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## Educational Resources on the Internet

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## Educational Resources on the Internet

### **Abstract**

The resources offered on the Internet are too numerous to be completely covered in one research paper. The focus of this research paper will be the educational resources that would be used by a business education student.

Educational Resources on the Internet

A Graduate Research Paper

Submitted to the

Division of Educational Technology

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in Fulfillment

of the Requirements for Master of Arts

UNIVERSITY OF NORTHERN IOWA

by

Anna Sheets

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This research paper by: Anna Sheets

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has been approved as meeting the research requirement for the

Degree of Master of Arts

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## TABLE OF CONTENTS

Chapter One	Page
Introduction -----	1
Research Questions-----	2
Terms -----	2
Chapter Two	
Internet Searching Tools-----	6
Portals-----	6
Search Engines -----	6
Desk Reference Tools-----	11
Dictionaries-----	11
Thesauri-----	14
Almanacs -----	15
Encyclopedias -----	16
People Finder -----	17
Telephone Directories-----	18
E-mail Directories -----	19
International Dialing Codes-----	20
US Area Codes-----	21
E-mail -----	21
Mailing Lists (Listserv)-----	23
Other Tools -----	25
Maps -----	25
Postal Information -----	26
Time Zones -----	27
International Monetary Guides-----	27
Chapter Three	
Conclusions -----	29
References -----	32
Appendix -----	36

## CHAPTER ONE

### Introduction

The Internet is an information technology tool. It is a large interconnected network linking people and computers through phone lines, satellites, and other telecommunication systems (Certo, 1997). This network allows people from diverse areas of the world to rapidly communicate with each other.

A widely used section of the Internet is the World Wide Web. The World Wide Web is a system that allows access to information on the Internet in a point-and-click hypertext format. Each link represents a location called a web site which can be accessed at any time. Each web site has a beginning page called a homepage. Many homepages have several supporting pages called branch pages. The branch page expands on the thoughts and ideas of the homepage (Certo, 1997).

The Internet could be viewed as a vast library with all types of information. Some of this information is suitable to be used in an educational setting. A small portion of this information is not suitable in an instructional setting. All of this material is available whenever it is needed by an user.

Information on the Internet is accessed via an Uniform Resource Location (URL). A URL is an Internet address. If you do not have the a web site's URL then you need the assistance given by a search engine or portal. Because of the extensive number of web sites on the Internet today, search engines and/or portals are a valuable resource to help the user find the proper web sites.

The resources offered on the Internet are too numerous to be completely covered in one research paper. The focus of this research paper will be the

educational resources that would be used by a business education student. These resources will include the following:

Internet Searching Tools

Portals, search engines

Desk Reference Tools

Dictionaries, thesauri, almanacs, encyclopedias

People Finder

Telephone and e-mail directories

International dialing codes, US area codes

E-mail, mailing lists

Other Tools

Maps, US postal information

Time zones, international monetary guides

Research Questions

1. Are these educational resources available on the Internet?
2. How do you find these educational resources?

Terms

1. Boolean operators - logical operators used to more clearly define the topic for which you are searching. Boolean operators used by search engines are:

AND

OR

AND NOT (CMP Media Inc, 1998).

2. Bookmark - A standard feature that allows you to make a record of a webpage and its address so you can find it again (Ihnatko, 1997).

3. Domain names - These abbreviations found at the end of a URL describe the type of organization that maintains the web site.

com = commercial

edu = education

gov = government

mil = military

net = network

org = organization (Ihnatko, 1997)

4. Email - (electronic mail) - Electronically transmitted messages. E-mail allows the user to compose messages and send them in seconds to one or more recipients anywhere in the world (James & Jansen, 1997a).

5. Home Page - The first page on a website that serves as the starting point for navigation (James & Jansen, 1997a).

6. Hyperlink - This is the text found within a website and is usually blue or underlined. Placing the mouse pointer on this text will cause the pointer to become the shape of a hand. Clicking on this text will take the user to another webpage or a different area of the same webpage (James & Jansen, 1997a).

7. Hypertext - This is the text within a web page that is linked to another web page. It is usually blue text or underlined.

8. List server - A program that controls a mailing list. It processes online request from people who wish to join a specific mailing list and distributes mail to the list (Ihnatko, 1997).

9. List Serv - A specific list server (Ihnatko, 1997).



10. Mailing Lists - A discussion group that electronically exchanges message about a particular topic (James & Jansen, 1997b). Mailing lists are run by a list server and are frequently called list servs.
11. Mailserver - A machine that processes all of the mail for the network (Whitehead & Maran, 1997).
12. Portal - A web site that offers an extensive array of resources and services such as e-mail, discussion forums, search engines, and on-line shopping malls. The first web portals were online service providers but now most of the traditional search engines have transformed themselves into web portals (James & Jansen, 1997b).
13. Search engines -A program which acts like a library card catalog for the Internet. Search engines attempt to help a user isolate desired information or resources by searching for keywords that the user specifies. The method for finding this information is usually done by maintaining an index of web resources. The user can query these resources through keywords or concepts. The index is built from specific resource lists or created by webwanderers, robots, spiders, crawlers, and worms (James & Jansen, 1997b).
14. Server - A machine on a network that serves other machines on the network (Ihnatko, 1997).
15. URL - Describes the location and access method of a resource on the Internet. The URL <http://www.netlingo.com> describes the type of access method being used (http) and the server location which hosts the website (James & Jansen, 1997b).

