,AG,PO,KC) or ((distance learning or distance education) in MJ,MN,AG,PO,KC) or (elearn* or e-learn* or "electronic learning"))(1975 records)

#6 ((internet or hypermedia or "computer simulation") in MJ,MN,AG,PO,KC) or ("computer assisted instruction" or "computer mediated communication" or "electronic communication") in MJ,MN,AG,PO,KC) or ((distance learning or distance education) in MJ,MN,AG,PO,KC) or (elearn* or e-learn* or "electronic learning") (6192 records)

#5 (internet or hypermedia or "computer simulation") in MJ,MN,AG,PO,KC (4303 records)

#4 ("computer assisted instruction" or "computer mediated communication" or "electronic communication") in MJ,MN,AG,PO,KC (2723 records)

#3 (distance learning or distance education) in MJ,MN,AG,PO,KC (317 records)

#2 cc=35 (28550 records)

#1 elearn* or e-learn* or "electronic learning"(119 records)

PubMed (Search performed Sept. 5, 2005)

Description: The purpose of this search was to retrieve items on technology and (learning or medical education), restricted to reviews or meta analyses and published in last five years

Code: PUBMED REVIEW

Total: 123 records

Strategy:

#39	Search #37 or #24 Field: All Fields, Limits: Publication Date from 2000/01/01 to 2005/09/05, Meta-Analysis, Humans	15:30:27	0 records
#38	Search #37 or #24	15:29:26	2122
#37	Search "education, distance"[MeSH Terms]	15:28:54	1033
#33	Search "education, distance"[MeSH Terms] Field: All Fields, Limits: Publication Date from 2000/01/01 to 2005/09/05, Review, Humans	15:27:44	68 rec
#34	Search #33 not #26 Field: All Fields, Limits: Publication Date from 2000/01/01 to 2005/09/05, Review, Humans	15:24:54	51
#26	Search #24 Field: All Fields, Limits: Publication Date from 2000/01/01 to 2005/09/05, Review, Humans	15:15:13	86 records
#31	Select 2 document(s)	15:10:39	2
#24	Search #23 or #19	15:02:44	1287
#23	Search #22 and #20	15:02:08	1233
#22	Search #21 or #8	15:01:34	238456
#21	Search "learning"[MeSH Terms]	15:01:07	160794
#20	Search #13 or #11	15:00:19	23514
#19	Search #18 or #15	14:59:48	89
#18	Search "web based learning"	14:59:09	64
#4	Search "computer assisted instruction"[MeSH Terms]	14:57:43	4955
#15	Search #2 or #14	14:56:42	25
#14	Search "electronic learning"	14:56:21	16
#13	Search "telemedicine"[MeSH Terms]	14:55:45	7002
#11	Search "internet"[MeSH Terms]	14:54:34	17484
#8	Search "education, medical"[MeSH Terms]	14:32:36	80748
#2	Search elearning		

Search 2

Description: The purpose of this search was to retrieve Canadian studies on technology and (learning or medical education).

Code: PUBMED PRIMARY

Total: 5 records

Strategy:

#54	Search #52 not #51	17:04:14	1 records
#52	Search #48 Field: All Fields, Limits: Publication Date from 2000/01/01 to 2005/09/05, Clinical Trial, Humans	17:03:30	5
#49	Search (#46 or #31 or #32 or #33) AND "canada"[MeSH Terms] Field: All Fields, Limits: Publication Date from 2000/01/01 to 2005/09/05, Randomized Controlled Trial, Humans	17:01:53	4 records
#48	Search (#46 or #31 or #32 or #33) AND "canada"[MeSH Terms]	16:55:58	192
#47	Search #46 or #31 or #32 or #33	16:54:29	6623
#46	Search #45 and #35	16:53:40	1192
#45	Search #34 or #44	16:53:13	95802
#44	Search "inservice training"[MeSH Terms]	16:52:54	15677
#39	Search #31 or #32 or #33 or #37	16:48:55	6519
#37	Search #34 and #35	16:47:29	1051
#35	Search "internet"[MeSH Terms] or "telemedicine"[MeSH Terms]	16:46:44	23514
#34	Search "education, medical"[MeSH Terms]	16:44:37	80748
#33	Search "education, distance"[MeSH Terms] OR "computer assisted instruction"[MeSH Terms]	16:43:53	5752
#32	Search "web based learning" or "online learning"	16:42:28	150
#31	Search elearn* or e-learn* or "electronic learning"		

Source OECD (Search conducted August 21, 2005)

Description: the purpose of this search was to locate OECD policy documents on e-learning.

