Information Literacy: Processes for Finding, Presenting and Utilising Business Information

Topic 2:

Finding Relevant Information

AGSL

Copyright

Information Literacy: Processes for Finding, Presenting and Utilising Business Information

Topic 2: Finding Relevant Information

Contents

Introduction

Information required to support business decision making can be found in a multitude of different sources. These sources can be, for example, internal or external, proprietary or public domain, free or requiring payment, formal or informal, digital or analogue, etc. The particular sources chosen will depend on the decision in question, the time and funds available and access to the sources themselves (eg, is access to a relevant database currently available).

This topic will provide guidance for planning and undertaking information searches as well as giving examples of various information sources that can be used to support organisational decision making.

Planning a search

The following steps (adapted from Berkman, 2004; Chowdhury, 2004; Foster, 2004; Hart, 1998; Harter, 1986; Henninger, 2003, 2005; Kuhlthau, 1993; Philips, 2005; Whitson & Amstutz, 1997) can be used to guide the search process:

- Initiation

    1. Recognise the need for information
    2. Select and define the topic

- Exploration

    3. Explore the scope of the topic
    4. Formulate the search
    5. Search the sources listed and gather information on the focused topic

- Documentation

    6. Complete the search
    7. Prepare to use the findings

Table 1: Steps in the search process

	Step	Actions
Initiation	• Recognise the need for information • Select and define the topic	• Understand the information need – what do you want to get out of the search and why. This will help to better identify the search topic area and objectives • Start with some general reading, if needed, to become more familiar with the topic area: • Keyword searching • Browsing (undirected or semi-structured searching for information) • Monitoring (keeping track of developments in the area of interest) • Chaining (following links of citations in known material) • Serendipity • Breadth exploration • Picture building
Exploration	• Explore the scope of the topic • Formulate the search	• Determine what timeframe to search and what subject areas might be relevant. • Identify major search concepts and their inter-relationships • Identify a variety of ways to express the concepts in words, phrases, symbols, etc. • Prepare a list of likely relevant sources of information. • Select an overall approach or strategy for attacking the information problem, including alternatives in case initial attempts do not meet search objectives • Decide how to record the results of your searches as well as how you carried out your search.
	• Search the sources listed and gather information on the focused topic	• Start with the general sources, moving on to abstracts and indexes. • Be systematic and thorough, making consistent references as you go along. • Make notes on possible further leads and ideas to be followed up.

	Step	Actions

Documentation	• Complete the search	• Do the results of the search provide enough relevant information to meet the search objectives?
		    • Knowing enough
		    • Verifying
		• Are there any other sources you should try or other search strategies that could be useful?
		• Have you answered any questions that may have arisen during the search process?

	• Prepare to use the findings	• Determine the relevance of the information found to particular aspects of the concern being investigated • Undertake a basic initial conceptual analysis of the information found

Information Sources

Depending on the type of information you are seeking, you will need to refer to internal or external sources. This topic is mainly concerned with on-line sources of information; however there are still many valuable resources available off-line in analogue format, including other people who have relevant knowledge.

Internal

Internal information sources include:

- Corporate intranet
- Corporate files and archives
- Corporate library
- Business unit files and archives
- People in relevant business unit or job role

External

- Internet
    - Filtering and evaluative services
    - Journal and full-text databases
    - Search engines
    - Subject gateways and gateway directories
    - Private and public sector organisation homepages
    - "Grey literature"
    - Gateways to publicly accessible databases

- Libraries (on-line and physical)
- Mass media
  - Newspapers
  - Magazines
  - Television
  - Radio
- People
  - Stakeholders (internal and external)
  - Experts in the relevant field
  - Consultants
  - Conference attendees and speakers

Links to a selection of external resources are provided below.

Internet

Filtering and evaluative services

Academic Info www.academicinfo.net	"Improve access to online educational resources by developing an easy to use subject directory covering each academic discipline."
Britannica www.britannica.com	"We're proud to be one of the world's most trusted sources of information on every topic imaginable - from the origins of the universe to current events and everything in between."
BUBL http://bubl.ac.uk/link	"Internet-based information service for the UK higher education community, with a specialist service to librarians and information professionals."
Internet Public Library www.ipl.org	"The IPL is: • the first public library of and for the Internet community • an experiment, trying to discover and promote the most effective roles and contributions of librarians to the Internet and vice versa"
Librarians' Index to the Internet www.lii.org	"Librarians' Index to the Internet (LII) offers two services: a searchable, browsable collection of over 16,000 high-quality Websites and a weekly newsletter, available by email or RSS, of high-quality Websites related to current events, holidays and popular and important issues."