16. Web Page - An individual site on the World Wide Web (Whitehead & Maran, 1997).
17. Web site - A destination on the Web. A web site may consist of any number of individual web pages representing many topics and many authors, but conceptually all of those pages are thought of as part of the larger web site (Ihnatko, 1997 ).
18. Webserver - A computer connected to the Internet that makes web pages available to other computers (Whitehead & Maran, 1997).
19. World Wide Web - One of the most widely used services on the Internet (Whitehead & Maran, 1997). The web relies upon the hypertext transport protocol (http), an Internet standard that identifies how an application can find and obtain resources stored on another computer on the Internet.

## CHAPTER TWO

### Internet Searching Tools

#### Portals

Portal is the latest buzzword on the Internet. They provide hyperlinks to many interesting sites--local weather, news, sports scores, stock prices, online phone books, maps, e-mail, chat--on one page (Cury, 1998). Portals also allow the user to customize the look of the portal on the user's home computer.

Some research material claim that search engines have upgraded their services and therefore need a new title. Only time will tell if this new title, portal, will become the new name for search engines. For the purposes of this research paper, search engines will continue to be called search engines.

#### Search Engines

Chmielewski (1998) states (cited in the Cedar Rapids Gazette) "Searching the Internet is like drinking water from a fire hose: The torrent of information is more than you could possibly swallow" (page 4c). Search engines were created to help solve this problem.

A search engine's homepage is usually the first page the user encounters on the Internet. If the first page the user sees on the Internet is not a search engine's homepage, clicking on the Net Search button will cause a search engine to appear with options that enable the user to select several other search engines.

A search engine will find a site that covers a specific topic. Some search engines search through more web pages than other search engines. AltaVista has a growing index of 110 million unique World Wide Web pages (Sullivan, 1998). According to a recent study by the NEC Research Institute, even the most

extensive Internet search engine typically index less than half of the documents on the web (Richtel, 1998).

The user needs to know how and where a search engine looks in a web site to determine which search engine to use. Some search engines will search for the user's topic in the title of an article. Other search engines look within an article's text for the topic (Sullivan, 1998).

Netscape and Excite search by concept. As an example, using the search word of arthritis, these search engine would also return sites pertaining to rheumatism (Net Search: Tips, 1998).

Excite, Lycos, and Netscape have a "more like this" link. If the user finds a link that has the results she or he is looking for, clicking on the "more like this" link will give the search engine an example of what the user needs (Net Search: Tips, 1998).

Excite and Netscape have the refine search option. On the search results page, the user will find a listing of words that she or he can use to add to the search phrase to narrow the search (Net Search: Tips, 1998).

Lycos advanced search supports a Natural Language Query. This feature allows the user to write his or her questions as if they were speaking to a human and not a machine. (Lycos Help Guide, 1998)

AltaVista has the feature of asking AltaVista a question (Alta Vista Help, 1998). The user can pose a question such as "Where can I find recipes for chili?". AltaVista will then give the user a list of web pages that contain chili recipes.

Most search engines have an index of categories that can serve as a starting point for the user's Internet search. They allow the user to select a category in

which she or he is interested. The search engine will then search the World Wide Web to find web sites with the appropriate information (Net Search: Tips, 1998).

A major problem for many Internet users is that they spend several hours searching the Internet but never actually find any usable information due to the tremendous number of sites that a search may yields. The following useful hints should help to narrow your search in such a way as to return the results that you want and not an assortment of sites that are unusable:

1. Be specific. Just because the user knows the type of information she or he is looking for does not mean that the search engine has the same knowledge. If the user wants information about English grammar rules, do not enter the single word - grammar. The term "grammar" will provide the user with sites about companies named Grammar, about grammar schools, grammar rules for every language the webmaster could locate, and somewhere in this vast number of sites, English grammar rules.

2. Use the plus sign in the following manner;

+English+grammar+rules

Search engines will return documents that have all of these words but not always in this specific order. If you do not place a plus sign in front of the word English, the search engine will return sites about grammar rules for many languages including English (Net Search: Tips, 1998).

3. Use quote marks in the following manner;

"English grammar rules"

Search engines will find documents with these words in this specific order (Net Search: Tips, 1998).

4. Become familiar with the search engine's special features by reading the instructions that are provided with each search engine (Lardner, 1998).

These instructions can be accessed by clicking on the small print help hyperlink found at the very bottom of most search engine's web page.

5. Use Boolean operators.

Use the word AND to cause the search engines to return documents containing all of the words. Enter the information in the following manner;

English AND grammar AND rules

Use the word AND NOT to cause the search engines to exclude certain segments of a word. To search for squash but not receive any documents about pumpkins enter the information in the following manner;

squash AND NOT pumpkin

Use the word OR to receive documents that will contain one of the key words. Enter the information in the following manner;

dogs OR puppies

Use parentheses ( ) to group part of a Boolean phrase together. To receive documents about summer squash and spaghetti squash enter the information in the following manner;

squash AND (summer or spaghetti) (Net Search: Tips, 1998).

6. Use the minus sign to receive information about Martin Luther but not about the equally famous Martin Luther King. Use the minus sign in the following manner;

Martin Luther-King. (Net Search: Tips, 1998).

7. Title search looks only at the titles of web pages. To request a title search enter the information in the following manner;

title:English Grammar Rules (Net Search: Tips, 1998).

8. Some search engines allow the user to indicate how close the words should appear in relationship to each other in the text of the article.

