



CRSP

Canadian Restructured School Plan
Le Projet D'une École Canadienne Restructurée

The Paperless Research Paper

CRSP is a project of the



Canadian Vocational Association
Association canadienne de la formation professionnelle

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Why study the topic?

Information is power. You've probably read or heard this expression many times. As the volume of information available to us, especially through electronic means, expands by leaps and bounds, these words ring more true today than ever before. In this age of the information superhighway, it is crucial to be able to identify what you need to know, then find it, understand it, and share it with others.

In this learner guide, you will learn the skills you need to complete research assignments successfully. As you know, research assignments are required in many levels of education. Learning how to conduct an effective research project is a skill you can use not only while you are in school, but also in many professional and personal situations.

Conducting research can mean a great opportunity to learn and grow. It allows you to meet your needs, challenge your thinking, and create something that is distinctively your own. In the process of doing your research, you just might find yourself journeying into areas previously unknown to you. You may be eager to return to them again later to extend your learning.

You are required to create a *paperless* research project. In other words, you will be working exclusively in an electronic medium. You will plan the project, research it, draft it, present it, and submit it using only computer hardware, software and networking resources. This will give you the opportunity to develop your computer skills and appreciate the time and resources that can be saved by conducting research this way. Knowing how to present a research project electronically is a valuable skill to have.

What do I need to know before I begin?

You should already have basic research skills. You can:

- choose appropriate research terms
- choose appropriate and relevant sources of information to meet your research needs
- quote the work of others
- prepare a bibliography

You should also have basic computer skills. You can:

- use a word-processing program
- operate a CD-ROM
- access files and save to files through a network
- use the Internet
- understand a computer-based media presentation

What will I know and be able to do when I have completed the guide?

You will learn or review the five major steps involved in the research process. They are described below.

1. Planning

You will be able to choose and clarify your research topic and the approach you are going to use.

2. Finding and Gathering Information

You will be able to locate, access, select, and record ideas, data, sources, and visuals. This will involve:

- Using a number of electronic information resources to find and retrieve information. These include CD-ROM electronic encyclopedias, networked resources such as SIRS Researcher®, MAS® (Canadian Magazine Articles Summaries), and appropriate Internet sites to find and retrieve information. You will save the relevant information from these sources and quote them correctly, respecting the rules of copyright and citations.
- Using the skills required to carry out electronic research. For example, you will create and use search terms related to the research topic and possibly use “pick-up boxes” to access directions electronically and “drop boxes” to submit assignments electronically.

1. Processing Information

You will analyze and organize the information you have gathered from your electronic search and prepare a draft. This will involve:

- Assessing the work of others, relating it to your research, and creating and presenting a personalized research product.
- Creating a complete bibliography.

1. Sharing Information

You will present your findings to others using appropriate media.

2. Evaluating the Process

You will assess the process you used and the resulting product you created.

What resources are available to help me?

Electronic Resources

The links on your school's homepage, if it has one.

The "On-Line Help" or "Help" sections of the desktop publishing and electronic resources you use.

Internet Sites:

Thinking About Your Research-Info Zone-Assiniboine South School Division:

[http://www.mbnet.mb.ca:80/~mstimson/\(Excite\)](http://www.mbnet.mb.ca:80/~mstimson/(Excite))

Library Research at Cornell - A Hypertext Guide to Research:

<http://www.library.cornell.edu/okuref/research/tutorial.html>
(WebCrawler)

Procedures for writing a term paper:

<http://www.vt.edu:10021/studentinfo/ucc/termpapr.html>

Writing term papers:

<http://www.lib.cuhk.hk/uli/bi/writers/writers.htm>

Classroom Connect-Resource Station-Citing Internet Addresses- A
how-to guide for referencing online sources in student bibliographies:

<http://www.classroom.net/classroom/CitingNetResources.htm>

Thinking Critically about World Wide Web Resources:

<http://www.library.ucla.edu/libraries/college/instruct/critical.htm>

People

Your instructor and library personnel are also available, but you should only consider going to them once you have tried to solve your problem or answer your question through the electronic assistance available to you.