Journal and full-text databases

EBSCO's Business Source®: Corporate Database

Access to the EBSCO databases has been made available to provide search capabilities for IMIA course-related research (for example, the project report). You can access the EBSCO databases through the *Research Database* link on each course material subject index page.

Business Source® Corporate is designed to meet the diverse information needs of today's companies. This database contains full text from nearly 2,800 quality magazines and journals, including sources ranging from general business periodicals such as Fortune and Fast Company to trade publications such as Chemical Week and Electronic Business. The collection of titles also includes the top management journals such as Harvard Business Review, California Management Review and Academy of Management Executive. Additional sources include over 1,400 country economic reports from EIU, Global Insight, ICON Group, CountryWatch, etc.; 10,000 substantial company profiles from Datamonitor; and 4,497 industry reports. Business Source Corporate also provides two companion databases with hundreds of full text sources including regional business publications, newspapers and newswires. Business Source Corporate contains full text for 9,607 periodicals and other sources, including:

- 1,288 Peer-Reviewed Journals
- 1,496 Trade Journals & General Business Magazines
- 152 Monographs
- 1,452 Country Economic Reports
- 4,497 Industry Reports & Yearbooks
- 722 Market Research Reports

The following databases allow free searching and access to abstracts but charge a fee for full-text retrieval.

Emerald ManagementFirst www.managementfirst.com	"Practical, insightful articles, guru interviews, case studies, discussion forums, a free downloadable newsletter and more for the working manager."
IngentaConnect www.ingentaconnect.com	"IngentaConnect provides researchers with: • A comprehensive collection of citation data - some 17 million articles from 28,000 publications • Online access to the full text of electronic articles, through online purchase of individual articles, or through subscriptions to publications • Offline access to the full text of fax/Ariel deliverable articles, through online purchase of individual articles"

Search engines

Google www.google.com	"Google's mission is to deliver the best search experience on the Internet by making the world's information universally accessible and useful."
Google Scholar http://scholar.google.com	"Google Scholar enables you to search specifically for scholarly literature, including peer-reviewed papers, theses, books, preprints, abstracts and technical reports from all broad areas of research. Use Google Scholar to find articles from a wide variety of academic publishers, professional societies, preprint repositories and universities, as well as scholarly articles available across the web."
QueryServer www.queryserver.com/search.htm	"Livelink Federated Query Server is a powerful search solution for unifying access to multiple internal and external information sources - including repositories, document management systems, intranets and the Internet."
Teoma www.teoma.com	"Teoma has invented a whole new approach to search and this allows us to achieve our mission of providing the best search results on the Web… Teoma analyzes the Web as it is organically organized-in naturally-occurring communities that are about or related to the same subject-to determine which sites are most relevant."
Vivisimo www.vivisimo.com	"Vivísimo's search and clustering solutions are based on a powerful new approach that organizes search results into meaningful categories without requiring any preprocessing of documents. Our comprehensive content search and clustering solution requires no preexisting taxonomy, yet works to enhance existing taxonomies where they exist."
Yahoo! www.yahoo.com	"Yahoo! has become one of the leading search engines on the Web. Yahoo! Search enables our users to find anything and everything they need on the Internet instantaneously through Yahoo! Web Search... Yahoo! Search leverages the combination of an advanced set of algorithms to ensure that results are up-to-date, relevant and comprehensive."