Use the word NEAR in the following manner, cat NEAR dog , meaning that somewhere in the article the words cat and dog will appear within so many words of each other (Sullivan, 1998).

9. Use lowercase text. The search engine will find upper and lower case text when you use lower case (Net Search: Tips, 1998).

10. Remember that the correct spelling of words is not always the rule in Internet publishing. Check for any common misspelling of terms.

Grammar is frequently misspelled as grammer. Research has found that this spelling will also reward the user with a number of sites. Fortunately none of them were about grammar.

11. If the search phrase returns too many documents, refine your search phrase and then click on the "search within these result" button. The search engine will then search for the new phrase within these documents (Net Search: Tips, 1998).

### Desk Reference Tools

Common desk reference tools a business education student might use are; a dictionary, a thesaurus, an almanac, and an encyclopedia. These reference tools can be accessed on the Internet. Different methods can be used to access these tools:

1. Type a URL (Internet address) in the location box.
2. Use the search topic feature to search for a keyword .
3. Use the search engine's pre-set categories.

Typing a URL in the location box would be a quick way to access these resources (Netscape, 1998). The major problem with this method is that many Internet URLs are difficult to remember because they are long and nonsensical. This problem makes them difficult to enter correctly.

To find desk reference tools using the search topic feature, the user would need to enter a keyword in the search topic box. This method usually gives a large listing of different types of desk reference tools.

Search engines have a list of categories on their home page. This first list of categories are usually general topics. To find a specific category, the user would need to access the sub-categories. This process can involve trial and error as the user attempts to determine which main category will have desk reference tools as a sub-category.

### Dictionaries

The Internet has various searchable English language dictionaries. Well-known dictionaries such as Merriam-Webster On-line Dictionary and The



American Heritage College Dictionary are available. Numerous dictionaries maintained by different colleges and universities are also available.

Several different methods may be used to find a URL for a dictionary (Netscape: Tips 1998). An excellent source for Internet addresses is magazine and newspaper advertisements. The URLs for several dictionaries can be found in the Appendix of this paper.

The search topic feature of AltaVista gave 200 listings for different dictionaries. These dictionaries ranged from general English language dictionaries, multiple foreign language dictionaries, to specialized dictionaries such as the American Diabetic Society Dictionary. The search topic feature of Excite gives access to the dictionaries listed in their dictionary category plus 209, 655 matches with other documents that have the word "dictionary" listed somewhere in their site.

Search engines have a dictionary category listed on different pages of their webpage. Netscape and Excite have dictionary as a category on their third branch page. InfoSeek has dictionary as a category on their second branch page. AltaVista has dictionary as a category on their second branch page. The dictionaries that you can access at this point cover most topics from Merriam Webster's general dictionary to very specialized dictionaries such as a profanity dictionary.

Bucknell University in Lewisburg, PA maintains a site which has links to more than 600 different dictionaries in 150 languages (Beard, 1996). Their main English language dictionary is based on Merriam-Webster's Collegiate® Dictionary, Tenth Edition. This site gives you access to many diverse, specialized

dictionaries. It also maintains a large collection of links to foreign language and dictionary sites. This site can be accessed via Excite's and Netscape dictionary page as On-line Dictionaries or by typing its URL in the location box. The URL for this site can be found in the Appendix of this paper.

Carnegie Mellon University also maintains an excellent web site (Carnegie Mellon University, 1998). They offer links to many different dictionaries, both English and foreign language, plus specialized dictionaries. However, they do not list as many sites as Bucknell University. This site can also be accessed via Excite's and Netscape's reference page as Online Reference Works or by typing its URL in the location box. The URL for this site can be found in the Appendix of this paper.

Clear Ink's Spell Web is a site created for the bad speller (Nelson, 1998). When the user does not know the correct spelling of a word such as the plural form for thesaurus. Enter two variations of this word such as thesauri or thesauruses and this site will give the user the correct spelling.

A basic question about using an online dictionary is: "If I don't know how to spell a word, how can I find it using an online dictionary?". Use the same method as would be used to find words in a paper dictionary. Sound out the word and spell it phonetically. If misspelled, the online dictionary will give the user the message that it could not find a word with his or her spelling. It will then give the user a list of words that might be the word she or he was trying to spell.

Merriam-Webster's On-line Dictionary allows the use of a wildcard (\*) to represent the letters that the user cannot remember. A results list will give all the words that match the letters and wildcards the user entered. Hopefully one of these methods will find the word for which she or he was searching.

## Thesaurus

There are several searchable thesauri available on the Internet (Netscape: Tips 1998). WWWebster Thesaurus and Roget's Thesaurus are two of the better known thesauri available. Numerous thesauri are maintained by different colleges and universities.

Thesauri are not advertised in magazine or newspaper advertisements in the same manner as dictionaries. The URLs for several thesauri can be found in the Appendix of this paper.

The search topic feature of AltaVista listed 200 different thesauri. These thesauri ranged from Roget's Thesaurus to the Asian Vegetable Thesaurus. Excite's search topic feature listed 32,723 matches of which the first ten were all different thesauri. Only one of the Roget's Thesaurus listed by Excite is the same thesaurus listed by AltaVista.

To access a thesaurus using the categories on a search engine the user will need to access several branch pages before finding the sub-category "thesaurus". Netscape and Excite have thesaurus as a category on their third branch page. InfoSeek has thesaurus as a category on their second branch page. AltaVista has a Roget's Thesaurus as a category on their second branch page. The search topic feature gives access to a greater variety of thesaurus than the category feature.

