

**Mastering Information Skills**  
**for the 21st Century**

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for the 21st Century**

**M P MACHET**

**With acknowledgement to  
S J Behrens and S I I Olën**

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# CONTENTS

Figures	vi
Acknowledgements	ix
<b>SECTION 1</b>	
General orientation and introduction	1
1    What are information skills and why do we need them?	3
<b>SECTION 2</b>	
Sources and resources: Exploring the information environment	17
2    Finding information	19
3    Reference sources	35
4    Printed sources and multimedia	50
5    The Internet	65
6    Electronic sources and resources	80
7    Searching the Internet	98
<b>SECTION 3</b>	
Planning and writing information tasks	119
8    Constructing a work plan	121
9    Finding relevant information	136
10   Taking notes	156
<b>SECTION 4</b>	
Completing the information task: Finalising an assignment	181
11   Evaluating your information and filling in the gaps	183
12   Referencing and reference techniques	200
13   The writing process: From notes to paragraphs	224
14   Finalising your writing task	236
Index	252

# FIGURES

## **1 WHAT ARE INFORMATION SKILLS AND WHY DO WE NEED THEM?**

- 1.1 Time periods and resources
- 1.2 Case study

## **2 FINDING INFORMATION**

- 2.1 The ten main DDC classes according to subjects
- 2.2 Labelled spine of book with call number
- 2.3 Example of a bibliographic description of a book

## **3 REFERENCE SOURCES**

- 3.1 Example of an entry in a general language dictionary
- 3.2 Entries in a printed bilingual dictionary (English/Sepedi)
- 3.3 Entry in a biographical dictionary
- 3.4 Index entries in multi-volume encyclopaedia
- 3.5 Filing methods in indexes
- 3.6 Example of entries in a telephone directory

## **5 THE INTERNET**

- 5.1 Elements in a URL address
- 5.2 Examples of common abbreviations in a URL address

## **6 ELECTRONIC SOURCES AND RESOURCES**

- 6.1 Unisa portal
- 6.2 Official site of the City of Johannesburg
- 6.3 South African government site
- 6.4 Example of an enterprise portal: Radio 702 Talk Radio
- 6.5 Example of a library portal
- 6.6 Example of search page for e-journals available at a library
- 6.7 Example of an entry in an indexing database
- 6.8 Entry from an indexing database
- 6.9 Entry from an abstracting database
- 6.10 Example of search page for a database
- 6.11 Example of a webpage showing different sources available

## **7 SEARCHING THE INTERNET**

- 7.1 Venn diagram for OR
- 7.2 Numbers of records retrieved with search using OR

- 7.3 Venn diagram for AND
- 7.4 Numbers of records retrieved with search using AND
- 7.5 Venn diagram for NOT
- 7.6 Numbers of records retrieved with search using NOT
- 7.7 Example of a database search page showing fields

## **8 CONSTRUCTING A WORK PLAN**

- 8.1 Example of identifying keywords
- 8.2 Verbs commonly used in academic assignments
- 8.3 Example of the interpretation of an assignment topic
- 8.4 Example of a work plan
- 8.5 Example of a work plan using a mindmap

## **9 FINDING RELEVANT INFORMATION**

- 9.1 Search of catalogue using keyword 'internet search engine'
- 9.2 Search Unisa library catalogue using keyword 'web search engine'
- 9.3 Search Unisa library catalogue using keyword 'Yahoo'
- 9.4 Results of database search using the keywords 'web search engine'
- 9.5 Google search using search phrase 'Web search engines'
- 9.6 Google search using search phrase 'Compare Google and Yahoo'
- 9.7 Recording information onto the work plan

## **10 TAKING NOTES**

- 10.1 Example of note with citation
- 10.2 Example of underlining
- 10.3 Example of textbook marking
- 10.4 Writing a mind map
- 10.5 Example of an organisational diagram of the organisation of a school
- 10.6 Example of a linear flow chart showing the writing process
- 10.7 Example of circular flow chart showing the water cycle
- 10.8 Example of a table showing the comparison of characteristics of mammals and fish

## **11 EVALUATING YOUR INFORMATION AND FILLING IN THE GAPS**

- 11.1 Compiling a definition
- 11.2 Example of drawing an inference
- 11.3 Example of differing viewpoints
- 11.4 Evaluation process

## **12 REFERENCING AND REFERENCE TECHNIQUE**

- 12.1 Example of citation for a book
- 12.2 Book with corporate author
- 12.3 Book with two authors
- 12.4 Book with three or more authors
- 12.5 Chapter in edited book
- 12.6 Book with an editor
- 12.7 Citing more than one source
- 12.8 Periodical article
- 12.9 Newspaper article
- 12.10 Newspaper article without an author
- 12.11 Citation for an electronic source from the Internet
- 12.12 Example of a web page
- 12.13 Electronic periodical reference
- 12.14 Conference paper
- 12.15 Government publication
- 12.16 Two or more sources written by the same author published in different years
- 12.17 Two or more sources written by the same author in the same year
- 12.18 Listing works by an author who has some works in collaboration
- 12.19 Example of a list of references

## **13 THE WRITING PROCESS: FROM NOTES TO PARAGRAPHS**

- 13.1 The writing process
- 13.2 Example of academic writing
- 13.3 Example of brainstorming list
- 13.4 Example of an outline
- 13.5 Example of an outline as a mindmap

## **14 FINALISING YOUR WRITING TASK**

- 14.1 Form of the essay
- 14.2 Example of a table of contents
- 14.3 Example of an introduction
- 14.4 Example of a topic sentence and supporting evidence
- 14.5 Example of a coherent paragraph

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# **Section 1**

**General orientation  
and introduction**

# 1

## What are information skills and why do we need them?

### Contents

- 1.1 Introduction
  - 1.2 Development of the information society
    - 1.2.1 Role of the computer
    - 1.2.2 Telecommunication
  - 1.3 Information overload
  - 1.4 Your information needs
  - 1.5 Information literacy
  - 1.6 Information skills
  - 1.7 Information task
  - 1.8 Lifelong learning
  - 1.9 Review
- References
- Answers to activities

### Outcomes

Working through this chapter should enable you to:

- define the concepts information society and information literacy
- state the central role that information communication technology (ICT) plays in the information society
- explain why you need information skills

## Key concepts

**industrial society**

a society in which the main form of economic activity is the production of goods

**information society**

our present time in history, where society regards information as a key product or resource, and where political decisions, economic development, the quality of life and social change are dependent on the use of information

**Information  
Communication  
Technology (ICT)**

merger of computing technologies and communication technologies which makes vast amounts of information and data instantly available almost anywhere

**mass communication**

communicating the identical message to a large number of people at the same time

**information awareness**

the knowledge base and skills framework you utilise when you use information; the realisation that it is possible to do a great deal with information

**information literacy**

the ability to access, evaluate and use information effectively for your purposes from a variety of formal and informal sources

**lifelong learning**

applying information skills throughout life; continuing on a path of education throughout life

## 1.1 Introduction

This book deals with information skills. Before we can start learning these information skills we need to understand why we need them and what they are. In this chapter we will discuss the particular changes that have taken place in the last fifty to sixty years that have made it necessary for us to learn these particular skills and also what these skills consist of. In this chapter you will learn about the information society and information literacy. You will also learn why it is important to have information skills and more about the particular skills which you need in order to utilise information effectively.

## 1.2 Development of the information society

The information phenomenon is one of the defining features of the modern world. The creation, packaging and use of information have accelerated so much over recent years that it is often referred to as an information explosion. According to some writers this exponential increase in information combined with technological developments resulted in a new type of social system – the information society. This is also referred to as the post-industrial era or the networked society. In this book we will refer to it as the information society.

Changes in society can be described and shown in many ways. A common way of marking these changes is to divide history into several eras or time spans. Each of these eras covers a chronological time period, and relates to the particular aspects of society during that period in history. The way you choose to divide the time period will depend on which characteristics of society you focus on. However, it is important to remember that these divisions are artificial and can vary depending on one's perspective and the purpose of the division. From the point of view of production of goods, history can be divided into three eras: the agricultural era, the industrial era and the information era, as shown in Figure 1.1.

**FIGURE 1.1: TIME PERIODS AND RESOURCES**

<b>ERA</b>	<b>MAIN RESOURCES PROVIDED THROUGH</b>
Agricultural	Crops and domestic herds
Industrial	Factories and industries
Information	Information products

It is important to remember that these divisions are artificial and that characteristics or aspects of the previous eras will be found in a society as it moves from one era to the next. So, for example, South Africa has subsistence farmers (people who are still in the agricultural era), factories and industries, as well as aspects of the information era. A society is deemed to be in one of these eras depending on where the majority of the population work.

The agricultural era existed for thousands of years, whereas the industrial revolution has lasted only three hundred years. Throughout these eras, people have communicated information to each other, at first orally but as writing was invented, in handwritten form (for example, letters), and then in printed form (for example, books, newspapers and magazines). Until the late 19th century, the amount of information available grew relatively slowly. However, by the end of the 19th century certain inventions began to radically affect the amount of information which was available and the way it was communicated. It was the power of such new technology and further new technologies, especially when these were combined, that led to what is known as the information era.