Subject gateways and gateway directories

Academic Information www.academicinfo.net	"Improve access to online educational resources by developing an easy to use subject directory covering each academic discipline."
ADAM (art, design, architecture, media) http://adam.ac.uk	"ADAM, the Art, Design, Architecture & Media Information Gateway, is a searchable catalogue of Internet resources that have been carefully selected and catalogued by professional librarians for the benefit of the UK Higher Education community."
AERADE (aerospace and defence) http://aerade.cranfield.ac.uk	"AERADE provides access to key aerospace and defence information sources. Our team of specialists frequently add new resources and the service currently includes links to more than 28,000 quality and essential Internet resources including websites, full text technical reports, engineering design data, conferences and news."
Agrigate (agriculture) www.agrigate.edu.au	"AGRIGATE is a subject information gateway for resources, both online and offline, identified as valuable to those participating in Agriculture Research. The resources are selected by an editorial review process consisting of specialist librarians and members of the agriculture research community. The purpose of Agrigate is to support identification and dissemination of high quality research materials."
Brint.com www.brint.com	"BRINT is the world's epicenter from which the two management disciplines - business technology management and knowledge management - are being adopted across all countries of the world. BRINT was originally conceived to bridge the gaps between business and technology, data and knowledge and theory and practice as chronicled in June 1998 issue of Fortune. For more than a decade, BRINT has serviced the learning, networking and professional growth needs of millions of users on average in any given month."
BUBL http://bubl.ac.uk/link	"Internet-based information service for the UK higher education community, with a specialist service to librarians and information professionals."
EdNA (education) www.edna.edu.au	"EdNA Online is a service that aims to support and promote the benefits of the Internet for learning, education and training in Australia. It is organised around Australian curriculum, its tools are free to Australian educators and it is funded by the bodies responsible for education provision in Australia - all Australian governments."

GlobalEdge Resource Desk http://globaledge.msu.edu	"Created by the Center for International Business Education and Research at Michigan State University (MSU-CIBER), globalEDGE™ is a knowledge web-portal that connects international business professionals worldwide to a wealth of information, insights and learning resources on global business activities. Partially funded by a U.S. Department of Education Title VI B grant, globalEDGE™ is your source for global business knowledge."
Infomine http://infomine.ucr.edu	"INFOMINE is a virtual library of Internet resources relevant to faculty, students and research staff at the university level. It contains useful Internet resources such as databases, electronic journals, electronic books, bulletin boards, mailing lists, online library card catalogs, articles, directories of researchers and many other types of information."
PINAKES www.hw.ac.uk/libwww/irn/pinakes/pinakes.html	"In ancient times, the Library of Alexandria was seen as a universal store of human knowledge. As the Library grew in size, however, it became increasingly difficult to locate relevant material. The poet Callimachus solved the problem by compiling a catalogue called The Pinakes. On a far smaller scale, these Web pages hope to provide a similar function for Internet resources, by linking to the major subject gateways."
WWW Virtual Library http://vlib.org/	"The WWW Virtual Library (VL) is the oldest catalogue of the Web, started by Tim Berners-Lee, the creator of HTML and of the Web itself, in 1991 at CERN in Geneva. Unlike commercial catalogues, it is run by a loose confederation of volunteers, who compile pages of key links for particular areas in which they are expert; even though it isn't the biggest index of the Web, the VL pages are widely recognised as being amongst the highest-quality guides to particular sections of the Web."

Private and public sector organisation homepages

- Universities (including faculty or research group working papers or publications sites)

- Other organisations in your industry

- Government websites (state, federal)

European Union Publications http://publications.eu.int/index_en.html	"The Office for Official Publications of the European Communities (Publications Office) is the publishing house of the institutions and other bodies of the European Union (EU). It is responsible for producing and distributing EU publications on all media and by all means."
GovPubs: Australian Government Publications Guide www.nla.gov.au/govpubs	"GovPubs: the Australian Government Publications Guide is a guide to selected Australian Commonwealth and State Government publications located in Australia's National and State Libraries and on the Internet. A historical description of each publication is provided and location information will enable you to locate resources in each library or online."
Index to the Papers Presented to Parliament (Aus) www.aph.gov.au/house/pubs/index.htm	"General information | Powers, Procedures and Practices | House of Representatives chamber documents | Index to papers presented to Parliament | Parliamentary Papers series | Register of Committee Reports | Discover your House – educational publications for everybody | Procedural publications and submissions | Publications for sale or free distribution | Departmental administration"
NTIS (US National Technical Information Service) www.ntis.gov	"The National Technical Information Service serves our nation as the largest central resource for government-funded scientific, technical, engineering and business related information available today. For 60 years NTIS has assured businesses, universities and the public timely access to well over 3 million publications covering over 350 subject areas. Our mission supports the nation's economic growth by providing access to information that stimulates innovation and discovery."
US Government Printing Office Access www.access.gpo.gov	"GPO is the federal government's primary centralized resource for gathering, cataloging, producing, providing, authenticating and preserving published information in all its forms. GPO is responsible for the production and distribution of information products and services for all three branches of the federal government."