Bucknell University has a large listing of thesauri (Beard, 1996). You can access four different Roget's style thesaurus, a Merriam-Webster Thesaurus and an additional 25 thesaurus. The University of Chicago and Princeton University each maintain an on-line thesaurus. Another thesaurus is NASA Thesaurus maintained by the US government

## Almanacs

Almanacs are handy guides to factual and statistical information (Lesikar, Pettit, & Flatley, 1996). Almanacs typically compile useful but unusual information in one location. This information includes abbreviations for different organizations, metric conversion charts, calendars, copyright laws, tax information, time zones, etc.

There are several searchable almanacs available on the Internet (Netscape: Tips 1998). Old Farmer's Almanac and Information Please Almanac are two of the better known almanacs available.

Finding the URL for an almanac might be more difficult than a dictionary or thesaurus. Many Internet users might know a URL for a dictionary or a thesaurus since we use these tools more frequently than an almanac. The URLs for several almanacs can be found in the Appendix of this paper.

To find an almanac category the user will have to browse through several pages of categories. InfoSeek list their almanacs under the sub-category "fact books" on their education branch page (Infoseek: Education, 1998). Netscape and Excite do not have an almanac category. Looksmart and AltaVista have an almanac link in the encyclopedia category.

The search topic feature of Excite gave the following results for the key word "almanac". Excite listed 74,757 matches for this keyword. These almanacs ranged from the Grateful Dead Almanac to the World Almanac. Using the same keyword, AltaVista returned about 325,436 matches for almanac. These ranged from a personal almanac for Garrison Keilor to The Old Farmer's Almanac.

Carnegie Mellon University's On-Line Reference Works has links to three almanacs, The Old Farmer's Almanac, Ask An Expert, and Findout. The University of Iowa maintains a gateway to the Internet site. This site has a link to The CIA Factbook.

### Encyclopedias

There are many encyclopedias available on the Internet (Netscape: Tips 1998). These ranged from general encyclopedia such as The Concise Columbia Electronic Encyclopedia and Encarta Online to specialized encyclopedia such as Extrasolar Planets Encyclopedia.

There are several methods to use to find a URL for an encyclopedia (Netscape, 1998). Magazine and newspaper advertisements would be another excellent source for URLs. The URLs for several encyclopedias can be found in the Appendix of this paper.

The user can also find encyclopedias by using the search topic feature. Excite returned 129,672 matches for the keyword "encyclopedia". These encyclopedias ranged from Compton's Encyclopedia and Young Students Learning Library, Encyclopaedia Britannica Online to a call for volunteers to help transcribe the online Catholic Encyclopedia. AltaVista returned 200 links for encyclopedia. These ranged from Encarta Online to Photo Encyclopedia of U.S.S. Akron & Macon Covers.

InfoSeek has an encyclopedia category on their education branch page (Infoseek: Education, 1998). Netscape and Excite have their encyclopedia category listed on their third branch page. Netscape lists sixteen encyclopedias. Most of these sixteen encyclopedias were sites also listed by AltaVista. AltaVista

has an encyclopedia category on its second branch page. Altavista listed 69 different encyclopedias. These ranged from general encyclopedias such as The Concise Columbia Electronic Encyclopedia to a Regulatory Fish Encyclopedia.

Some of the better known encyclopedia such as Britannica Online, Compton's, Funk & Wagnalls, and Grolier are not free. A fee much be paid before the user can access these encyclopedia. The multitude of specialized encyclopedia on the Internet can give the user the information they normally require free of charge.

### People Finder

On-line telephone directories give the Internet user the ability to locate people and businesses in other localities (Fulton, 1994). They also need to have access to international dialing codes and area codes. To communicate with people on the Internet they need access to e-mail software, e-mail directories, and mailing lists.

To find these resources on the Internet, the user needs to use one of the following methods:

1. Type a URL in the location box.
2. Use the search topic feature
3. Use one of the search engine's categories.

Finding a URL for telephone directories and e-mail is simple. Both of these resources are prominently placed on many web pages. Finding URLs for e-mail directories and mailing lists is also simple. The URLs for international dialing codes and area codes can be difficult to find. Some URLs for these resources can be found in the Appendix of this paper.

To find these resources using the search topic feature, the user needs to enter a keyword in the search topic box. This method gives a large listing of different types of people finder resources.

Many search engines have a category for telephone directories and e-mail located on their home page (Netscape: Tips 1998). Most search engines have a sub-category for e-mail directories and mailing lists. International dialing codes and area codes are usually links within a branch page.

### Telephone Directories

Each year telephone directories are printed and distributed to businesses and homes (US West, 1998). Many of these same directories can also be viewed on-line. The user can have access to a telephone directory in other states or countries. This gives the Internet user free access to names, addresses, and telephone numbers of companies in other parts of the country or world.

Finding URLs for telephone directories is easy (Netscape: Tips 1998). Frequent Internet users often know the URL for at least one telephone book. These URLs are often advertised in magazines, newspapers, and on the cover of paper telephone directories. The URLs for several telephone directories can be found in the Appendix of this paper.

Another method of finding URLs for telephone directories is banner advertisements (Netscape: Tips 1998). Several major telephone companies maintain a Internet telephone directory. These advertisements are seen on many different web pages.