The first two important inventions that had a major effect on communication were the telephone and the radio. In the 1870s Alexander Graham Bell produced the first telephone which was capable of transmitting and receiving human speech. The telephone enabled people to communicate orally across great distance. In the 1890s Guglielmo Marconi invented the radio, and by the turn of the 20th century radio messages were being transmitted across the Atlantic Ocean. Radio became one of the most powerful means of mass communication. The reason for this is that most people had access to it and it is cheap and convenient. Television, an important electronic form of mass communication, was first used in the 1920s and is also a very powerful and influential communication medium. Similar to radio, it is used for both entertainment and as a source of information.

In the 1940s the first digital computer was invented. The computer is able to store large amounts of information in its memory, as well as carry out complex computations. However, from the point of view of the information era, the most important aspect of the computer is the development of the linkage between computing and telecommunications systems. This linkage enables computers to 'talk' to each other and thus access each other's memory banks and processing power.

Technologies such as these are called information communication technology (ICT). ICT encompasses many inventions which are used for communication, including the radio, TV, telephone and other telecommunications devices such as fax, satellite, computers and cellular phones. ICT has not only increased the means used to communicate information, it has also increased

the speed at which information is produced and made available. This new technology has made more information available to more people than at any time in human history. And you only have to think about how the Internet and cell phones have affected the way in which information is disseminated to realise how information permeates our society today.

### ACTIVITY 1.1

Write down three examples of how ICT has changed the way you do things today compared with the way your mother or grandmother did them ten or more years ago.

In today's world information is of key importance and people have become aware of information as a crucial resource in the economic, political and social life of nations. There has been an extraordinary increase in the amount of information available in virtually all societies. For example, access to media such as television, radio, magazines, DVDs and books has expanded as well as the variety and amount available. We live in a media-laden society. However, it is not only the amount of information in a variety of media and formats that has resulted in the development of the information society. It is the new technology of the computer combined with telecommunication, as well as an understanding of the value of information.

Many writers dispute that the information society is a new society. Rather they stress that information has been used by all societies from earliest times. One of the defining characteristics of human societies is their ability to store and transmit information to new generations. There are also debates as to whether the information era is distinct from the industrial era or whether the growth of automation is simply a sign of increased complexity in the process of industrialisation. We will not debate the issue here but if you are interested in reading more on the subject you can consult some of the sources listed at the end of the chapter.

#### FIVE MAIN POINTS TO STRESS ABOUT INFORMATION:

1. Information is a vital resource.
2. There is an enormous amount of information available.
3. We need to be aware that information can help us.
4. We must be able to obtain the right information, at the right time, for our needs.
5. We need to know how to work with information.

### 1.2.1 Role of the computer

The role of the computer is one of the key elements in an information society. Why is the computer – among the many new technologies and inventions – the driving force behind the information society? The answer lies in the ability of the computer to simulate skills and attributes that we once regarded as unique to humans: memory, logic and communication. Computers make it possible to perform multiple operations at high speed. They are able to handle large amounts of information and to store and manipulate pieces of information. Breakthroughs in information processing, storage and transmission have led to the application of ICT in virtually all areas of society. The power of the computer has increased dramatically and at the same time the price of computers has come down making it financially feasible to use computer technology in washing machines, cars, etc.

The convergence of computers and telecommunications has resulted in an even more dramatic improvement of information management and distribution.

### 1.2.2 Telecommunication

Telecommunications enables the widespread distribution of computers to be linked and to form networks. This is sometimes called the ‘information grid’. This grid links offices, homes, factories, shops, etc. to offer information wherever it is needed. Once established these information networks are the highways of the modern world similar to the roads and railways of the industrial era. In the industrial era the transport infrastructure was essential because it carried materials and goods that formed the basis of the industrial society. The information grid provides the infrastructure supporting the key ingredient of the information society – namely, information (Webster 1997:76–77). It is this interconnectedness that prompts many writers to call this the networked age or era. As a result of the new technology a kind of global forum has emerged in which ordinary people around the world can engage.

Networks no longer serve simply as the medium through which people can communicate. The global fusion creates a place in which people can gather to do business. People can increasingly conduct their activities through the global network. It gives people the ability to meet and access information anywhere all the time (Vlahos 1998:498).

Two examples illustrate this point:

- A company can be situated in South Africa but use experts from many other countries to develop a product or offer a service. Communication and control can be maintained through e-mail, teleconferencing and other telecommunications networks.

- An individual situated in South Africa can buy items from shops situated in Britain, South America and other countries through the Internet.

The transnational corporation now dominates the global economy. Domains such as law and politics are increasingly becoming transnational as well. Many organisations have become so interdependent that they are described as network firms. Cooperation and coordination are now as significant as competition.

## 1.3 Information overload

One of the problems resulting from the large amount of information available today is information overload. The rate of production of information is growing much faster than the consumption of information. Time limits the amount of information one can consume. There are only so many hours in the day in which one can read, watch television or access information on the Internet. Information is consumed at a much slower pace than it is produced.

In order to take advantage of the information being produced and made available we have to have the necessary skills to find the relevant information in as little time as possible among the mass produced. This is one of the main reasons we need to be information literate today. The vast quantities of information produced and made available today in a large range of formats and media require specific skills not needed by previous generations.

## 1.4 Your information needs

In the previous section we discussed the enormous amount of information available today. How does this affect us as individuals in our private and working lives? In other words what does it mean to you to be part of an information society? We need to:

- function in a society where information is considered to be an important and indispensable commodity or resource
- be aware that information can help us solve problems and make decisions
- be able to obtain the right information for our purposes
- know how to work with this information

Pause a bit here, and think about the last time you needed information. It might have been for a simple problem such as where is the nearest bus stop or it could have been something more complex such as taking out a cell phone contract. We all need information for many different situations in our everyday lives as well as for further studies. For example, you may need information in order to:

- find a job
- catch a bus in time
- buy things (food, clothes)
- budget successfully
- vote in an election
- obtain a bursary

### ACTIVITY 1.2

Look at the list above. What types of information would you need to complete each of these activities? Choose two of these activities and write down the type of information you might need in order to carry out the task. You can make a table like the following to help you:

ACTIVITY	TYPES OF INFORMATION I WOULD NEED
Vote in an election	<ul style="list-style-type: none"> <li>• where I should go to cast my vote</li> <li>• the type of identification I need</li> <li>• the candidates</li> <li>• their policies</li> <li>• the political parties to which they are affiliated</li> </ul>

If you think about what information you need in each of these instances, where you will find this information, how much of it you need, and so on, you can see we all need and use information on a daily basis to function. We constantly need information because we simply cannot possibly know everything that we need to know even for our everyday lives. What makes our information needs and uses different today? The answer to this question is not simple. However, the most important thing in any answer is this: there is so much more information available today than there was in the past. Our options have grown immensely.

We have to make our decisions and choices based on a far larger amount of information. And if we want to make the right decision or the right choice, then we have to use the best information available. This is where information literacy comes in. Information offers us ample opportunities to function in society today, but we have to be able to utilise these opportunities. We can only utilise the information opportunities if we are information literate.

## 1.5 Information literacy

Information literacy is a concept that was first used in the 1970s (Zurkowski 1974:6). A new problem, related to the amount of information available, had become apparent: the need for individuals to cope with this information in work situations. To be able to cope meant to be skilled in not only using information itself to solve work-related problems, but also in using the retrieval tools and mechanisms available (for example, computers) to find the necessary information for the problem.

In 1989 a Presidential Committee on Information Literacy produced the following explanation of information literacy:

To be information literate, a person must be able to recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information ... Ultimately, information literate people are those who have learned how to learn. They know how to learn because they know how knowledge is organized, how to find information, and how to use information in such a way that others can learn from them. They are people prepared for lifelong learning, because they can always find the information needed for any task or decision at hand. (American Library Association 1989:1)

Since 1989 the definition and the list of skills needed have been explored and expanded. The Association of College and Research Libraries states that on a tertiary level, students that are information literate should be able to do the following:

- determine the nature and extent of the information needed
- access needed information effectively and efficiently
- evaluate information and its sources critically and incorporate selected information into his or her knowledge base and value system
- use information effectively to accomplish a specific purpose
- understand many of the economic, legal and social issues surrounding the use of information and access and use information ethically and legally (American Library Association 2005)

Briefly, you are information literate if you can determine that information is needed, and access, evaluate and use information effectively from a variety of resources. You should also be aware of ethical issues surrounding the use of information, for example, copyright laws.

The verbs 'determine', 'access', 'evaluate', 'use' and 'understand' used above represent skills related to the utilisation of information. In other words, being information literate requires that you have various skills, namely,

determining, accessing, evaluating, using and understanding information which is to be found in various sources.

In today's world we need to be information literate not only for study and work purposes but also to enable us to make the best decision in everyday life. For example, look at the case study in Figure 1.2:

### FIGURE 1.2: CASE STUDY

Busi Nkosi wants to buy a new cell phone. She wants it to have certain functions and support additional services and accessories such as SMS, MMS, e-mail, and access to the Internet. The first thing she does is speak to friends who have cell phones to check out what they have. She asks them how they like their cell phones and confirms what accessories they have. She then goes to various shops that sell cell phones and compares various cell phones in terms of price and functions. She also visits companies that offer cell phone contracts to find out what contracts are on offer. She checks on the Internet for evaluations of the various phones and to see if there are other options available.

After checking thoroughly, Busi is ready to make her purchase. She chooses a phone with all the functions and accessories she needs, and also decides to go with the pay-as-you-go option rather than signing a contract. This works out cheaper and also ensures that she spends only what she can afford every month on her cell phone calls.

### ACTIVITY 1.3

Refer to the case study above and show how Busi applied skills involved in information literacy.