"Grey literature"

Australian Digital Theses Program http://adt.caul.edu.au	"The aim of the ADT project is to create a national collaborative distributed database of digitised theses produced at Australian Universities. The ADT database provides access to PhD and Masters by Research theses only."
GreyNet http://www.greynet.org/pages/1/index.htm	"The goal of GreyNet is to facilitate dialog, research and communication between persons and organisations in the field of grey literature."
GrayLIT Network www.osti.gov/graylit	"The GrayLIT Network makes the gray literature of U.S. Federal Agencies easily accessible over the Internet. It taps into the search engines of distributed gray literature collections, enabling the user to find information without first having to know the sponsoring agency. The GrayLIT Network is the world's most comprehensive portal to Federal gray literature. By offering a mode of communication for this hard-to-find class of literature, the GrayLIT Network enables convenient access by the American public to government information."
E-print Network http://www.osti.gov/eprints/	"The E-print Network is a set of powerful tools that facilitate access to and use of scientific and technical e-prints communicating the results of a wide range of research activities of interest to the Department of Energy."
Virtual Technical Reports Centre www.lib.umd.edu/UMCP/ENGIN/TechReports/Virtual-TechReports.html	"This site contains links to technical reports, preprints, reprints, dissertations, theses and research reports of all kinds. Some metasites are listed by subject categories, as well as by institution."

Gateways to publicly accessible databases

C|NET's Search.com www.search.com	"Search.com uses metasearch technology to leverage the power of the best search engines on the Web and to provide users with unique, highly relevant search results."
CompletePlanet www.completeplanet.com	"There are hundreds of thousands of databases that contain Deep Web content. CompletePlanet is the front door to these Deep Web databases on the Web and to the thousands of regular search engines — it is the first step in trying to find highly topical information. By tracing through CompletePlanet's subject structure or searching Deep Web sites, you can go to various topic areas, such as energy or agriculture or food or medicine and find rich content sites not accessible using conventional search engines."

Infomine http://infomine.ucr.edu	"INFOMINE is a virtual library of Internet resources relevant to faculty, students and research staff at the university level. It contains useful Internet resources such as databases, electronic journals, electronic books, bulletin boards, mailing lists, online library card catalogs, articles, directories of researchers and many other types of information."

Libraries (on-line and physical)

State Library of NSW www.sl.nsw.gov.au	"The State Library's major subject strengths are Australian history, culture and literature, including Aboriginal studies, Antarctic exploration, family history and genealogy, business and management, social sciences, applied science, biography, health and law. The Library's collection is now valued as an asset, with a valuation of $1.883 billion."
National Library of Australia www.nla.gov.au	"The National Library of Australia is the country's largest reference library. Our role is to ensure that documentary resources of national significance relating to Australia and the Australian people, as well as significant non-Australian library materials, are collected, preserved and made accessible either through the Library itself or through collaborative arrangements with other libraries and information providers."
British Library www.bl.uk	"The British Library is the national library of the United Kingdom and one of the world's greatest libraries. We receive a copy of every publication produced in the UK and Ireland. The collection includes 150 million items, in most known languages."
US Library of Congress www.loc.gov	"The Library of Congress is the nation's oldest federal cultural institution and serves as the research arm of Congress. It is also the largest library in the world, with more than 130 million items on approximately 530 miles of bookshelves. The collections include more than 29 million books and other printed materials, 2.7 million recordings, 12 million photographs, 4.8 million maps and 58 million manuscripts."

Choosing the right information source

Different information sources will be relevant in different business research situations and some sources are more suited to particular situations than others. For example, Thivant (2005, p. 7) suggests (see Table 2) that the complexity of the information environment impacts the choice of information source.

Table 2: Complexity of information environment and choice of information source

Simple Information Environment	Complex Information Environment
Simple sources are useful here: • A directory • A dictionary	Several different sources (computer, directory) or multi-purpose sources: • Several types of research engines such as internal research engines • Internal or external databases

Source: Thivant, 2005 p7

Undertaking a search

Search strategies

The search strategy selected will depend upon that information that you need, its conceptual level, the breadth and depth of information required, how recent the information needs to be, etc. Most searches will fall into one of the categories shown in Table 3.