Code: OECD

Total: 6 records

Strategy:

Advanced search:

Exact Phrase: electronic learning All fields; All publications; Date: 2000-2005 – 0 recs

Word: elearning –All fields; All publications; Date: 2000-2005– 0 recs

Word: e-learning –All fields; All publications; Date: 2000-2005 – **4 recs**

Boolean statement: (technology or ICT) and (education or schools) in title field; All publications; Date: 2000-2005– **2 recs**

Boolean statement: "distance education or distance learning in title field – 0 recs

Boolean statement: "distance education or distance learning in abstract field – 0 recs

B: Web Search Engines: (Searches performed August 15, Aug. 17, Aug. 21; and September 4, 2005)

Google

Description: The purpose of these Google searches was to locate policy documents related to e-learning with a focus on Canadian and American documents. All searches were conducted using the Google Advance search option. In an attempt to narrow the number of hits, policy documents were searched for using a limiting command to PDF docs only.

Code: BRANCH

Strategy:

Phrase: electronic learning
All of the Words: policy education
Any of the Words: Canada Canadians
Also performed searches restricted to PDF

Searched other words: elearning, ICT, technology, distance education, distance learning

Phrase: electronic learning
All of the Words: policy education
Site: ed.gov
Also performed searches restricted to PDF

Searches repeated with the words: elearning, ICT, technology, distance education, distance learning

Phrase: electronic learning
All of the Words: policy health
Any of the Words: Canada Canadians
Limits: restricted to PDF

Phrase: electronic learning
All of the Words: policy medical
Any of the Words: Canada Canadians
Limits: restricted to PDF

Phrase: electronic learning
All of the Words: policy medicine
Any of the Words: Canada Canadians
Limits: restricted to PDF

Searches repeated with the words:: e-learning, elearning, distance education, distance learning

All of the Words: telehealth policy Canada
Any of the Words: education learning training
Limits: restricted to PDF

All of the Words: eHealth policy Canada
Any of the Words: education learning training
Limits: restricted to PDF

Phrase: electronic learning
All of the Words: policy health
Site: gov
Limits: restricted to PDF

Searches repeated with the words: elearning, distance education, distance learning

Google Scholar

Description: The purpose of these searches was to locate scholarly reviews on e-learning. Only retrieved items for which the purpose was to conduct a review (e.g. they did not contain a lit. review in their research) and published since 2000 (5 years)

Code: BRANCH

Strategy:

Phrase: literature review (Also searched systematic review, meta analysis, narrative review, integrative review)

All of the Words: schools

Any of the Words: e-learning, elearning, elearners (Also: electronic learning)

Phrase: literature review (Also systematic review, meta analysis, narrative review, integrative review)

All of the Words: education

Any of the Words: e-learning, elearning, elearners (Also: electronic learning)

Phrase: literature review (Also searched systematic review, meta analysis, narrative review, integrative review)

All of the Words: ICT schools

Phrase: literature review (Also searched systematic review, meta analysis, narrative review, integrative review)

All of the Words: "distance learning"

Without the Words: workplace employers employment

Phrase: literature review (Also searched systematic review, meta analysis, narrative review, integrative review)

All of the Words: "distance education"

Without the Words: workplace employers employment

Phrase: literature review (Also searched systematic review, meta analysis, narrative review, integrative review)

All of the Words: daycares

Any of the words: elearning, elearners, e-learning (Also electronic learning)

Phrase: literature review (Also searched systematic review, meta analysis, narrative review, integrative review)

All of the Words: preschool

Any of the words: elearning, elearners, e-learning (Also electronic learning)

Phrase: literature review (Also searched systematic review, meta analysis, narrative review, integrative review)