Using the search topic feature and the phrase +telephone+yellow+pages in the topic search box of search engines gave the following results. AltaVista had

over 1,000 sites of which the majority were from the Cameron, TX Telephone Yellow Pages. Excite and Netscape had links to 3,300 yellow pages that ranged from the yellow pages for the Midwest to telephone directories for several foreign countries. The results in Lycos were telephone directories for several colleges and universities. Infoseek gave links to several telephone directories.

Netscape and Excite listed a yellow pages category on their homepage. In Netscape this category gives the user access to a yellow page directory maintained by Netscape. In Excite this category gives the user access to the Zip2 yellow page directory. Lycos has a yellow page sub-category under their Internet category. AltaVista has a yellow pages sub-category in their tools & gadgets category. This category gives the user access to Switchboard yellow pages. InfoSeek has a yellow page link on most of their category pages. This category gives the user access to Microsoft's Sidewalk directory. LookSmart forces you to randomly select categories through four branch pages before they list a yellow pages category.

### E-mail Directories

E-mail is a popular method of communication on the Internet (Lidsky, 1998). There are many directories on the Internet that help the user find e-mail addresses.

Using the search topic feature and the key phrase "e-mail directories" gave the following results. Lycos' results ranged from specific e-mail directories such as Cook Island's E-mail Directories to a Global E-mail Directory. AltaVista found 5,453 web pages that ranged from e-mail directories for a small group of people to e-mail directories that contained listings for people in entire countries.



E-mail directories are usually located as a sub-category. Excite has an e-mail directory category on their second branch page listed under the reference sub-category. Lycos has an e-mail directory category as a sub-category of e-mail on their fourth page. These directories range from the specific such as the Alaska White Pages to general directories such as WhoWhere and AnyWho.

Some universities also maintain links to e-mail directories on their web sites. The University of Iowa's web site has links to e-mail directories such as Search for E-Mail Addresses and Congressional E-mail Directory. The University of Northern Iowa's web site has links to the phone books of other colleges and universities and a link to a major e-mail directory, InfoSpace.

#### International dialing codes

International dialing codes are necessary when a business calls a company in another country (Telecom\* USA, 1996/97). These codes can be found in many telephone books. They can also be found on the Internet.

Using the search topic feature and the key phrase "international dialing codes" gave the following results. Netscape found 213 matches for this key phrase. Netscape's top site was Welcome to TeleFax Egypt. This site has international dialing codes as a link within the site. Another link from Netscape was International Dialing Codes. This site contained the dialing codes for most countries. A web site listed by Lycos is also called International Dialing Codes. This site is similar to Netscape's link but with a different address.

Netscape has an international search as a sub-category of their yellow pages category (Netscape Netcenter, 1998). AltaVista has an international dialing sub-category on their tools and gadgets branch page. Both of these sites will find

web sites for international dialing codes. The sites located by Netscape's and Lycos' search topic feature were easier to use.

The University of Iowa's web site has a link to International Telephone Directories. This site contains all of the telephone white and yellow page directories available on the web for a total of 56 countries.

### US Area Codes

Area codes are a necessary part of telephone numbers (Telecom\* USA, 1996/97). Most telephone books list the area codes for the United States. The Internet user can also find these codes on the Internet.

The search topic feature and the key phrase "area codes" gave the following results. Excite returned 8,180 matches for this key phrase. Two of the top sites was Phone Books, Area Codes, ZIP Codes and Postal Codes and Zip Code Assistant Office Directory. Infoseek results were web sites for specific areas such as the area codes in the Bell Atlantic region.

The University of Iowa's web site has a link to Area Code lookup which will find area codes for the United States, US territories, and Canada. Carnegie Mellon University's web site has two links to sites with area code information.

### E-Mail

Electronic mail (e-mail) allows private messages to be sent from individuals to other individuals or from individuals to groups (Newby, Stepich, Lehman, & Russell, 1996). E-mail is a simple and popular feature of the Internet. E-mail is an easy and exciting way to communicate with others anywhere in the world.

E-mail is an educational technology that can be used to generate student feedback (Belle, 1998). Many students feel intimidated by the educational structure.

E-mail allows them to formulate their thoughts and then communicate these ideas to the instructor without the intimation of the instructor's presence or the potential for derision by other students.

There are many e-mail software packages available on the Internet (Hayward, 1998). When the user establishes a link to the Internet from his or her home an e-mail account is offered with the service. Many of these accounts need to be accessed from one location which can be inconvenient. One of the great values of the web-based e-mail is that the user can access his or her e-mail account from any computer that has Internet access.

Some features that the user should look for in a free e-mail service are; compose and send, spell checker, save draft, send attachments, address box, preset folders and the ability to create your own folders (O'Leary, 1998).

Finding free web-based e-mail is simple (O'Leary, 1998). Many e-mail providers advertise on the Internet. Their advertisements list the URL necessary to access their site. All of these providers want your business and make themselves easy to find and use.

Most search engines that offer free e-mail have a pre-set category "Free e-mail" prominently located on their homepage (Netscape Netcenter, 1998). This category hyperlink takes the user directly to the free e-mail. By following the simple instructions, the user can acquire a free e-mail account.

Typing the key phrase "free web-based e-mail" in the search topic box gave the following results. AltaVista had 2,229 listings for this key phrase. Most of these listing were about someone's homepage that included their e-mail address. A link from a Lycos' branch page gave links to over 450 free e-mail providers.

### Mailing List(Listserv)

Listservs convey the same message to a number of people at the same time. Listservs on a variety of topics are currently available and anyone can join most of these listservs.