Table 3: Search categories and descriptions

Search Category	Search Description
Exhaustive search	Gather all information related to a concept
Precision search	Gather only information exactly on target of concept of interest
Pearl growing search	Create a bank of information resources around a concept leading to related terms and concepts
Snowball survey search	Gather information too new to be in published form but which may be available directly from experts
Situational search	Gather information using all, some, or parts of the other four types

Source: Whitson & Amstutz, 1997, p. 60

Bates (1989, p. 142) suggested a number of different strategies that could be used when undertaking the actual search:

- Footnote chasing (backward chaining)
- Citation searching (forward chaining)
- Journal run (core journals in a subject area are going to have very high rates of relevant materials in that area)
- Area scanning (browsing materials that are physically co-located with materials located earlier in the search)
- Subject searches in bibliographies and indexing and abstracting services
- Author searching

These methods are not mutually exclusive and most people will find that they use a number, if not all, of these techniques during the information search process.

Bates has also suggested the "berry-picking" search mode:

> *"[Information seekers] may begin with just one feature of a broader topic, or just one relevant reference and move through a variety of sources. Each new piece of information they encounter gives them new ideas and directions to follow and, consequently, a new conception of the query. At each stage they are not just modifying the search terms used in order to get a better match for a single query. Rather the query itself (as well as the search terms used) is continually shifting, in part or whole. This type of search is here called an evolving search. Furthermore, at each stage, with each different conception of the query, the user may identify useful information and references. In other words, the query is satisfied not by a single final retrieved set, but by a series of selections of individual references and bits of information. At each stage of the ever-modifying search. A bit-at-a-time retrieval of this sort is here called berrypicking" (Bates, 1989, p. 409-410).*

Most searchers will find that their more complex searches will be berry-picking searches, either by intention or emergence.

Search techniques

Using AND, OR & NOT Operators (also known as Boolean operators)

Boolean logical operators are the underlying search logic for all computer retrieval systems and are used when the search request contains more than one concept. The basic Boolean operators are AND, OR and NOT and are used to link concepts (see Table 4). The OR operator lets searchers connect similar terms and increase the number of documents retrieved. The AND operator means all items retrieved must use both terms, reducing the number of documents retrieved and helping you narrow your search to your particular interest. The