How may I meet the expectations of the guide?

By completing a research project electronically as instructed in this guide.

When should my work be done?

This will depend on how adept you already are at using electronic information sources and drafting texts.

How will I demonstrate I have met the expectations?

By creating a successful presentation of your research project.

What activities do I need to do?

This learner guide gives you a unique electronic learning opportunity. You are expected to be able to communicate with your instructor or mentor electronically (perhaps by e-mail or by “drop boxes”). Find out if your computer is connected to a network that can hook you up with your instructor’s/mentor’s computer. If this is not possible, you can always put the information you want to send on disk and send this disk.

The activities tend to progress from short and simple tasks to tasks that require more thought and effort. Start up your computer and you’re off!

Activity 1: Creating Computer Folders and Files

Before you proceed any further, you need to make a computer folder in which you will place all the work you do on this guide. Here’s what you need to do:

- On your computer, open the Student Server and your file in that server.
- Create a folder in your file with the name “Paperless Research Paper.”

Activity 2: Starting a Research Journal

From time to time as you work through this guide, you will make entries into a journal. In your journal, you will write where you are in terms of completing the unit, your thoughts regarding the activities you are doing, what you have learned, and any questions that you have.

Carry out the following steps to create your journal:

1. Create a new word-processed document that will serve as your journal.
2. Start the document by typing today’s date.

3. Have you read the contents of this learner guide carefully up to this point? If so, type the title “Learner Guide” and then answer the following questions:
 - Explain what the term “research” means to you.
 - List the research and computer-related skills you think you already have and could effectively demonstrate.
 - Describe your past research experiences. What was good about them? What wasn’t so good? What do you think you could do to be even more successful when working on a research-based activity?
 - Write down the main purpose of doing the “Paperless Research Paper” learner guide.
 - Describe the final major activity that you will complete as part of the “Paperless Research Paper.”
1. Save this new document under the file name “Journal” followed by your last name. (For example, if your last name happens to be “Smith,” you’d create the file name: “Journal-Smith.”) Save this file to your server file folder named “Paperless Research Paper.”
2. In order for your instructor or mentor to be able to assess your progress, answer your questions, and make suggestions, you also need to put a copy of your journal file into the designated folder in you instructor’s or mentor’s drop box or else send the journal by e-mail. If neither is possible, give your instructor/mentor a copy of your journal on disk. Your instructor or mentor will review your journal entries on a regular basis and relay messages back to you.
3. From now on, when you are instructed to complete a journal entry, start where you last left off in the journal, enter the day’s date, the appropriate title, and then the required information.

To continue, close your journal file if you have not already done so.

Activity 3: Understanding the Purpose of Your Research Assignment

The following is the research topic you will work on as you begin your venture into electronic research. Read it carefully.

Please Note:

The topic for this activity is dependent upon the teacher's and/or the student's current needs and area of study. Any topic that lends itself to the introductory stages of electronic research could be placed here. In a later version of this activity, a specific illustrative topic will be written here and used for this and the following activity.

Before you begin any research-based assignment, you need to have a **clear understanding** of the purpose of the assignment and what the guidelines for your research will be. **This is one of the most important steps.** Having a clear understanding at the outset increases your chances of successfully completing the assignment.

The freedom the researcher has concerning the topic of his or her assigned research can vary considerably. The research project may, for example:

- consist of an assigned topic with a very specific focus or
- allow varying degrees of personal options regarding topic focus or
- allow the researcher to determine the topic.

Therefore, before you begin a particular assignment, ask yourself this question:

What is the purpose of this research-based activity?

Then ask yourself these questions:

- Does this research opportunity introduce me to a general topic? In other words, at this point do I feel that I don't know much at all about the topic?

- Does this research opportunity attempt to add to the basic knowledge I already have about the topic? That is, I have already studied this topic to some degree and this will be an opportunity for me to extend my general knowledge or to examine a specific element in more detail.
- Does this research opportunity give me the chance to identify a specific aspect of the topic and allow me to investigate it in detail and with a particular focus of personal interest? That is, I have already studied the topic and there is a definite area of interest related to the topic that I would like to research in depth.
- Does this research opportunity challenge me to gather information, analyze it and synthesize so that as a result I will be able to either:
 - * identify the likely causes of an action,
 - * identify the solutions to a problem,
 - * substantiate a prediction, or
 - * make a comparison or evaluation, etc.
 In other words, I am expected to take the information that I gather from my research and apply or extend it.