Listservs can be used in education in several ways (Southwick, 1998). A classroom at one school can communicate with all members of another classroom in another state or country and each of the students at both sites have access to the same information. The instructor and the educational institution can create a private listserv and have the students in one class subscribe to this listserv. Questions can be posted to the listserv and the students responds to the question and then discuss each other's answers. One great value of this method is that it allows students who have difficulty with public speaking and/or foreign students to feel free to contribute to a class discussion.

Many businesses are now using mailing lists as discussion groups to meet new clients and discover new ways to use old products (Maddox, 1998). Business education instructors and classes can tap into these discussion groups to learn how businesses change and adapt to new markets. Businesses can also use these discussion groups to interact with business education instructors and students to give each other insights to future business choices.

There are four types of listservs:

Open and Moderated - The user can subscribe to the listserv without contacting the listserv owner. The listserv owner must approve all message before they are posted on the listserv.

Open and Unmoderated - The user can subscribe to the listserv without contacting the listserv owner. Messages do not have to be approved by the listserv owner before they are posted on the listserv.

Closed and Moderated - The listserv owner must approve all subscription requests before membership is posted. The listserv owner must approve all message before they are posted on the listserv.

Closed and Unmoderated - The listserv owner must approve all subscription requests before membership is posted. Messages do not have to be approved by the listserv owner before they are posted on the listserv (Overbaugh, 1998).

An excellent listserv for librarians and researchers is Stumpers. Stumpers is an Internet mailing list that allows librarians to consult colleagues for help in answering difficult reference questions (Olson, 1994). A listserv such as Stumpers allows patrons to share a collection of reference books that most of the patrons could never afford individually. This sort of resource also allows subscribers to use the collective mental recollections of a vast number of librarians.

To subscribe to a listserv, send your request to a list server. Your request would basically be a short command 'subscribe and the name of the list serv'. To unsubscribe, you would send the command 'Unsubscribe' to the same list server.

A major drawback to mailing list is the irresponsible behavior on the part of some member of the mailing list (Overbaugh, 1998). Mailing list tend to generate a large amount of e-mail. When one member of the mailing list begins sending messages that do not pertain to the topic, the amount of e-mail that must be viewed each day is extensive.

Using Lycos and the key phrase "mailing list", Lycos returned 935 matches. These matches were specific mailing list such as a mailing list for owners of pit bull terriers. Using the same key phrase, Netscape returned 738,860 matches. The top site E-mail Discussion Groups/Lists and Resources is a mailing list help site. It also has listings for many mailing lists.

### Other Tools

Other tools that a business education student would need are maps, postal information, time zones, and international monetary guides (Fulton, 1994).

### Maps

To compete in today cosmopolitan world, businesses need to be able to locate customers and potential competition (Fulton, 1994). The Internet has several map making sites that create accurate maps with good detail of any address the user request.

Several different search engines listed maps on their homepage as a category. Netscape's map making site is Zip2. This site creates an excellent map and marks the exact location of the address requested on the map. Excite uses MapQuest which also created an excellent map. AltaVista has their own map making service. This site creates nice looking maps but has been known to place the specified address in the wrong location on the map. Lycos has a maps sub-category under their travel category. This link gives the user access to MapQuest.

The search topic feature gave the following results for the key word "maps". Looksmart returned 1,128 matches for this key word. These links were to sites that will make maps of specific areas such as the Federal Court Finder. AltaVista found 5,061,554 web pages matching this key word. Some of these web

pages were sites such as [The World Maps](#) and [North Korea Maps](#). Excite found 447,758 matches for this key word. Some of these sites were [International maps](#), [wall maps](#), [globes](#), [custom mapping](#), [antique maps](#) and [Maps of Montana](#).

Map making sites can also be accessed via the yellow pages. Many yellow page directories will draw a locality map of any business listed. The providers of map making sites also advertise in the banner advertisements found on the Internet.

The University of Iowa's web site has map making links to such site as [How Far is It?](#), [MapQuest Interactive Atlas](#), [National Geographic Cartographic Division](#), and [Perry-Castaneda Library Map Collection](#).

#### Postal Information

Some years ago, a short-sighted individual predicted that we would shortly become a paperless society. Unfortunately, we are generating more paper than before. National trends have shown as much as a 35 percent increase in postal mail over a two-year period (Fulton, 1994).

The search topic feature and the key phrase "zip codes" gave the following results. AltaVista found 29,088 web pages matching this key phrase. Two of the top sites were [Telephone Directories & Zip Codes](#) and [Zip Codes](#). Excite returned with 3,990 web pages matching this key phrase. Two of these web pages were [USPS City State / ZIP Code Associations](#) and [Zip Code Assistant Office Directory](#).

AltaVista has a zip codes sub-category in their tools and gadgets category. They also have a sub-category for FedEx, UPS, and Airborne in their tools and gadgets category. Excite has a postal information sub-category in their reference sub-category. This branch page gives the user access to the United States Post

Office. The user can also access a variety of postal information for foreign countries.

Carnegie Mellon University's web site has two links to sites with postal information.

### Time Zones

When a business needs to communicate with a company in another part of the country or world, it is helpful to know the local time for that country (Fulton, 1994).

Using the search phrase "international time zones" gave the following results. Excite returned with 117 web pages that matched this key phrase. The top site was Zip Code Assistant Office Directory. This site also has information about time zones. Another site was International Time Zones.