NOT operator is used to eliminate specific terms, reducing the number of documents retrieved, but running the risk of eliminating a relevant document (Henninger, 2003; Whitson & Amstutz, 1997).
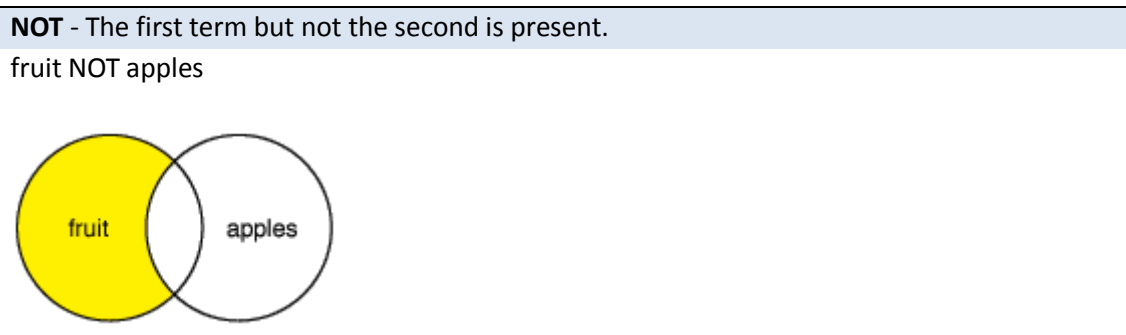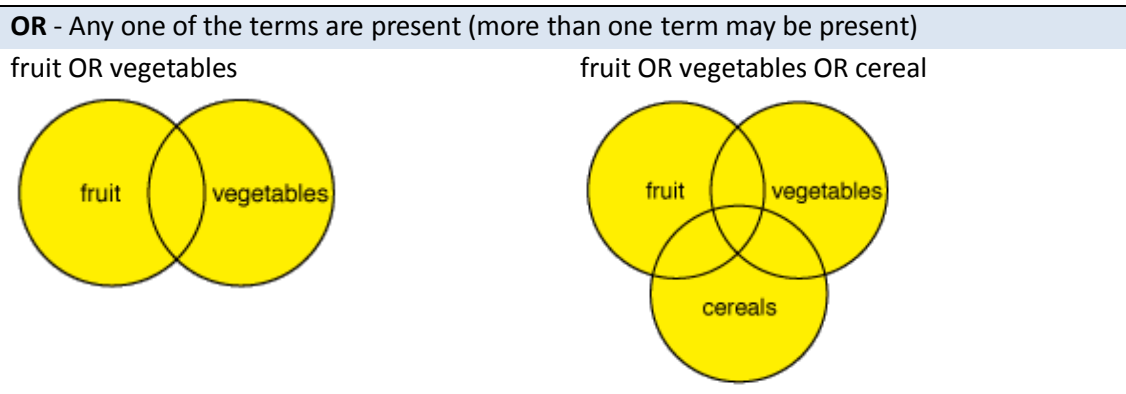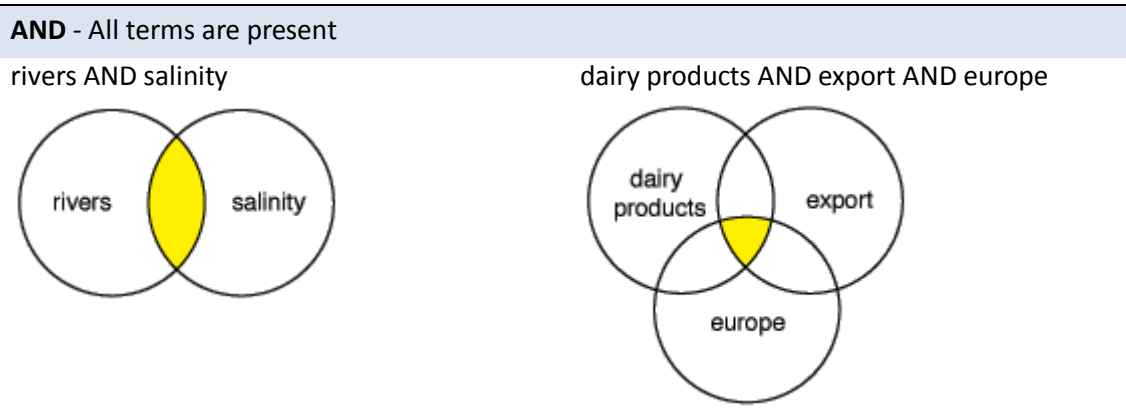
Table 4: Boolean Operators

Operator	Process	Result
OR	Requires either or both terms to be present in the document. eg river OR stream	Increases the number of results. eg items containing river, stream, or river & stream
AND	Requires both terms to be present. eg river AND stream	Reduces the number of documents eg items containing both words river & stream
NOT	Requires the term to be absent. eg river NOT stream	Reduces the number of documents, but runs the risk of eliminating a relevant document eg items containing the word river but not the word stream

Source: Henninger, 2003

Venn diagrams can be used in conjunction with Boolean operators to map out search strategies when more than one term is needed (Harter, 1986):

- AND: *A* AND *B* is the set of postings in common to *A* and *B* and is called the *intersection* of *A* and *B*. *A* AND *B* is represented by *A*B* in some search systems.
- OR: *A* OR *B* is the set of postings either in set *A* or in set *B* or in both sets *A* and *B* and is called the *union* of *A* and *B*. *A* OR *B* is represented by *A+B* in some search systems.
- NOT: *A* NOT *B* is the set of postings in set *A* but not in set *B* and is called the *difference* between *A* and *B*. *A* NOT *B* is represented by *A-B* in some search systems. NOT should be used with caution since relevant records can inadvertently be eliminated with NOT.