A research-based assignment does not always fall neatly into one of these categories. Sometimes the assignment seems to fit into several. It is important, though, that you take the time at the outset to analyze an assignment and identify the purpose you will be working towards.

Recording Your Thoughts in Your Journal

Now open your journal on your computer. Start your new entry with today's date. Then enter the title, "Activity 3 -- The Purpose of My Research Assignment."

Based on your understanding at this point, answer the following questions:

1. Does your research assignment:
 - permit no option in terms of possible topics?
 - provide you with the option to select from a predetermined list of related topics?
 - give you the freedom to choose related topics?

- primarily emphasize gathering and organizing information or does it require you to do something with that information or is it a combination of gathering, organizing and doing something with the information?
1. What questions do you think you have to address in your completed research assignment?
 2. What sub-topics or related topics might you have to investigate in your research?
 3. What search terms, synonyms, related words, phrases, or concepts could you use to search for information about your topic?
 4. In your own words, summarize the **purpose** of this research assignment.

Be sure to send a copy of your journal to your instructor/mentor.

Activity 4: What Other Guidelines Do You Have?

In addition to clearly understanding the purpose of your research assignment, it is just as important to understand before you start what other guidelines are in place that may affect your research and presentation process. Some things to consider:

1. How will my assignment be assessed or evaluated?

- What are the criteria for evaluation of this assignment? Who will be involved in the evaluation of this assignment?
- What are the time requirements? Are there on-going deadlines that I have to meet?
- Are there any requirements in terms of volume, content, etc.?

1. Who is the audience for my research assignment and what format will my assignment have to take?

- Who is the audience for my research? (For example: Is it my teacher, a peer group, my class, the media, etc.?)
- How will I share my assignment with them? (For example: Will the format of my assignment be a hard copy text or will it be electronic in nature? Will it include visuals? Require an oral

presentation, etc.?)

- Are there any special considerations I need to address? (For example: Are there any format guidelines to which I must adhere? Do I have to reserve equipment and/or a location? Do I need a specific set-up for a presentation? Do I have to identify or select a time in advance? Will I need physical assistance, etc.?)

Recording Your Thoughts in Your Journal

Continuing from where you left off in your journal, enter the title “Activity 4 -- Research Assignment: Assessment and Audience” and answer the questions given above.

Be sure to send a copy of your journal to your instructor/mentor.

Activity 5: Fine-Tuning the Focus of Your Research

Keeping in mind what you now know about your research assignment, read an overview article or two on your topic. Use an electronic encyclopedia and see what you can find out with the search terms you have already identified. (Some examples of possible encyclopedia to use: Compton’s, Microsoft’s Encarta, World Book Factfinder, Grolier’s, Britannica.)

By reading the overview articles, you will further clarify or confirm your understanding of the topic. You should actually be skimming the articles; there is no need to read them in depth at this time.

Recording Your Thoughts in Your Journal

When you have finished skimming the articles, go to your journal and write the title, “Activity 5 -- General Reference Check.” Then do the following:

- Summarize what you read. State if the articles confirmed what you already knew and write down anything new that you might have learned.
- Make a list of the resources you consulted.

- Indicate whether these resources might be worth going back to and if appropriate, indicate where the articles that might be particularly helpful are located.
- You may also wish to make note of any special formats, visuals, etc.

If after working through these last three activities (Activities 3, 4 and 5), you find that you are still unclear about your topic and what you will be doing with it, you should review the information already provided to you and read over your journal entries. If you are still uncertain, arrange to speak to your instructor or mentor or communicate your questions and/or problems to him or her through your journal. Planning is an important step in the research process. Before you start researching in earnest, you need to have the why, what and how of your research clearly established in your mind.

Again, if there is anything you are uncertain about, please put your questions in your journal or talk to your instructor/mentor.