Using the pre-set categories on InfoSeek, a time category was found on one of InfoSeek's third page. This category had seven sites. One of these sites was Date and Time Gateway. This site has a list of major cities or countries and will tell you the current time at each location. The site, Interactive World Clock, calculates the local time and date for more than a hundred locations around the world.

### International Monetary Guides

In today's global business community, business people frequently have business dealings with companies in other countries. When traveling to another country it is always a good idea to be aware of the monetary exchange rates before going to the new country. It is also a good idea to pay attention to the exchange rate while you are in the new country (Fulton, 1994).



The Internet is a source of international monetary exchange rate information. Unlike newspapers in some foreign countries, the Internet can always be accessed in any language needed. There are several sites that will convert any monetary unit into any other monetary unit.

To access these sites use the search topic feature. Using the phrase "international monetary exchange" Netscape found 315 matches for this key phrase. Two of these sites were Foreign exchange - Finance Online and Currency Exchange Rates. AltaVista found 832 web pages matching this key phrase. None of the top 20 sites from AltaVista could convert a monetary unit into another monetary unit.

AltaVista has a currency converter sub-category in their tools and gadgets category. This link gives the user access to The Universal Currency Converter. Netscape has a currency converter sub-category in their travel category. This site gives the user access to Netscape's Currency Converter by Travelocity.

## CHAPTER THREE

### Conclusions

The Internet has many educational resources. The educational resources researched in this paper are; dictionaries, thesauri, almanacs, encyclopedias, telephone directories, e-mail directories, area codes, international dialing codes, postal information, international monetary guides, information about time zones , and mailing lists. All of these resources can be bought in paper form. On the Internet these resources are free.

The Internet is an excellent communication resource for education. There are many free e-mail packages available to any user. Educational institutions can use these free e-mail packages to communicate with other educators and students. Location and distance are less of a problem with the use of the Internet and its resources.

As mentioned previously in this paper, a major problem for many users is the difficulty of actually finding something usable on the Internet. They spend several hours and never find what they are looking for. This problem usually occurs because people do not know how to search the Internet for information. When they find a site that has the information they are looking for and want to return to that site, they cannot find it again. URLs are frequently long and difficult to remember. When you enter a search topic, the results that are returned by the search engines change frequently. If you find a site in this manner and attempt to find the same site next week, the search results may have changed.

Another major problem for many people is the ease of being distracted by the large variety of sites on the Internet. You begin searching for sites about recipes for chili and find yourself reading documents about Genghis Khan and have no idea how you got to this area. The human brain tends to easily browse from topic to topic depending on the input at the moment. The Internet is fascinating for many people because it is also easy to wonder from topic to topic. A major disadvantage with this form of browsing on the Internet is the difficulty of finding the web site the user was viewing previously.

The Internet has many search engines. Each search engines wants to be the search engine that you use each time you search the Internet. They frequently change and modify their sites to make searching the Internet easier for the user.

Search engines have created commonly used categories that are displayed each time the user accesses that search engine. These categories are linked to sites that the search engine has previewed to determine their quality. Most of these categories link to branch pages that contain many hyperlinks themselves. Clicking on one of these categories will take the user to a branch page that contains many hyperlinks about the categories.

Which method of Internet searching is the best? The answer to this question depends on the topic. As previously mentioned, URLs are the quickest way to access any site. The major drawback with URLs is their length and incomprehensible design to the user.

Using the search topic feature is an excellent method for finding desk reference tools, international dialing codes, area codes, postal information,

international monetary guides, and time zones. It was not a good method for locating telephone directories, e-mail, and e-mail directories.

Banner advertisements are the quickest method to find a telephone directory. The next best method to find a telephone directory was the pre-set categories. The pre-set categories were also the best method to find e-mail providers and e-mail directories.

There are many areas of the Internet that are not suitable for children. Some inappropriate sites have URLs that are slight variations of a popular site name. Although inappropriate sites can be easy to locate, the good sites on the Internet outnumber the bad sites.

Another disadvantage of the Internet is that the user does not know anything about the person(s) with which they are communicating. This problem has been reported in several newspapers and television news shows.

The Internet is a valuable resource that should be used in schools. However, educators need to learn how to use the uniqueness of this tool. They need to know what resources are located on the Internet and how to access these resources.

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[http://www.infoseek.com/Help?pg=advanced\\_search.html&sv=N6](http://www.infoseek.com/Help?pg=advanced_search.html&sv=N6)
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## APPENDIX

Internet Addresses (URLs)Almanacs

The Almanac of Politics and Government

<http://www.polisci.com/>

Daily Revised Almanac

<http://www.nova.edu/Inter-Links/fun/almanac.html>

Information Please almanac

<http://www.infoplease.com/>,

Old Farmer's Almanac

<http://www.almanac.com>

University of Iowa library

<http://www4.lib.uiowa.edu:8080/gw/infoguides.html>

World Almanac

<http://www.oclc.org/oclc/man/6928fsdb/walmanac.htm>

<http://www.lib.gla.ac.uk/Resources/Databases/worldalmanac.html>

World Almanac - holiday listings

<http://www.oclc.org/oclc/menu/netcalendar.htm>

World Factbook

<http://www.odci.gov/cia/publications/factbook/index.html>

Dictionaries

Bucknell University

<http://www.facstaff.bucknell.edu/rbeard/diction.html>

Carnegie Mellon University's

<http://www.cs.cmu.edu/references.html>

Clear Ink's Spell Web

<http://excite.netscape.com/education/reference/dictionaries/>

Dictionary.com

<http://dictionary.com/>

Hypertext Webster Gateway

[http://work.ucsd.edu:5141/cgi-bin/http\\_webster](http://work.ucsd.edu:5141/cgi-bin/http_webster)