Busi:

- accessed information by ...
- evaluated the information by ...
- used the information by ...

Busi was able to solve her problem, and ultimately make a decision, based on information. The information that she accessed came from several resources. There are many other resources she could have used if necessary.

The whole of Section 2 of this book is about finding information in various resources. For example, you learn about accessing sources in library collections, and about using the Internet as a resource to locate information.

## 1.6 Information skills

From our previous discussion we can conclude that accessing, evaluating and using information are fundamental skills for information literacy. We group these skills together and call them information skills.

To be information literate, you need to be capable of doing several things with information. These capabilities, or skills, should enable you to:

- be aware of and understand the information environment including the ability to understand the type of information required for a specific problem; and be able to identify a suitable selection of sources from the information infrastructure to use (for example, library catalogue, databases, printed indexes, etc.)
- recognise when you need information including the ability to be able to determine your own information needs
- know where and how to find information using various resources including the ability to formulate and adapt a search statement, reflect critically on the search strategy, and use a range of searching techniques
- understand the role of information in your own life including the ability to reflect on the relevance of search results, reflect on information needs
- develop bibliographic skills including the ability to understand the importance of correct citations
- compile a bibliography
- use analytical skills including the ability to formulate a search strategy/strategies to find suitable information
- evaluate information including the ability to evaluate sources for relevance and scientific validity and currency
- synthesise information including the ability to put the information in your own words
- develop presentation skills including the ability to structure an assignment using an appropriate framework and communicate effectively
- engage in lifelong learning including the ability to assume responsibility for your own learning

- use information ethically including acknowledgement of sources and avoidance of plagiarism

This list of skills may seem intimidating now but after working through the book you will be well on your way to becoming information literate.

Information skills are transferable skills which means that they can be transferred to any situation where you need to use information. When we talk about information skills we are talking about practical skills and mental abilities. These combined skills enable us to use information effectively for a particular task. We call this the information task.

## 1.7 Information task

An information task is any job which requires the use of information. An information task can relate to any situation where you use information to solve a problem or make a decision. The main information task we will focus on in this book is writing an assignment.

## 1.8 Lifelong learning

Knowledge is an invaluable asset in today's ICT-integrated society, both tacit knowledge, that is, knowledge in your head and explicit knowledge, that is, knowledge that exists independently such as in books, journals or the Internet. The acceleration of scientific and technological progress and innovation is the driving force in knowledge intensive economies. Therefore application and creation of new knowledge are a normal part of the work of modern professionals: lifelong working implies lifelong learning. As a student, you are the professional of tomorrow and need to develop the competences of the knowledge worker. However, the knowledge and skills you acquire in formal education (school and university) are usually not sufficient for a professional career spanning three or four decades.

Lifelong learning does not only include learning for professional or employment-related purposes but also personal, civic and social purposes as well. For example, small personal cell phones were introduced in South Africa in 1994. The first cell phones were much simpler than the ones we use now as they had limited functions and accessories. Initially they were used only for phoning. Many of the functions we take for granted today were not available then. For example, it was not possible to see that you had missed a call or identify who your caller was. Today with additional capacity, such as linking with the Internet, they are more complex to use and many people are unable to use the newer functions effectively. Each time additional functions are introduced we need to learn how to use them. This is a form of continuing education and lifelong learning. Similar to cell phones, we need to constantly

upgrade our skills in the workplace to learn how to use newly introduced ICT effectively.

ICT and other scientific developments make it necessary for us to constantly upgrade our skills and knowledge base. This was not necessary in previous generations because changes took place much more slowly.

## 1.9 Review

This chapter is intended to provide an orientation to and a foundation for the rest of the book. The information society combines both profound change and fundamental continuity. From the earliest period people have had a desire to remember, analyse the past and make arrangements that allow us to record our knowledge and ideas in perpetuity. The computer is one invention in a long line of inventions such as writing and printing which has enabled us to do this. In this sense it is a continuation and development of media that allow us to record information for generations not yet born. However, the computer is also radically different from the other means used to record information and has thus caused a change in our social framework itself. This change has resulted in a 'new' kind of society – the information society in which information plays a key role.

We have also discussed what it means to be information literate, and why this is important for you as an individual in the information era. In order to be information literate, you need to be capable of specific information handling skills. Information skills enable you to make decisions or solve problems. When you are involved in using information to do these things, we say you are busy with an information task. In the next section you will learn more about the information environment. One of the requirements for information literacy is an awareness of what information is available and how to use it. This will be discussed in the next section.

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## Answers to activities

### ACTIVITY 1.1

Some of my examples are:

- banking (use of ATMs and electronic banking)
- shopping via the Internet
- communicating through e-mail rather than letters or telephone
- keeping phone numbers in the cell phone memory rather than remembering them or writing them down.

### ACTIVITY 1.3

Busi accessed information by talking to friends, looking in the newspaper, checking at shops and suppliers, looking on the Internet to find out more details. She evaluated the different information in many ways, for example, by thinking of what she needed in a cell phone, whether it was worth paying extra for certain functions and so on. Most importantly, however, she evaluated the information she obtained by comparing it for prices and functions. Finally, she used the information by deciding which cell phone to buy and going for the pay-as-you-go option.

# **Section 2**

**Sources and resources:  
Exploring the information  
environment**

# 2

## Finding information

### Contents

- 2.1 Introduction
  - 2.2 Finding information in a resource collection
    - 2.2.1 Rules and regulations
    - 2.2.2 Library layout and organisation
    - 2.2.3 Library collections
  - 2.3 Classified arrangement of information sources
    - 2.3.1 Dewey Decimal Classification
    - 2.3.2 Call numbers
  - 2.4 Library catalogue
    - 2.4.1 Bibliographic records
    - 2.4.2 Subject headings or terms
  - 2.5 Interpreting a bibliographic citation
  - 2.6 Review
- Reference
- Answers to activities

### Outcomes

After studying this chapter you should be able to:

- locate different collections in a library
- locate an information source in a collection arranged in classified order
- use a library catalogue to identify and locate an information source
- identify the elements used in a bibliographic record
- use subject headings to find information sources on specific topics
- interpret a bibliographic citation

## Key concepts

<b>access point</b>	a name, term or code under which you can search for an information source and identify it
<b>bibliographic description</b>	the elements needed to describe an information source so that it can be identified without any doubt
<b>bibliographic record</b>	the entry made for an information source which is entered in the catalogue
<b>call number</b>	the number which indicates where an information source is located
<b>catalogue</b>	a complete list of information sources held in a particular institution such as a library
<b>classification system</b>	a system for classifying information sources usually according to subject categories
<b>holdings</b>	all the information sources owned by a library, including books, journals, reports, maps, sound and video recordings, etc.
<b>reference source</b>	an information source consulted to find specific information which has been arranged for easy reference, such as a dictionary or encyclopaedia or atlas
<b>serial</b>	an information source issued as a series of publications. Some are dated, some are numbered, but they appear several times a year, or once a year
<b>subject heading</b>	a word or group of words that indicates the topic or genre/form (such as essays, dictionary, biography) of an information source

## 2.1 Introduction

Information is found in many different sources. Sources of information may be people, objects in the environment, books, newspapers, magazines, sound recordings, video recordings, DVDs, CD-ROMs and the Internet. When we need information to make a decision or solve a problem we often have several options with regard to the information sources we consult. For example, if you need to know whether there is a bus from the centre of town to your neighbourhood between 16h00 and 17h00 on weekdays you could either ask a family member who regularly uses the bus service, or if you have a bus timetable in the house, you could consult it for the information you need, or you could check on the Internet.

Most of us have some information sources in our homes such as a telephone directory, the yellow pages, a dictionary, and a university yearbook or calendar. You may also have a computer with an Internet connection at home or at work or live near a library. Libraries and the Internet give you access to a vast number of information sources of all kinds.

Because of all the information which is available these days through the Internet, its widespread use and the speed with which computers can process and retrieve information, people often refer to the present time as the information age. However, although the Internet can satisfy many of our needs it is also important to be aware of the broader information environment including reference works (such as dictionaries, encyclopaedias, directories, handbooks, yearbooks, almanacs, atlases); printed sources and multimedia (books, periodicals, newspapers, grey literature, government documents, conference proceedings, reports, audio-recordings, DVDs, videos, CDs); and electronic sources and resources (such as portals, electronic journals, databases, e-books). These sources are available to us all through libraries and we can consult them quickly.

If we understand how these sources are arranged and indexed in a resource centre such as a library, we will find it easier to locate information in both electronic and other formats.

## 2.2 Finding information in a resource collection

When you want access to a wide range of information sources for an information task such as an assignment, you will need to use a resource collection such as a library. In this chapter we will discuss how you find information in a library or information agency because many people become anxious when they enter a large library. They do not know how or where to find what they

need. As you will see in the following section, finding information in the library is a matter of determining your needs, then becoming familiar with the layout, organisation or categorisation and arrangement of information sources.

Tertiary institutions all have libraries and so when you are given an assignment by a lecturer, the library is a good place to start your search for information. Much of the information available in a library may be accessed through the Internet. The catalogue, electronic sources and databases in a library may be available through the Internet.

Libraries collect a variety of information sources and arrange and organise them according to a system. Many university libraries hold orientation courses for their new students at the beginning of the academic year. If possible, try to attend these orientation courses as this will help you to become familiar with the regulations, layout and collections in that particular library.