Table 5: Venn diagrams and Boolean operators

AND - All terms are present
rivers AND salinity   dairy products AND export AND europe

OR - Any one of the terms are present (more than one term may be present)
fruit OR vegetables   fruit OR vegetables OR cereal

NOT - The first term but not the second is present.
fruit NOT apples

Source: CSIRO Australia, 1996

Searching for words that are near each other (Proximity operators)

The ability to use proximity searching, other than phrase searching, is very useful to search for a concept that might not be a phrase (Henninger, 2003, p. 85; 2005, p. 41). Proximity operators allow you to locate one word within a certain distance of another - (**NB** – *not all databases have proximity operator functions*):

- Adjacent to (a phrase)
- Within a certain number of words
- In the same sentence or paragraph

The symbols generally used in this type of search are *w* and *n*. The *w* represents the word "with(in)" and the *n* represents the word "near" (Online Library Learning Center, n.d.(a)).

Near Operator (Nx) — finds words within x number of words from each other, regardless of the order in which they occur.

- Example: television n2 violence would find "television violence" or "violence on television," but not "television may be the culprit in recent high school violence."

Within Operator (Wx) — finds words within x number of words from each other, in the order they are entered in the search.

- Example: Franklin w2 Roosevelt would find Franklin Roosevelt or Franklin Delano Roosevelt or Franklin D. Roosevelt, but would not find Roosevelt Franklin.

Phrase search — enclosing a phrase in quotation marks will help ensure that the database searches for those words as a group. The database then searches for those words together in the specific order you provided.

Controlled vocabularies

A controlled vocabulary is simply what it sounds like: a way to control the meaning of the vocabulary used as well as keeping track of the related terms (Wodtke, 2002), providing consistent standardised words to describe a database or collection of materials (Whitson & Amstutz, 1997, p. 66-67).

A thesaurus is a very detailed classification system. It is alphabetically arranged and generally contains (Henninger, 2005, p. 42):

1. Annotations about the usage of the term (eg SN - scope note; UF - use for; USE - to direct to another term)
2. A hierarchy of terms or subjects (eg BT - broader terms; NT - narrower terms)
3. Related terms (eg RT - related terms (synonymous or quasi-synonymous relationships))

4. The date showing when the term became part of the database (eg DI - date of index term)
5. Sometimes the broadest term of the category (the one at the top of the hierarchy) (eg TT - top term)
6. Sometimes a broad classification code (eg CC - classification code)

Searching for multiple forms of a word (Truncation and wildcards)

Some databases allow certain symbols to be used for searching different forms of a word or different spellings. To truncate a search term is to search on a piece of a longer word or phrase (Harter, 1986, p. 83) to be sure that all tenses and forms of words are selected (Whitson & Amstutz, 1997, p. 68). Truncation provides a short cut with the use of a symbol at the end of the base word, eg *, $, ?, %.

Truncation — a symbol added to the end of the root of a word to instruct the database to search for all forms of a word. The asterisk (*) is used in many databases for truncation (Online Library Learning Center, n.d.(b)).

- adolescen* retrieves adolescent, adolescents, or adolescence

Wildcards — a symbol used to represent any character. Wildcards can usually be used at the end of a word or within a word. For example (Henninger, 2003, p. 84):

- *Colo%r*   colour OR color
- *Gene%logy*   genealogy OR geneology
- *Psych*ist*   psychologist OR psychiatrist

Search refinement

Searches will not always turn up exactly the information you need the first time they are undertaken. You may need to:

- Broaden the search if you need to find more items
- Narrow the search if you need to find more specific items or to reduce the number of items
- Change the focus of the search if the items you find are not relevant

Table 6: Tips for narrowing and broadening searches:

Narrowing	Broadening
AND in a new concept set	Stop using a concept set, especially the one least crucial to the query
Use fewer terms in concept sets	OR in more terms in concept sets
Move up the ladder of specificity - use narrower proximity operators, go from free text to controlled vocabulary, limit to major descriptors	Move down the ladder of specificity - stop using major descriptors, got to free text, use broader proximity operators
Truncate further to the right • Radio% will return radiometer, radiometric, radiosonde, etc. • Radiom% will return radiometer, radiometric, etc.	Truncate further to the left • %scale will return large-scale, small-scale, mesoscale, microscale, etc. • %oscale will return mesoscale, microscale, etc.
Use narrower controlled vocabulary terms	Use broader controlled vocabulary terms
Qualify search strategies to titles, descriptors, abstract	Remove qualifiers; search in full-text field if available
Limit by language, publication year, publication type, age group, etc.	Remove limitations

Source: Walker and Janes, 1993, p. 180

Assessing Search Results

Once you have determined which of your search results appear to be the most relevant to the issue you are investigating, you will need to work out whether the items are reputable enough for your purposes. Remember, your credibility rests upon the credibility of the sources you use.