All of the Words: ICT

Any of the words: preschool daycares

Phrase: literature review (Also searched systematic review, meta analysis, narrative review, integrative review)

All of the Words: "technology use"

Any of the words: preschool daycares

Phrase: literature review (Also searched systematic review, meta analysis, narrative review, integrative review)

All of the Words: computers learning

Any of the words: preschool daycares

Phrase: literature review (Also searched systematic review, meta analysis, narrative review, integrative review)

All of the Words: "distance learning"
Any of the words: preschool daycares

Phrase: literature review (Also searched systematic review, meta analysis, narrative review, integrative review)

All of the Words: "distance education"
Any of the words: preschool daycares

Phrase: literature review (Also searched systematic review, meta analysis, narrative review, integrative review)

All of the Words: "adult learning"
Any of the Words: elearning e-learning (Also electronic learning)

C: Individual Web Sites

Description: The purpose of these searches was to locate any type of document (scholarly, policy or practitioner) on e-learning which was available from an organization's website.

Code: BRANCH

Strategy: Searched for terms: elearning, electronic learning, distance education, distance learning

Websites:

- Assoc. of Canadian Medical Colleges
- Campbell Collaboration
- Canadian Medical Association
- CANARIE
- CAP, CEA, CASA, CTF
- Cdn Institute for Health Information
- CMEC
- Cochrane
- eHealth
- EPPI
- FuturEd
- Health Canada
- OECD
- Royal College of Physicians and Surgeons of Canada
- SAEE
- UNESCO
- United Nations
- US. Dept. of Ed.
- U.S. Dept. of Health and Human Services
- WHO

D: Manual Searches in Selected Journals

Description: Table of Contents of three key Canadian journals were scanned to locate material on e-learning. See strategy below.

Code: HANDSEARCH

Total: 17 records

Strategy:

- Reviews – past 10 years international
- Primary Research – past 5 years Canadian focus (mixed method)
- Policy – past 5 years Canadian and international
- Academic journals – past 10 years Canadian and international
- Trade literature – past 5 years Canadian (some U.S.)
- Newspapers – past 5 years Canadian

Canadian Journal of Learning and Technology (the AMTEC journal)

online issues:

- Volume 31.1 — Winter 2005
- Volume 30.3 — Fall 2004
- Volume 30.2 — Spring 2004
- Volume 30.1 — Winter 2004
- Volume 29.3 — Fall 2003
- Volume 29.2 — Spring 2003
- Volume 29.1 — Winter 2003
- Volume 28.3 — Fall 2002
- Volume 28.2 — Spring 2002
- Volume 28.1 — Winter 2002

Searched in the library:

volume 28.1 - Winter 2002 (overlap, I searched the library too) to volume 31, no. 2 - Spring 2005

Total articles retrieved: 10

Journal of Distance Education (the CADE journal)

- volumes 15.1 & 15.2 - 2000
- volumes 16.1 & 16.2 - 2001
- volumes 17.1 & 17.2 - 2002
- volumes 17.3, 18.1 & 18.2 - 2003
- volumes 19.1 - 2004
- volume 20.1 - 2004

Total articles retrieved: 6

The International Review of Research in Open and Distance Learning (the Athabasca sponsored journal) online issues:

- current issue - volume 6, no. 2
- March 2005 volume 6, no. 1
- November 2004 volume 5, no. 3
- June 2004 volume 5, no. 2
- April 2003 - volume 4, no. 1
- October 2002 - volume 3, no. 2
- April 2002 - volume 3, no. 2
- January 2002 - volume 2, no. 2
- July 2001 - volume 1, no. 2
- January 2001 - volume 1, no. 1
- July 2000 - volume 1, no. 1

Total articles retrieved: 1

E: OTHER - BRANCHING

Description: The reference section was scanned to locate Canadian studies on e-learning that may have been missed from the database searches.

Underleider, C., & Burns, T. (2003). *A systematic review of the effectiveness and efficiency of networked ICT in education*. (A state of the field report to the Council of Ministers of Education, Canada, Industry Canada). Retrieved October 23, 2005, from <http://www.cmec.ca/stats/SystematicReview2003.en.pdf>