### **2.2.1 Rules and regulations**

Each library has its own rules and regulations. For example, it is important to know what the opening hours are. There may be some rules regarding conduct within the library, such as being requested not to eat on the premises, usually to protect the books from spills. We also need to know which books or other information sources we may borrow from the library for use outside the library, how many we may borrow and how long we are allowed to keep them. Usually some materials, such as reference sources or periodicals, can only be consulted in the library.

In addition to reading the rules and regulations, we also need to familiarise ourselves with the layout and organisation of the library.

### **2.2.2 Library layout and organisation**

It is important to familiarise ourselves with the layout of the library and the arrangement of the materials in the library we have chosen to use. There is usually an information desk close to the entrance. This information desk is clearly signposted probably with a large *i* which is the international symbol for 'information'.

In large libraries a staff member at the information desk will answer enquiries and help new users. There may also be leaflets or information brochures which include the library regulations and give a floor plan or map of the library which shows its layout and where particular collections are kept. There are usually also guides on the shelves and on storage cabinets to assist the library user to find his or her way around the library.

In smaller libraries, a large plan of the library may be mounted on a wall or stand near the entrance to the library. There will be signs to indicate where the

circulation desk is located so that you know where to take materials which you want to borrow for use at home. The different collections and their location in the library will also be indicated.

### 2.2.3 Library collections

The information sources in a library may be arranged in separate collections according to forms or according to their purpose. Examples of such collections could be a collection of tapes, CDs and DVDs. These collections are usually housed separately because we need to use special equipment such as a tape recorder or DVD player to view or listen to them.

An example of a collection arranged according to purpose would be a reference collection. Reference sources differ from other information sources as they are intended to be consulted for a specific item of information and are not meant to be read, viewed or listened to from start to finish.

Some other collections that may be found in a library are the following:

**A study or reserve collection:** in this collection, specific books are put together for students to use. Usually students either have to consult them in the library or may borrow them for a short period.

**A periodicals collection:** this is a collection of the serials, usually near photocopiers for you to make your own copies. Serials include newspapers (daily or weekly), periodicals (weekly, fortnightly, monthly or quarterly), and annual publications (published once a year) such as yearbooks and reports.

**A collection of government publications:** this could include government reports, gazettes, green papers or white papers.

**An audiovisual collection:** this would include tapes, CDs and DVDs.

The information sources in these collections may be arranged in different ways on the shelves or in storage cabinets, depending on decisions taken by library staff. For example, in a study collection the works may be arranged in alphabetical order according to the last name of the author or according to the first word of the title if there is no author, whereas the main collection of books would be arranged according to their subject contents.

## 2.3 Classified arrangement of information sources

There are different library classification schemes, but in South Africa almost all libraries follow the Dewey Decimal Classification (DDC) which arranges information sources by subject according to ten main classes.

### 2.3.1 Dewey Decimal Classification

The DDC (2003) system divides human knowledge into ten main classes with subdivisions indicated by decimal notation, as shown in Figure 2.1. This means that information sources on the same topic are grouped together with related topics close by. Grouping sources according to their subject contents makes it easier to find information on specific topics.

**FIGURE 2.1: THE TEN MAIN DDC CLASSES ACCORDING TO SUBJECTS**

000–099	Computer science, information science and general works (general encyclopaedias and other ready reference sources)
100–199	Philosophy and Psychology
200–299	Religion
300–399	Social Sciences
400–499	Languages
500–599	Science
600–699	Technology (Applied Sciences)
700–799	Arts and Recreation
800–899	Literature
900–999	Geography and History

The ten main classes are further divided and subdivided into more specific subjects. When more than three numbers are used in a DDC notation the decimal point is used after the third digit. For example, you will find books on South African history at 968 and in the subdivisions of 968:

968.8            968.803            968.9            968.91

The DDC notation can be very long when the book deals with a very specific topic and may have several digits after the decimal point. For example, a book dealing with the history of Shaka's reign, 1816–1828, would have the DDC notation of 968.4039. This means that you would go to the South African history shelves, 968, and look for the numbers of the subdivisions, until you find the book you want.

### 2.3.2 Call numbers

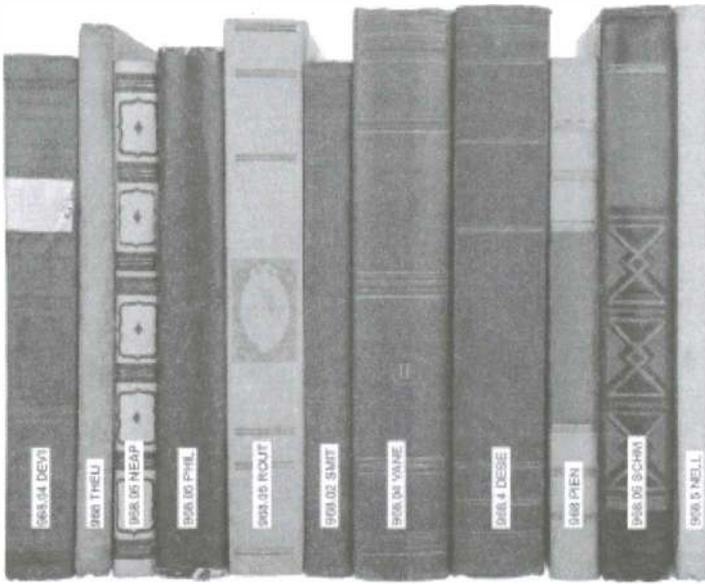
Starting at the top of the bookshelf, books are arranged on the shelves from left to right according to the DDC notation. However, often several works deal with the same topic and so they will all be assigned the same classification number. For this reason books are arranged on the shelves according to a call number. A call number is the classification number plus the first three or four letters of the author's last name. When there are more than three authors or the work has an editor the first three or four letters of the title will be used in place of the author's name. The call numbers are written or typed onto labels which are pasted on the back or spine of the books or information sources.

The information sources are arranged first in numerical order according to the DDC notation, but when there are several works with the same DDC notation, the works with the same notation are arranged in alphabetical order according to the letters following the notation.

Information sources on the same topic may be located in different locations because audiovisual material is usually kept in a separate collection. There may be separate collections of books (such as reference and study collections), and pamphlets and periodicals which are not yet bound are placed in pamphlet boxes. Abbreviations indicate location, for example, REF indicating a reference source or P indicating a periodical. These abbreviations may precede a call number. Usually when an information source has a call number preceded by an abbreviation, it is shelved or stored in a separate collection.

By now you should be able to locate an information source on the shelves if you have its call number. However, some sources may be out on loan or being used in the library by other students and will therefore not be on the shelves. For this reason a library catalogue is necessary to complement the classified arrangement of sources on the shelves.

**FIGURE 2.2: LABELLED SPINE OF A BOOK WITH CALL NUMBER**



### ACTIVITY 2.1

To check that you understand this arrangement you should arrange the following call numbers in the order that the information sources would be found on the shelves. Put them in the correct order.

968.04 DEVI
968 THEU
968.05 NEAP
968 PHIL
968 ROUT
968.02 SMIT
968.04 VANE
968.4 DESE
968 PIEN
968.05 SCHM
968.05 NEAP
968.02 SMIT
968.04 VANE
968.4 DESE
968 PIEN
968.05 SCHM

## 2.4 Library catalogue

A catalogue is a logically arranged list of all the sources in a library's collection. The purpose of the catalogue is to 'identify' all the sources in the collection and also to indicate where they are 'located' in the library. The catalogue is usually computerised except for those in some public libraries where it may be on cards, which are stored in the drawers of a wooden cabinet and must be searched through by hand. Computerised catalogues are consulted at a computer terminal in the library. Many of these catalogues are accessible through the Internet. This computer catalogue is referred to as an OPAC (short for Online Public Access Catalogue). In the library there are usually instructions next to the OPAC which indicate how you use it to locate information sources.

Whatever form the library catalogue takes, it will always provide access to all the information sources in the library.

### 2.4.1 Bibliographic records

A bibliographic record is the entry made for an information source which is entered in the catalogue. It comprises a bibliographic description and headings or access points. It is compiled according to a standardised format known as the International Standard Bibliographic Description (ISBD). The ISBD identifies an information source and is divided into eight areas which contain a number of different elements. If you understand the elements that are included in an ISBD and the order in which the elements appear you will find it easier to interpret, read and understand a bibliographic description. The eight areas are as follows:

1. Title of the information source and the person or organisation responsible for its creation (For example, an author of a book.)
2. Edition (Some books are revised and republished. The new version is referred to as a 'revised' or 'second' edition. Each subsequent revision will be sequentially numbered.)
3. Special area (only used when describing serials such as periodicals, computer files and maps.)
4. Publication, distribution (For example, the publisher and date of publication.)
5. Physical description (For example, the number of pages in a book.)
6. Series (This is the title for a group of separately published information sources which in addition to their individual titles also have a collective or series title applying to the group as a whole.)
7. Notes (Various notes may be made which provide additional information to the user, for example, a summary of the contents of the information source.)

Cont. . . . .

8. ISBN or ISSN (These abbreviations stand for International Standard Book Number or International Standard Serial Number. The ISBN is a four-part ten-character publisher's code given to a specific edition of a book for the purpose of concise, unique and unambiguous identification. The ISSN is a unique eight-digit number which identifies a specific serial title.)

