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# Introduction

Writing and researching reports using computers has changed dramatically in the last few years. Access to interactive CD-ROMs, the Internet and other pieces of software for the collection and storage of data has made the process complex for both teachers and students. This book will offer the teacher tips, tricks and proven methods to help teach research skills. It will also provide lessons for students to use when formulating research questions, conducting research and evaluating results.

You will notice that some of the lessons in this book don't utilise a computer at all. Conducting research with a computer does not simply mean sitting down at a computer for all tasks. The thinking process, the narrowing of topics, the identification of keywords and even web site evaluation are often done before or after using a computer. The formalised research model included in this publication also provides the educator with the information needed to effectively utilise research to support teaching across the curriculum.

The CD-ROM included with this book contains all of the handouts in *Adobe Acrobat™* (PDF) format. If you do not have the free Adobe Acrobat reader, point your browser to <http://adobe.com/> to find the version for your computer platform. There is a single web page on the CD-ROM that you can open in your browser, which will easily link you to all of the PDF files on the CD-ROM.

Also included on the CD-ROM are database templates to help students collect and arrange their data in a useable format. These templates will be found in DBF format for easy importing into *Microsoft Works™*, *AppleWorks™*, *Filemaker Pro™* or *Microsoft Access™*.



# Chapter 1: Introduction to Research

## What is Research?

Research is a process which includes an organised study of a subject. All research is documented, which means that sources used are credited. It's fine to use someone else's ideas or words as long as credit for them is given.

There is a difference between reports and research papers – students must prove something when writing a research paper, they must not simply 'spit back' information found in books and other sources. In the past, students may have used an encyclopedia or a book to copy information about a topic, but these days teachers and students realise that this type of reporting requires very little thinking. Writing a research paper or presenting a research project is very different and requires a great deal of thinking.

## The Purpose of Research

The purpose of research is to:

- allow the student to satisfy their curiosity and special interests in an area of study.
- help the student make an organised search for, and presentation of, the information.
- allow the student to understand and appreciate how a formal research study, research paper or research presentation is organised and developed.
- allow the student to make use of library, computer and community resources to answer a question.
- allow the student to inquire in depth about a particular topic.

## Parts of a Research Paper

The three essential parts of a research paper are:

1. Outline – an overview of the main topics and areas of the paper.
2. Essay – the actual body of the paper. It also includes the footnotes.
3. Works Cited – this area contains all the sources cited with footnotes in the paper.



# Introduction to Research *(cont.)*

## Steps in Writing a Research Paper

This book will take students through the procedure necessary to write a research paper. The general overview of writing a research paper includes the following steps:

1. Select a general topic of interest.
2. Think about the knowledge that you already have on this topic. Jot down some keywords that come to mind.
3. Look for general information about the topic. Encourage students to be realistic since they probably have a limited amount of time to complete the project, and they should be sure that enough information is available.
4. Narrow or focus the topic to complement the length of the paper or presentation.
5. Develop a thesis statement, which will guide further research and the writing of the paper.
6. Write an initial outline. This outline may have two to four sub-topics, which will be the main area of research to support the thesis statement.
7. Begin to gather information. Write down the important bibliographic information about the sources, so a 'works cited' page can be created later.
8. Write a more detailed outline of the research paper.
9. Write the first draft of the paper, including footnotes when information from others is used.
10. Revise and write the final draft.
11. Create the 'works cited' page by alphabetising the sources in the method instructed by the teacher. Remember, there should be nothing listed on the works cited page that is not used in the paper.



# Chapter 2: Choosing a Topic

## Overview

One of the hardest things for a student to do is to narrow down a topic to research. With the huge amount of information available, it is very important that the initial research question be as specific as possible. If you are assigning the topics for the class, remember to be very precise with the subjects that are suggested as possible topics.

This chapter covers some of the pre-research skills necessary for the successful identification of a topic. The first lesson, 'What I Know', uses students' existing knowledge to complete a graphic organiser on a specific topic. By asking students to list what they know about a topic and what they think they know about a topic, it is easy to lead them into a discussion about what they might still want to find out about the topic.

The next lesson, 'Unlocking the Keywords', allows students to practise identifying keywords. Establishing what constitutes a keyword in a paragraph is an important research skill when reading print or electronic sources, or formulating queries with online resources.

The 'General Information' lesson presents students with the background knowledge needed to conduct further research. The use of general purpose reference sources to allow identification of keywords and key topics will form the basis for further research on a specific topic.

Clarification and the narrowing down of a research thesis statement is the subject of the 'Fun and Games' lesson. Students are asked to come up with a Jeopardy-like question to a given answer. At the end of the lesson, students are asked to create a question that they would like to answer for their individual research projects.

The students' first use of the computer for this project is incorporated into the lesson entitled 'Roadmap for Research'. By completing a graphic organiser template produced in *Inspiration™*, students will visually create their initial search strategy. They should be encouraged to re-create, edit and re-edit the strategy as they work towards their final research project.