Be sure to send a copy of your journal to your instructor/mentor.

Activity 6: Preparing to Find Information

In Activity 3, you identified possible search terms, subjects, synonyms, related words, phrases, or concepts you could use to search for information about your topic.

Now that you have taken the steps to clarify your topic, it is time to think more carefully about the key words you will use to find information related to that topic. It is important to take this time to identify the search terms that are likely to be most effective. Not doing so may mean not finding the information you are looking for or finding information that is not relevant to your topic.

There are two main ways to determine the search terms you will use and then use them to search for information.

One Option: Identify the Search Terms

One way to find information about a topic is to try to identify the specific terms or combination of terms that best focus on what you want to find. You have already used this method when skimming an index or using a card catalogue to look for information on a particular subject. When you are identifying these terms, trying not to limit yourself is often better than having too few options. You should identify a variety of possible subjects to try. For example, if your research topic deals with gorillas, you might search for a book using the word “gorilla” and get no matches. You may, however, find several books with relevant information on gorillas by using the search word “primates.”

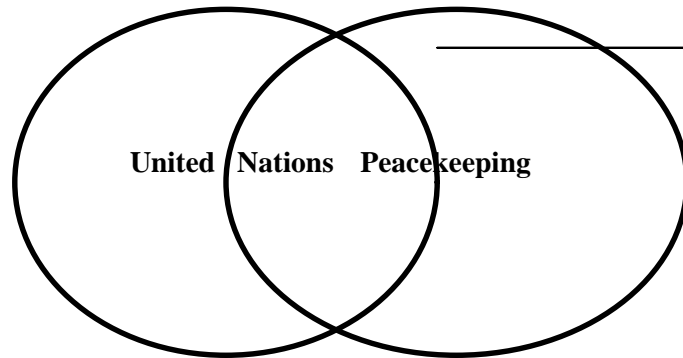
When identifying your search terms it is also a good idea to keep in mind where the words would fit in a scale of general to specific. For instance, if you are preparing a research assignment on raising beef cattle, the general term “agriculture” could lead you to many unrelated topics, and the term “Hereford cattle,” although possibly leading you to related information, could also lead you to resources where you would not find much information or information that is too specific for your purpose.

When selecting your terms, think of alternatives or synonyms for the terms you choose. For example, an alternative word or synonym for “farming” would be “agriculture.” If you attempt a search using a term you have selected and get only a few results, don’t give up. Try the alternative term(s) you identified. With practice, you will find that the task of identifying search terms gets easier and easier, leading you more quickly to what you want.

To limit your search, you may wish to use two related terms. This is often an option in an advanced search of an electronic card catalogue and it is also frequently an option with both electronic data bases and search engines used on the Internet. This practice of combining two terms as part of your search is often referred to as a Boolean search.

For example, suppose your research question was “Has the United Nations played an effective role as peacekeeper in the last decade?” The two key terms in the question are “United Nations” and “peacekeeper.” If you conduct a search using only the term “United Nations,” you will get many resources relating to the United Nations and some of them may discuss its peacekeeping role. If you conduct a

search using only the term “peacekeeping,” you will get resources that deal with peacekeeping by many groups, not just the United Nations. If you entered both terms in your search, you should get those resources that deal with both the United Nations and peacekeeping. In the diagram below, it is the overlapping area in the centre that you really want to find.



Another Option: Formulate a Precise Question

Another way to find information related to your research is to say what you are looking for in a precise question. The resulting question should be one that anyone would be able to read and immediately understand what it is you want to know. Suppose, for example, that you wanted to find information about a specific federal budget. You might formulate the question: “What were the highlights of the 1997 Canadian budget?” If well-formulated, the question will very likely contain the key search terms you will use. Putting your research topic in question form is the first step required by some electronic research programs. This method of identifying what you are searching for is often called the “natural language search.” The method is so named because it is natural for people to pose a question when they want to learn more about something.