A bibliographic description need not, however, include all these areas. For example, if the library has a copy of the book *Practical research methods for librarians and information professionals* written by Susan E. Beck and Kate Manuel, then a bibliographic record of this work will be compiled and entered in the library catalogue. A bibliographic description of the book by Beck and Manuel will look like this:

### FIGURE 2.3: EXAMPLE OF A BIBLIOGRAPHIC DESCRIPTION OF A BOOK

Practical research methods for librarians and information professionals/  
Susan E. Beck and Kate Manuel. New York: Neal-Schuman, c2008. xv,  
309p.: ill.; ISBN 9781555705916

Let's look at the elements in this bibliographic description. The numbers given below refer to the eight areas we have just discussed. Notice that every bibliographic record does not necessarily include all eight elements. For instance, in our example there is no information about edition, series or notes because these are not in the book. Also the special area (area 3) is used only for certain types of information sources and not for a book.

1. Title and person responsible for its creation (author): Practical research methods for librarians and information professionals/  
Susan E. Beck and Kate Manuel
4. Publication information: New York: Neal-Schuman, 2008 (this statement shows that the book was published in New York, the publisher is Neal-Schuman Publishers and the year of publication is 2008)

. . . . . Cont.

## Conf. . . . .

5. Physical description: xv, 309p.: ill. (this means that there are 15 (xv) pages in the preface, 309 pages in the book and the book is illustrated)
8. ISBN: 9781555705916

A bibliographic record is compiled for every information source that the library has in its stock and entered in the catalogue, which is why we can identify and locate all the information sources that a library has in its holdings.

Several headings or access points are chosen for each bibliographic record so that it is easy to find. The headings that are always used are the title, an author's name and the subject, but in many catalogues it is possible to search for information sources according to series, keywords and ISBNs.

In the example in Figure 2.3 you could look in the catalogue under the title 'Practical research methods for librarians and information professionals'. You could also look under the authors' names which are inverted so that the surname (family name) is used as the entry word, followed by the initials of the first or forenames: Beck, Susan E. and Manuel, Kate.

If you do not know the exact title or the author, you can look under one of the following subject headings:

- Library science
- Information science
- Research
- Methodology

Although an information source can have only one physical location on the shelves, it may in fact deal with two or more topics or two or more aspects of the same subject. When it deals with more than one topic or aspect of a topic it is necessary to enter the bibliographic record of the information source under a number of subject headings which are all used as access points in the library catalogue. The call number will be found on the bibliographic record and this will indicate where the information source can be located in the library. Therefore, it is possible for you to find out what is available by an author or on a specific topic even if some works are on loan or in use. For example, when you search under Beck, Susan E. or Manuel, Kate you can immediately see whether there are other works available in the library by these authors. Similarly, if you look under the subject heading, you will immediately discover what other works are available on library science; information science; research; methodology. If the information sources are in different formats,

such as a book, periodical or sound recording the catalogue will also indicate this.

## 2.4.2 Subject headings or terms

When you look for an information source in the catalogue, you may have difficulty knowing what subject terms to key into the catalogue. As a starting point, the terms used to describe a topic or an assignment may be used. For example, if we have an assignment on 'Information literacy', we would start by looking under this phrase. If we do not find any bibliographic records, then we may have to think of alternative terms. Alternative words exist for most topics and the ability to discover and develop alternative terms is crucial for the location of relevant sources. It is possible that we may find what we need under 'Information skills' rather than 'Information literacy'. A subject heading could be used for a topic, for example, 'Engineering'. A subject heading can also be used for the name of a person or organisation, for example, 'Mandela, Nelson', 'African National Congress'. Subject headings can be used for the form or genre of an information source, for example, 'Atlases', 'Essays'.

Certain terms or subject headings are used, and this means that you will find all the bibliographic records on a particular topic under the term or phrase used and not scattered under several headings. 'See references' are found for terms which have similar meanings, but which have not been used, and also for related subject headings. For example, if you look under the abbreviation ANC you might find a 'see' reference to the full name of the organisation 'African National Congress' because this is the subject heading that has been chosen. There may also be a 'see also' reference referring you to related subjects. For example, under African National Congress there could be a 'see also' reference to, Pan Africanist Congress.

When you are searching for information on a specific topic, it is a good idea to try and think of the names of people or terms which you are going to look for in the catalogue and write these down. If you look up a term which has not been selected for a subject heading there may be a 'see' reference to guide you to the synonym which has been selected for use as a subject heading. For example, a synonym for 'Ecology' could be 'Ecosystems'. However, in many computer catalogues the terms which have not been selected as subject headings are automatically linked to the approved subject heading and so the bibliographic records will immediately be displayed on the screen of the OPAC. You also need to remember that for some words there are variant spellings, such as the British and American spellings (for example 'Labour' and 'Labor').

Consider too whether there is a broader or larger subject which might include the topic that you are looking for. For example, you could find information on lions under broader terms such as ‘animals’ and ‘predators’. You could also consider whether there might be a narrower or more specific or specialised subject which is worth looking up. For example, you might find the specific information you are looking for under *Panthera Leo* (the scientific name for lions). The catalogue also may have cross references to guide you to related topics, particularly to narrower or more specific topics.

When a person is the topic, you should be aware that time/place/subject field/works are all closely related. For example, if you needed information on Nelson Mandela’s imprisonment on Robben Island, you would obviously consider the place where he was imprisoned, but also when this occurred, the reasons for his imprisonment and whether there have been autobiographical and biographical works published. Therefore the terms you could write down could be some or all of the following:

- Mandela, Nelson
- Robben Island
- African National Congress (or ANC)
- Presidents – South Africa
- Political prisoners (or Detainees) – South Africa

When you search under these terms or subject headings, you will probably find a number of bibliographic records which identify relevant information sources and indicate the call numbers so that you can find them in the library. However, the more specific your subject terms are, the more likely you are to find relevant sources.

Some OPACs will also indicate whether the information source has been taken out or whether it is on the shelf.

The current trend in OPACs, especially academic ones, is to include an option to do a keyword search. Keyword searches allow the computer to search the catalogue in the different fields and pick the term up. The trend is also to include the table of contents of books, especially composite books, to assist the user in accessing the contents of specific chapters s/he might be looking for. A keyword search would then pick up that information as well.

## ACTIVITY 2.2

Write down some suitable terms or subject headings which you would use if you needed information on 'History of Apartheid in South Africa'.

We started for you with an example:

1. Apartheid
2. ....
3. ....
4. ....
5. ....

## 2.5 Interpreting a bibliographic citation

Earlier on in this chapter we said that if a lecturer gives you an assignment, a good place to start looking for information is in the university library. Whatever type of written assignment you have to do, it is usually necessary to supplement the information in your study material with some additional information. Many lecturers will provide you with a list of bibliographic citations which they expect you to consult. This list is also called a 'bibliography'. We will look at some examples of bibliographic citations so that you can interpret them.

If a printed information source has an author, it is listed under the author's last name. Look at this example:

Abadzi, H. 2006. *Efficient learning for the poor: insights from the frontier of cognitive neuroscience*. Washington: The World Bank.

If an information source has two or more authors, it is still listed under the last name of the first author. For example:

Clark, C & Rumbold, K. 2006. *Reading for pleasure: research overview*. London: National Literacy Trust.

If a printed information source has an editor or compiler, it is usually entered under the title of the work. For example, a work entitled *The Wildlife of Southern Africa: a field guide to the animals and plants of the region* which has been edited by Vincent Carruthers will be cited as follows:

*The Wildlife of Southern Africa: a field guide to the animals and plants of the region.* 1997. Edited by V. Carruthers. Halfway House: Southern Book.

A collected work is a book of works by different authors which have been selected for publication by an editor or several editors. When a chapter in a collected work is cited, it is necessary to indicate that it appears in a collected work by giving the title and editor/s of the collected work. In the next example you can see that you need to consult a chapter by L. Chisholm which is actually found on pages 201 to 225 of the book entitled *State of the nation: South Africa 2004–2005* that is edited by J. Daniel, R. Southall and J. Lutchman. So you would first need to search for this book and then turn to the chapter by Chisholm which starts on page 201:

Chisholm, L. 2005. The state of South Africa's schools. In: *State of the nation: South Africa 2004–2005*. Edited by J. Daniel, R. Southall and J. Lutchman. Pretoria: HSRC: 201–225.

A periodical article can be distinguished from a book by noting the following additional elements which appear in the citation. After the author, date and title of the article, you are given the title of the periodical in which the article appears plus the volume and/or issue numbers and the pages on which the article are found. In the example given below, you would need to find Volume 20, number 6 of the periodical called *South African Journal of Higher Education* which was published in 2006 and then turn to page 807 where you should locate the article entitled 'Autonomy and the republic of science' by J. Muller:

Muller, J. 2006. Autonomy and the republic of science. *South African Journal of Higher Education*, 20(6):807–813.

If information sources other than books and articles are listed, some indication of the form will usually be given in a note at the end of the reference:

Dawkins, Richard. 2006. *The God delusion*. [New York]: Random House Audio. 10 sound cassettes.

It is becoming quite common to find citations to electronic information, but we will discuss these citations in Chapter 11.

## 2.6 Review

In this chapter we discussed some ways to find information. Although many of us have some information sources in our homes, it is usually necessary when doing an assignment to use a resource collection such as is found in

a university library. In a library, the collections are organised according to a classification system and are then arranged on the shelves according to call numbers. The information sources held in the library can be identified and located by consulting the library catalogue. The catalogue contains bibliographic records for all the holdings. A bibliographic record comprises the bibliographic description of the information source and can be found under different headings or access points. You can search for a bibliographic record under its author, title or subject. The bibliographic record also gives the call number so that you can find the item on the shelves.