Merriam-Webster's On-line Dictionary

<http://www.m-w.com/dictionary>

<http://www.m-w.com/netdict.htm>

Newbury House Online Dictionary

<http://nhd.heinle.com/>

One Look Dictionaries

<http://www.onelook.com/>

Reverse Dictionary

<http://www.c3.lanl.gov:8064/>

E-mail

AltaVista free e-mail

<http://altavista.iname.com>

Excite's free e-mail

<http://mailexcite.com>

Hotmail

<http://hotmail.com>

### Looksmart Mail

<http://www.looksmart.com/r?comefrom=nspanel-email&tunnel=email.htm>

### Lycos Mail

<http://www.lycosemail.com>

### Netscape's free web mail

<http://webmail.netscape.com>

### E-mail directories

#### Congressional e-mail addresses

<http://www.webslingerz.com/jhoffman/congress-email.html>

#### University White Pages:

<http://info-s.com/univer.html>

#### University of Northern Iowa

<http://www.uni.edu/index.html>

### Encyclopedia

#### The Concise Columbia Electronic Encyclopedia, Third Edition -

<http://encyclopedia.com/>

### International Dialing Codes

#### AT&T's International Dialing Guide.

[http://www.att.com/business\\_traveler/content/idg.html](http://www.att.com/business_traveler/content/idg.html)

#### International Dialing Codes

[http://www.aircharternet.com/virtual\\_agent/intlphonecode.html](http://www.aircharternet.com/virtual_agent/intlphonecode.html)

#### International Dialing Codes

<http://kropla.com/dialcode.htm>

Welcome to TeleFax Egypt

<http://www.telefax.com.eg/>

International Monetary Guides

Currency converter

<http://www.oanda.com/cgi-bin/travel?user=mjagpal&lang=en>

Currency Exchange Rates

<http://users.hol.gr/~mikekaps/currency.htm>

Foreign exchange - Finance Online

<http://www.finance-online.com/directory/forex.htm> Postal information

Netscape's Currency Converter

<http://www2.travelocity.com/converter/?Service=NETCENTER> The

Universal Currency Converter

<http://www.xe.net/currency/>

Mailing Lists

Email Discussion Groups/Lists and Resources

<http://www.webcom.com/impulse/list.html>

Excite's e-mail directory

[http://excite.netscape.com/directory/education/reference/phone\\_and\\_email\\_directories/](http://excite.netscape.com/directory/education/reference/phone_and_email_directories/)

Maps

MapBlast!

<http://www.mapblast.com/mapblast/start.htm>

MapQuest

<http://www.mapquest.com/>

## The World Maps

URL: [slarti.ucd.ie/int\\_maps.html](http://slarti.ucd.ie/int_maps.html)

International maps, wall maps, globes, custom mapping, antique maps,

<http://www.galaxymaps.com/>

## Postal Information

### FedEx

[www.fedex.com](http://www.fedex.com) and [www.ups.com](http://www.ups.com)

### Telephone Directories & Zip Codes

<http://www.inglot.com/phone.html>

### United States Postal Service

<http://www.usps.gov>

### USPS City State / ZIP Code Associations

[http://www.usps.gov/ncsc/lookups\\_ctystzip.html](http://www.usps.gov/ncsc/lookups_ctystzip.html)

### Zip Codes

<http://www.bodo.com/zip.htm>

### Zip Code Assistant Office Directory

<http://www.zcaofficedirectory.com>

## Telephone Directories

### 800 numbers

<http://www.tollfree.att.net/dir800/>

### Alaska White Pages

<http://www.juneau.com/white/>

### AmeriCom Long Distance Area Decoder

<http://decoder.AmeriCom.com/>

AnyWho

<http://www.anywho.com>

Bigbook

<http://www.bigbook.com>

Excite's yellow pages

<http://yellowpages.zip2.com/>

Dialing Codes. <http://www.telefax.com.eg/DialingCode.html>

<http://ziggy.derby.ac.uk/cgi-bin/country-code>

European Telephone Directories

<http://www.infobel.be/infobel/infobelworld.html>

International Dialing Codes

<http://kropla.com/dialcode.htm> International dialing codes

Microsoft's Sidewalk

<http://national.sidewalk.msn.com/infoseek/search>

Netscape's yellow pages

<http://home.netscape.com/netcenter/yellowpages.html?cp=serchsamp>

Switchboard

<http://www.switchboard.com/bin/cgidir.dll?MG=&MEM=212>

US West <http://www.uswestdex.com>

<http://yp.uswest.com/sh/yp.html>

WhoWhere

[whowhere.com/phone.html](http://whowhere.com/phone.html)

World Pages

<http://www.worldpages.com>

## Thesaurus

Roget's Thesaurus

<http://www.thesaurus.com/>

NASA Thesaurus

<http://www.sti.nasa.gov/nasa-thesaurus.html>

## Time Zones

International Time Zones

<http://www.go-global.com/Zones.html>

International Time Zones

<http://www.ms88.com/java/clock/clocks.html>

Time Zones

<http://www.bsdi.com/date/>

World Clock

<http://www.doge.nl/~lvapeldo/worldclock/>

## US area codes

Phone Books, Area Codes, ZIP Codes and Postal Codes.

<http://www.lib.ua.edu/pbaczc.htm>