Questions to ask about the items found (Berkman, 2004, p. 3):

- What is the reputation and mission of this publisher or source?
- Does the author have an axe to grind?
- Is there a bias or some ideology that can call their credibility into question?
- How was the data gathered?
- If the information was derived from a survey or poll, what were the methodologies utilised?

Maureen Henninger (2003, p. 123-126) suggests that the major criteria for evaluating the content of information are authorship, publishing body, currency and authenticity:

- **Authorship**

  - Can you identify the author or the producer and their organisation?
  - What are the author's credentials and expertise?
  - Can you tell the educational or occupational background of the author?
  - Is there any way of contacting the author, eg by email?
  - Is the information written on a topic which is not the author's area of expertise?

- **Publishing body**

  - In the world of paper we get clues to the authority or quality of the information in the 'packaging' - the *artefact*. …An article on the cause of a disease in the *New England Journal of Medicine* has more gravitas than one on the same subject published in a magazine you can buy at the supermarket. The authority lies in the artefact; the *New England Journal of Medicine* is regarded as a highly reputable medical journal in which experts review all articles before being published.
  - On the Internet it is more difficult to recognise the artefact - the packaging that declares the author's sponsor, publisher or organisation and its authority. The artefact is the Web server on which the document resides and is embodied in its URL.

- **Point of view or bias**

  a) What motivation does the author have for placing this information on the net?
  b) Look carefully at the URL. If the generic top level domain is .com or .co the publisher or sponsor is a commercial entity and in the business of selling; the information therefore may be biased.

- **Currency**

  - When was the document first produced?
  - Is there any date of revision?
  - Is there evidence that the author or producer regularly maintains the links in the document?

- **Authenticity**

  - Can you tell if a document has been tampered with or changed?
  - The best strategy for finding the information you want is to go directly to the site that has published it

References

- Bates M (1989) *The design of browsing and berrypicking techniques for the online search interface*. Online Review 13(5):407
- Berkman R (2004) *The skeptical business searcher: The info advisor's guide to evaluating web data, sites and sources.* Information Today:Medford, NJ
- Chowdhury G (2004) *Introduction to modern information retrieval*, 2nd edn, Facet Publishing: London
- CSIRO Australia (1996) *Venn Diagrams for Boolean Logic* <http://www.lib.csubak.edu/infocomp/search/boolean/venn.htm> viewed 1 August 2005
- Foster A (2004) *A nonlinear model of information-seeking behaviour*. Journal of the American Society for Information Science and Technology 55(3):228-237
- Hart C (1998) *Doing a literature review: Releasing the social science research imagination.* Sage Publications:London
- Harter S (1986) *Online Information Retrieval.* Academic Press:Orlando
- Henninger M (2003) *The hidden web: Finding quality information on the web.* UNSW Press:Sydney
- Henninger M (2005) *Don't just surf.* UNSW Press:Sydney
- Kuhlthau C (1993) *Seeking meaning: A process approach to library and information services*, Ablex Publishing Corp: Norwood NJ
- Online Library Learning Center (n.d.(a)) *Truncation/Wildcards* <http://www.usg.edu/galileo/skills/unit04/primer04_11.phtml>, viewed 6 Feb 2006
- Online Library Learning Center (n.d.(b)) *Proximity Operators* <http://www.usg.edu/galileo/skills/unit04/primer04_10.phtml>, viewed 6 Feb 2006
- Philips J (2005) Devising, Implementing and Evaluating a Search Strategy for a Client. UTS, Enabling Information Access (57099), Sydney
- Walker G and Janes J (1993) *Online retrieval : a dialogue of theory and practice*, Libraries Unlimited: Englewood, CO
- Whitson D and Amstutz D (1997) *Accessing information in a technological age*. Krieger Publishing Co:Malabar, FL
- Wodtke C (2002) *Using controlled vocabularies to improve findability*. <http://www.digital-web.com/articles/mind_your_phraseology/> viewed 1 August 2005