The bibliographic citations given to you by a lecturer or found in bibliographies can be interpreted if you understand how the citations for different information sources are compiled.

## Reference

*Dewey Decimal Classification and relative index*. 2003. 22nd edition. Dublin, Ohio: OCLC Online Computer Library Center.

## Answers to activities

### ACTIVITY 2.1

968 PHI

968 PIE

968 ROU

968 THE

968.02 SMI

968.04 DEV

968.04 VAN

968.05 NEA

968.05 SCH

968.4 DES

### ACTIVITY 2.2

You may find other terms or phrases, but these can give you a start:

President Malan

President de Klerk

Nationalist Party

Group Areas Act

Bantu Education

Resistance: ANC; PAC

# 3

## Reference sources

### Contents

- 3.1 Introduction
- 3.2 Dictionaries
  - 3.2.1 Language dictionaries
  - 3.2.2 Subject dictionaries
  - 3.2.3 Biographical dictionaries
- 3.3 Encyclopaedias
  - 3.3.1 Using the index to an encyclopaedia
  - 3.3.2 Subject encyclopaedias
- 3.4 Directories
- 3.5 Handbooks
- 3.6 Yearbooks
- 3.7 Almanacs
- 3.8 Atlases
- 3.9 Review

References

Answers to activities

### Outcomes

After studying this chapter you should be able to:

- identify a reference source and its function
- distinguish between several different types of reference sources
- establish the scope of a specific reference source
- access information in a reference source which is arranged in alphabetical order
- use an index to locate information.

## Key concepts

<b>almanac</b>	a reference source published annually containing useful facts and statistics
<b>atlas</b>	a reference source which comprises a collection of maps and an index to the maps
<b>directory</b>	a reference source which lists the names, addresses and telephone/ fax numbers of persons, companies, organisations or members of a profession
<b>encyclopaedia</b>	a reference source providing information on all branches of knowledge
<b>format</b>	the form in which information is recorded, for example, print form, sound recording or electronic form
<b>guide word</b>	a word which enables the user of a reference source to find words on a particular page quickly. The guide word is printed at the top of the page.
<b>handbook</b>	a reference source which is a compact guide to a specific subject
<b>index</b>	an alphabetical list of names, places and subjects. In a printed work such as a book the index is usually found at the back and it gives the number of the page on which the topic is dealt
<b>scope</b>	the extent or range of coverage of a reference source
<b>yearbook</b>	a reference source published annually and which brings information on some topic or organisation up to date

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## 3.1 Introduction

In this chapter we will discuss different types of reference sources. The best known types of reference sources are dictionaries, encyclopaedias, directories, almanacs, yearbooks and atlases. These sources are arranged so that you can access them easily and find factual information quickly. Bibliographies, indexing and abstract journals are also reference sources but as these serve a different purpose (they refer one to information sources) we discuss them separately in Chapter 5.

As pointed out in the previous chapter, when you go to a library you will usually find that the reference sources are housed in a separate collection. They may sometimes be shelved with the other information sources, but the prefix REF, or perhaps just R, is usually included in the call numbers of reference sources so that you can clearly distinguish them from other information sources. If you look up a subject in the library catalogue and some of the sources you find have call numbers which include the letters REF or R before the classification notation, you will know that these are probably arranged separately in the reference section of the library and can only be consulted in the library.

Reference sources used to be available only in book or printed form but many of these reference sources are now also available in electronic form (for example CD-ROM or online on the Internet). Some of these are available to you free on the Internet but for most reputable reference works you need to be a subscriber in order to consult them.

You can consult different types of reference sources to find different kinds of information. We will look at some of these types of reference sources so that you have a better idea of where to find the information you need.

## 3.2 Dictionaries

We are all familiar with language dictionaries, but there are various other kinds of dictionaries. There are, for example, subject dictionaries and biographical dictionaries too. Language dictionaries and subject dictionaries are good sources to consult when you start an information task such as an assignment. You can ensure that you understand the terminology used in the assignment topic and in the books that you consult. Dictionaries may also be consulted to check the spelling and pronunciation of difficult words. Let's look at some of the types of dictionary in more detail.

### 3.2.1 Language dictionaries

Dictionaries are available in print as well as in electronic format. There are free online dictionaries such as the Free Online Dictionary available at <http://www.thefreedictionary.com>. You need to be careful with free dictionaries on the Internet as some of them are dated and you cannot always be sure of the quality. Online or print dictionaries available at libraries are evaluated and up-to-date. General language dictionaries give the spelling, meaning, usage and origin of words and some examples of how to use the word.

A foreword, introduction or preface usually offers guidelines on its use, such as a key to pronunciation, a list of the abbreviations used, and explanatory notes. These notes indicate what information is given in entries such as parts of speech, origins of words and examples of usage.

The print version of a dictionary follows an alphabetical arrangement. When you look up a word in a dictionary remember that there are 26 letters of the alphabet. So if you look up the word ‘infrastructure’ you would think about the place of ‘i’ in the alphabet. Realising that it is several letters before ‘n’ which is halfway through the alphabet, you should open the dictionary a little before the middle. Then you can make use of the guide words at the top of the pages as these will indicate whether you need to turn the pages backwards or forwards. The guide word on the top left side is the first word on the page and the guide word on the top right side is the last word.

Take ‘infrastructure’ as an example: if we see the guide words ‘inflect’ and ‘ingenious’ on the same page, we know that ‘infrastructure’ will be found on this page as it will be found after ‘inflect’ but before ‘ingenious’.

#### FIGURE 3.1: EXAMPLE OF AN ENTRY IN A GENERAL LANGUAGE DICTIONARY

lit-er-acy (lit' r se) *n* 1 the ability to read and write. 2 possession of education; culture. 3 a person's knowledge of a particular subject or field: *to acquire computer literacy*.

lit-er-al (lit' r l) *adj* 1 following the exact meaning of words or a text (ie without allegorical or metaphorical interpretation). 2 a translation exactly following the words of the original. 3 said of a person unimaginative and matter-of-fact. 4 true to fact; unembellished; exact: *the literal truth*.  
*n* a typographical error, esp. a misprint of one letter. [from Latin *literalis*, from *litera*, letter]

The example in Figure 3.1 shows you another interesting point about dictionaries: sometimes there is more than one definition of a word. How do you know which definition to choose? When you have located the word you want, you should read all the meanings before making a choice. Many dictionaries provide idiomatic expressions and some give sample sentences which are very useful.

Bilingual or translating dictionaries give the equivalent of a word in another language, for example, an English–Xhosa dictionary will give the Xhosa equivalent for an English word and vice versa. Such dictionaries only give the closest synonyms to the word in the other language and not the meaning of the word. This type of dictionary is also available online and some are available free through the Internet.

**FIGURE 3.2: ENTRIES IN A PRINTED BILINGUAL DICTIONARY (ENGLISH/SEPEDI)**

<b>list</b>	lenanêô
<b>listen</b>	theêtsa
<b>literature</b>	dingwalô
<b>litre</b>	litara

In the second half of the print dictionary, the list is reversed with the words in Sepedi being given first in bold type, followed by the equivalents in English.

There are also many specialist language dictionaries available which supplement general language dictionaries. Some examples of these dictionaries are those that give:

- synonyms and antonyms for words
- rhymes
- abbreviations
- acronyms or idioms

A thesaurus is a useful specialist language dictionary as it lists synonyms and related words. Computerised word processing programmes include a thesaurus function. A thesaurus is a useful source to consult when you are writing an assignment as it helps to improve your writing skills and expands your vocabulary. One of the best known thesauruses is *Roget's thesaurus of English words and phrases*.

### 3.2.2 Subject dictionaries

Subject dictionaries are available for many different subjects and are especially useful for students who want to establish the correct meaning of specialist terms not included in general language dictionaries. They provide more detailed definitions and specific contexts in which the terms are used. Sometimes they provide cross references to other useful terms. There are subject dictionaries available for arts (for example, Ballet, Music), science (for example, Chemistry, Geology), technology (for example, Information Technology (IT), Computer Science) and so on. These dictionaries are especially useful when you need to find definitions of key concepts and other subject-related terminology used in assignment topics or in the subject literature.

Subject dictionaries may also be available online. A good example of one in the field of Information Science is the Online Dictionary for Library and Information Science (ODLIS) available at <http://www.lu.com/odlis/>.

### 3.2.3 Biographical dictionaries

Biographical dictionaries list famous people, for example, writers, artists, statesmen and women, scientists, presidents and kings and queens. In the print version people are listed in alphabetical order by last name. An entry in this type of dictionary usually gives the name in bold type followed by the date of birth (and death, when appropriate). Then a brief summary of important facts and events in the person's life is provided.

#### FIGURE 3.3: ENTRY IN A BIOGRAPHICAL DICTIONARY

**Lister, Joseph, Lord** (1827–1912) English surgeon, born in Upton, Essex. Professor in Glasgow, Edinburgh, and London, his greatest work was the introduction of antiseptic surgery (1867), which revolutionised modern surgery.

## 3.3 Encyclopaedias

General encyclopaedias are in some ways similar to dictionaries but they provide far more information. These are available online or in a print version. Once you have found the definition of a topic or subject in a general language dictionary you can consult an encyclopaedia. This is useful for getting an

overview of the topic and placing the topic in context. Encyclopaedias contain articles on a variety of topics, people and places. These articles may be brief or quite long and scholarly, depending on the scope of the encyclopaedia. The articles are usually written by experts in the field and signed by them so one can usually assume that the information provided is authoritative. Often cross references are given to other related articles in the encyclopaedia. It is also usual to provide short reading lists at the end of an article so that the reader knows which sources will provide additional information if this is required.