One advantage of programs that use a natural language search is that if you provide a clear question, the program determines the most likely search terms for you and conducts a search using those terms. One example of a search engine that uses this approach on the Internet is “Pacprospector®” (<http://www.pacprospector.com>). Another program that uses a natural language search is “The Electric Library®” (<http://www3.elibrary.com/id/101/101/>). This latter program requires a subscription, however.

Recording Your Thoughts in Your Journal

Now it is time for you to identify what you think will be the best search terms for your research topic. Open your journal and start your entry with today's date. Enter the title "Activity 6 -- Preparing to Find Information," then do the following:

1. Think about or refer back to Activity 3. In one sentence, try to turn your research topic into a clearly-stated question--one that anyone who reads it will immediately understand what it is you want to know. Write the question in your journal. Now formulate a second question that is different from the first but has the same purpose. Write it in your journal.
2. Look at the questions you wrote. Choose the one you think is best. What are the words in the question that focus most on what you want to find out? Do any of the words either seem too vague or general? Are any of the words so exact that it may be difficult to get information on them? If the answer to either of these questions is yes, you may want to think up some replacement words. Record the words you decide on in your journal.
3. Now try to think of an alternative word or synonym for each of the words in your list. Write these alternate words in your journal next to your first list of words.
4. Which search method do you think you would prefer to use? The natural language search or a Boolean search? Why?

To be a successful researcher, it is important to experience and be familiar with a number of search approaches. Although the electronic search resources that are currently available may have some similarities, they also have some differences that you should understand and take advantage of. *It is important to take some time to familiarize yourself with their special search features and try them out.* For example, some search resources require you to use "and," "or" and possibly other words when you are using more than one word in your search. Others will allow you to enter a phrase or a combination of words. If you ever run into difficulty using any of these resources, be sure to use the HELP system, paying careful attention to the examples the HELP system provides.

Activity 7: Conducting Your Search

Now you need to conduct an initial search with both the question you formulated and the search terms you selected.

1. Use your search terms on the SIRS Researcher®, or MAS® and one of the World Wide Web (WWW) search engines linked from your school's home page, if this is possible. Some examples of WWW search engines: AltaVista, Excite, Lycos.
2. Use your question on one of the following two natural language search engines: Pacprospector® or The Electric Library®. You may be able to access both of these through your school's home page.

Recording Your Thoughts in Your Journal

In each case, save what you think is the best article you found and the bibliographic reference for it in your server file and in your journal.

In your journal, explain why you think the articles you saved were worth saving.

Then describe the process you went through and identify any problems you had, describe what you may have learned, etc.

Activity 8: Process the Information You Have Gathered

Now use the research you have collected to write a draft of your research paper. Be sure to include a complete bibliography.

Once you are satisfied with your research paper, send it to your teacher or mentor by electronic means. If this is not possible, give your teacher or mentor a disk containing your report.

Activity 9: Self-Evaluation

Before you close your computer files on this guide, take some time to evaluate the process you have just experienced. What went well? What would you do differently next time? What have you learned? Record your thoughts in your journal and send it off to your evaluator or mentor.

Where do I go from here?

Stay connected! You will find that the skills you developed in this guide will be useful to you in most of your courses in high school and in any further studies you choose to undertake. They will also prove valuable in many work situations.

Try to continue to use electronic information sources to keep up to date with the rapid changes in this medium. Plan to find new information at least once a week.

LEARNER GUIDE WRITING TEAMS

NEW BRUNSWICK SITE

Site Leaders: Dr. Neil Wortman (1996); Chris Fleming (1997).

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Campobello Island Consolidated School
Carleton North Senior High School
Fundy High School
Grand Manan High School
John Caldwell School
Nackawic High School
Southern Victoria High School
St. Stephen High School
Sir James Dunn Academy
Tobique Valley High School
Woodstock High School

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Carleton North Senior High School
John Caldwell School

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Southern Victoria High School
Woodstock High School
Nackawic Senior High School
Fundy High School
Tobique Valley High School

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Tobique Valley High School
Nackawic Senior High School
Fundy High School

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Campobello Island Consolidated High School
Nackawic Senior High School
Woodstock High School
St. Stephen High School
Carleton North Senior High School
Campobello Island Consolidated High School
Tobique Valley High School

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