In the print version of an encyclopaedia the articles are usually arranged in alphabetical order (according to subject) with guide words at the top of the page to indicate the subjects covered on that page. People's names are entered under their family name or surname. Print encyclopaedias may be published as a set of volumes or as a single volume. When you consult a multi-volume encyclopaedia look at the spine of each volume for an indication of the range of subjects found in a volume.

Although most printed encyclopaedias are arranged alphabetically with guide words at the top of the page, they also each have an extensive index because some topics are dealt with in several articles. For example, if you needed information about the history of chemistry, you would look in the C-Ch volume first under chemistry, but the index would probably also refer you to other articles in other volumes (for example, Aristotle, thermodynamics, biochemistry). The index is usually the last volume in the set or found at the end of the book in a single volume encyclopaedia.

In the printed version of an encyclopaedia you should always check the date on the title page (verso) as this will indicate how recently information was revised and up-dated. Statistics and other information can be even older than the publication date.

In addition to online versions of published encyclopaedias such as *World Book*, there is a free online encyclopaedia called Wikipedia. Wikipedia is a multilingual, web-based, free content encyclopaedia project. The name Wikipedia is made up from a combination of words: wiki (a type of collaborative website) and encyclopaedia. Wikipedia's articles provide hyperlinks that guide the user to related pages or articles. It is written collaboratively by volunteers from all around the world. Wikipedia was created in 2001 and has grown into one of the largest reference websites. In 2010 there were approximately 91 000 active contributors working on more than 16 000 000 articles (3 405 800 of these are in English and the others in more than 270 languages).

Since volunteers do not need specialised qualifications to contribute, people of all ages and cultural and social backgrounds can write Wikipedia articles. Wikipedia differs from a published encyclopaedia and other reference sources in that although older articles will usually be accurate and balanced, newer articles may contain significant misinformation. Users need to be aware of this. However, unlike a paper reference source, Wikipedia is continually updated, with the creation or updating of articles on topical events within seconds, minutes or hours, rather than months or years for printed encyclopaedias (Wikipedia:About 2010).

*Encyclopaedia Britannica* has also started an online wiki. Readers, users and experts will be invited into an online community where they can work and publish at Britannica's site under their own names. However, all articles on new topics will be checked for accuracy before appearing in the main edition. There will be three main categories of content: content created by the site's existing community of experts, content created by users and *Encyclopaedia Britannica* itself, which will incorporate aspects of the first two once they have been checked for accuracy (Van Buskirk 2008).

### **3.3.1 Using the index to an encyclopaedia**

The index of an encyclopaedia lists the topics, people and place names included in the encyclopaedia in one alphabetical list. Under the main topics there are usually subtopics. Numbers indicate in which volume (if it is multi-volume) and then on which page each entry can be found. The index also gives details of maps, photographs and illustrations, and cross references.

If you look at Figure 3.4 on p. 43, you can see that the index gives us information about, for example, the volume and page. For instance, the article on children's literature will be found in Volume 3 on page 205 and this article includes illustrations.

### FIGURE 3.4: INDEX ENTRIES IN MULTI-VOLUME ENCYCLOPAEDIA

#### CHILDREN'S

children's games 3:202

children's laws 3:204

children's librarian *see*

    Library (services for children) 12:311

children's literature 3:205 with illus.

    contribution by

        Carroll 3:15

        Stevenson 16:352

    influenced by

        fables:

            Grimm brothers' fairy tales 6:371

        magazines

children's museum 3:210

children's zoo 3:210

*Child's Garden of Verses, A* (poetry by Stevenson)

discussed in biography 16:352

#### ACTIVITY 3.1

Look at Figure 3.4 and answer these questions:

1. If you wanted to read about children's poems by R. L. Stevenson which article would you consult?
2. In which volume and on what page would you find the article?

Subject headings or terms used in the library catalogue may differ from those used in the indexes to encyclopaedias or other information sources. Many different people compile indexes to books and these people do not all use the same method to arrange the headings in these indexes.

You may be familiar with the word-by-word method of filing and become confused when you encounter an index in an encyclopaedia or other reference source which uses letter-by-letter filing. When you come upon an index which is arranged differently, you will need to change your approach when you look up an entry.

**FIGURE 3.5: FILING METHODS IN INDEXES**

**WORD-BY-WORD  
ARRANGEMENT**

capacity

Cape Town

Cape Verde Islands

Capek, Karel

Capella

caper

**LETTER-BY-LETTER  
ARRANGEMENT**

Capacity

Capek, Karel

Capella

Caper

Cape Town

Cape Verde Islands

### 3.3.2 Subject encyclopaedias

Subject encyclopaedias supplement general encyclopaedias. Each subject encyclopaedia deals with only one specific subject and provides information on all aspects of the subject. The aim of a subject encyclopaedia is to include topics which would not be covered in a general encyclopaedia and to give more extensive information relating to one subject, for example, *Encyclopaedia of Information Science*.

Like general encyclopaedias, subject encyclopaedias may be available online. However, usually access is only available if one has a subscription. Libraries may subscribe to the online version or may purchase the printed version. The printed version usually follows an alphabetical arrangement. Some encyclopaedias arrange the information they contain according to topic, but these are the exception. An example of an encyclopaedia that does this is the *Encyclopaedia of Science* which has eight volumes and each volume

covers a major field of science, such as Physics, Chemistry, the Heavens, the Planet Earth.

Both subject dictionaries and subject encyclopaedias are useful for students when doing assignments which require the definition of concepts in a specific subject field.

### 3.4 Directories

The best known and most often used directories are probably telephone directories. The telephone directory is arranged alphabetically and lists all the subscribers in a particular area. Subscribers are the people and organisations that pay to use telephones and their names and other details are entered into the directory. You therefore use this directory to find the names, addresses and telephone numbers of individuals and businesses in a specific geographic area.

The first few pages in a telephone directory explain how to use it and give important information such as emergency numbers, dialling codes to use when you want to make a call to another area or city in South Africa or to call someone in another country. In South Africa telephone directories are updated and published annually and are available from most post offices.

When you consult a telephone directory to find the address or telephone number of a specific person or organisation you should make use of the guide words which appear at the top of each page. In a telephone directory abbreviations are usually filed first before names, for example AA (Automobile Association) will come before ABSA Bank. Within entries, many abbreviations are used to save space, such as 'St' for 'Street' and 'Bldg' for 'Building'.

**FIGURE 3.6: EXAMPLE OF ENTRIES IN A TELEPHONE DIRECTORY**

#### **B**

B A Motor CC	Parkway Plza Ldm	012 384 2639
B B Guest House	Lynnwood Rd Lnwd	012 348 6264
Bach, J D	32 Park St	012 341 7272
Bacher, A R	90 Brooklyn Rd	012 346 2160

You may also have used the Yellow Pages which is useful for finding firms and commercial services. In these directories the entries are under headings for

services and products. For example, you will find entries under such headings as:

Business services

Butchers – Retail

Furniture dealers

Internet cafés

Restaurants

Under each category the names of the businesses or services are arranged alphabetically and the address and telephone number of each is provided.

There are also organisational and professional directories. Examples of organisational directories are directories of publishers and of educational institutions such as universities. Professional directories list the names of people and/or organisations related to specific professions, such as medical doctors, lawyers or accountants.

### 3.5 Handbooks

Handbooks are compact and concise and concentrate on basic, core information on specific subjects. One finds handbooks on a wide range of subjects such as motorcycle repairs, chemistry, heat engineering, gardening and childcare. Handbooks often include illustrations and diagrams.

### 3.6 Yearbooks

Yearbooks are published annually and they therefore provide up-to-date information. Some are available online as well as in print. They provide facts and statistics for a specific year. Even when a yearbook is no longer current, it is still a useful source of retrospective information if you want details on events that took place in a particular year.

All the major encyclopaedias publish yearbooks to update the printed main set. These are known as encyclopaedia yearbooks and provide a chronology of the year, biographies of newsmakers, obituaries, sports news, current statistical data, and articles about the important events of the year. Each encyclopaedia yearbook has its own index to make access to the information in the yearbook easier.

There are also yearbooks for countries, institutions and subjects. A useful one is the *South African yearbook* (available online) which provides information on all facets of life in South Africa. The *Statesman's yearbook* (available online with subscription) is international in scope and provides

statistical and descriptive information on international organisations as well as the various countries of the world.

Universities and colleges have yearbooks or calendars which provide up-to-date information on the courses and qualifications they offer, fees, bursaries and other relevant information.

### 3.7 Almanacs

Almanacs are popular fact books which are usually published annually. The purpose of almanacs is to provide some astronomical and calendar data, but they also provide access to miscellaneous current information and interesting facts, including information and statistics relating to countries, events and personalities of the world. They contain maps and charts. Retrospective information is also included. One of the best known almanacs is *The World almanac and book of facts* (available online with subscription).

### 3.8 Atlases

Atlases are collections of maps and charts. Maps are available in printed or in electronic form. Atlases may be international, national or regional in scope. There are also different types of atlas such as historical, modern or thematic. One of the best known international and modern atlases is *The Times atlas of the world*.

You consult a current atlas if you need up-to-date geographical information, or to locate a specific country with its boundaries or a specific place. Historical atlases are necessary for the study of boundary changes, military campaigns, and early explorations. Thematic or subject atlases emphasise a specific subject or region. They could be population or geological atlases, or show the habitats of animals, insects or plants of the world, for example.

A printed atlas has an index which lists alphabetically all the countries, cities, towns, rivers, mountains, lakes, etc. that are named in the maps in the atlas. Sometimes just the page where the place appears is given and the lines of latitude and longitude are indicated. Many indexes show the exact position of places on the maps by giving grid references. Each map will have a grid comprising horizontal and vertical lines drawn over it. The columns on the horizontal grid may have letters and those on the vertical grid numbers. For example, Cape Town will be listed in the index under C and it may be indicated that it will be found on map 10 A9. This means it will be found on the map on page 10 in the square where the two columns A and 9 cross each other.

## 3.9 Review

In this chapter you have learnt about various reference sources which you are likely to find in a resource collection such as a library or online. The sources we discussed are: dictionaries, encyclopaedias, directories, handbooks, year-books, almanacs and atlases. These sources have been compiled specifically for reference purposes in order that information can be found quickly and easily. Most reputable reference works available online require the user to pay a subscription to access them. However, there are some which are available free of charge.

During our discussion of these sources we also gave you several hints to help you use these reference sources. These searching tips include reading introductory sections in reference books, using guide words at the top of pages, knowing the positions of the letters within the alphabet, and being aware of letter-by-letter and word-by-word filing in indexes.

The reference sources discussed in this chapter provide immediate access to information. In the following chapter printed and multimedia sources (books, periodicals, newspapers, grey literature, government documents, conference proceedings, reports and government documents) will be discussed.

### ACTIVITY 3.2

Suggest some types of reference source you could consult if you were faced with the following information problems:

1. Who was James Watson and what did he achieve?
2. Where is Bedford, UK and in which county is it situated?
3. What does the Japanese flag look like?
4. Where could you find English grammar rules?

## References

- Van Buskirk, E. 2008. Encyclopaedia Britannica to follow modified Wikipedia model. Wired.com. <http://www.wired.com/epicenter/2008/06/ency/>. Accessed 17 August 2009.
- Wikipedia: the free encyclopedia. 2010. SV "Wikipedia:About". <http://en.wikipedia.org/wiki/Wikipedia:About>. Accessed 9 September 2010.

## Answers to activities

### ACTIVITY 3.1

1. Consult the article under Stevenson. Two index entries on this page direct you to Stevenson: the one under children's literature contribution by Stevenson and the one under *Child's Garden of Verses, A* (poetry by Stevenson).
2. This is in Volume 16 on page 352.

### ACTIVITY 3.2

1. You could probably find this information in a biographical dictionary, an encyclopaedia or even in an almanac. Remember to consult the index when consulting an encyclopaedia or almanac.
2. A map of England in an atlas
3. Almanac or encyclopaedia
4. A handbook

# 4

## Printed sources and multimedia

### Contents

- 4.1 Introduction
  - 4.2 Books
  - 4.3 Periodicals, journals and magazines
    - 4.3.1 Journals
    - 4.3.2 Magazines
    - 4.3.3 Newspapers
  - 4.4 Grey literature
    - 4.4.1 Government documents
    - 4.4.2 Conference proceedings
    - 4.4.3 Reports
    - 4.4.4 Theses and dissertations
  - 4.5 Audio recordings, videos and DVDs
    - 4.5.1 Audio recordings
    - 4.5.2 Videos
    - 4.5.3 DVDs
  - 4.6 Review
- References  
Answers to activities

### Outcomes

After studying this chapter you should be able to:

- define various types of information sources such as CDs
- differentiate between journals, periodicals, magazines and newspapers
- differentiate between CDs, CD-ROMs, DVDs and videos
- define grey literature and identify some forms of it that may be useful to you

## Key concepts

<b>book</b>	a set of written, printed, or blank sheets bound together into a volume
<b>periodical</b>	a publication that appears at regular intervals, for example, weekly or monthly and keeps the same title such as <i>You</i> magazine, <i>Time</i> magazine or <i>Moussion</i>
<b>grey literature</b>	materials that are not published commercially and cannot be found easily through conventional channels such as libraries or publishers
<b>government document</b>	information sources published by the authority, and at the expense of a governmental body
<b>conference proceedings</b>	a collection of all or some of the papers (lectures, talks) presented at a conference
<b>report</b>	a final written description of a completed research project or an interim description of progress made towards the completion of a research project
<b>thesis or dissertation</b>	a report of an academic research project undertaken by a student to qualify for a degree or diploma
<b>DVD</b>	a high density compact disc for storing large amounts of data, especially high resolution audio–visual material
<b>video</b>	a sequence of images and sound put together, one after another, to simulate motion and interactivity
<b>compact disc (CD)</b>	a small, portable, round medium made of moulded polymer for electronically recording, storing and playing back audio, video, text, and other information in digital form
<b>CD-ROM (Compact disc, read-only-memory)</b>	an adaptation of the CD that is designed to store computer data in the form of text and graphics, as well as hi-fi stereo sound

## 4.1 Introduction

In this chapter we will be discussing both published sources such as books, journals and newspapers, and unpublished sources such as grey literature. You will be familiar with many of these sources but we will also introduce you to some that you may not have encountered previously, such as grey literature which may be useful to you in your studies and your work.

## 4.2 Books

We have all used books and know what they are. A book is defined in Merriam-Webster's Online Dictionary (2005) as: a set of written, printed, or blank sheets bound together into a volume. There are also electronic books or e-books as they are termed. An e-book can be defined as a book that is available in electronic format, for example, as a CD or on the web. Books may deal with any subject and most of us read and consult many different types of books such as textbooks, handbooks and novels. Some of the types of books you may encounter during your studies are:

- *Textbooks* are used at school and university and are generally of an introductory nature. They do not contain original research but are factual books aimed at teaching students the basics of a particular discipline or aspect of the discipline.
- *Manuals* are books of rules and procedures relating to a specific field, such as a manual on how to use an appliance such as a cell phone or washing machine.
- *Reference books*, such as subject dictionaries, as discussed in the previous chapter.
- *Academic books* are books written by a subject specialist for other specialists. These books are usually based on original research and may be peer reviewed before publication. Peer review means that other experts (usually two but maybe more) in the particular discipline will have evaluated the book before publication. Certain publishers, such as Oxford University Press, have established reputations for publishing reputable academic books. One can therefore usually trust the information found in these books as being accurate.

## Some tips on how to use books for your studies

- Begin by looking at the table of contents to get an overview of what is covered in the book.
- If you are using a textbook for your studies it is also a good idea to quickly read the preface or introduction (if there is one). These can give you an idea of how the book is laid out and the purpose of the book.
- It is also a good idea to check the index at the back of the book if you are consulting the book for a specific purpose, such as when writing an assignment. This will direct you to the specific pages where the topic you are interested in is discussed. You should quickly scan the information to make sure the book is relevant for your purposes.
- The reference list or bibliography at the end of the book may also be helpful for finding additional sources.

There are several projects to make books available in electronic format on the Internet. These projects focus on books that are out of print, those no longer protected by copyright, and manuscripts that are fragile and often not easy to access because they are stored in specific libraries or museums. This process is called digitisation. Some of the projects are listed:

- Project Gutenberg available at <http://www.gutenberg.org>. There are over 25 000 books that can be downloaded free of charge.
- African Digital Library available at <http://www.africaeducation.org/adl>. The African Digital Library allows free access to anyone living in Africa. The mission of the Library 'is to provide digitised full text resources to learners in Africa via the Internet, thereby contributing to the revitalisation of education and lifelong learning on the continent and alleviation of the digital divide between First and Third world countries' (Coetzee & Jonker 2003).
- The Universal Digital Library available at <http://www.ulib.org/index.html>. The objective of the UDL is to capture all books in digital format. A first step was to demonstrate the feasibility by

..... Cont.



long) by in-house and external authors, carrying black and white and colour advertisements and graphics, and usually printed on glossy paper. Articles are checked for accuracy of facts but may contain exaggerations, gossip and semi-truths. Many magazine articles will present the information in a sensationalised way in order to attract more readers. Articles on topics such as diets or child care are usually not written by experts in the field and will not contain original research. Magazines may be aimed at a general audience, such as *Time* magazine or at someone with a specific interest in a topic such as *Mechanics Monthly*. Articles will seldom have a bibliography and the presentation will be for the layman rather than the subject specialist. The primary purpose of magazines is to entertain although they also contain information that they will try to present in as interesting a manner as possible. Magazines are also available in both electronic and paper format. Magazines in electronic format are known as e-zines.

- .....
- **ACTIVITY 4.1** .....
  - Have a look at an article in a journal (any journal in a library near you) and .....
  - compare it to a magazine article in any magazine you may have available. ....
  - See how many differences you can list between them. ....
- .....

### 4.3.3 Newspapers

A newspaper is a periodical published daily or weekly and contains news, information and advertising. It is usually printed on low-cost paper called newsprint. Newspapers feature articles on political events, crime, business, art and entertainment, society and sports. Most newspapers also have regular columns and features, such as an editorial column in which the editor reflects on and gives his/her opinion on current issues, a consumer advice page, and horoscopes. Some of these features may appear on a weekly basis if the newspaper is published daily.

Newspapers may also have supplementary sections containing advertisements, sports sections, etc. Newspapers usually focus on a particular geographic area where most of their readers live and also reflect a particular viewpoint. For example, the *Sowetan* reflects a different viewpoint to that reflected by the *Sun* or the *Sunday Times*.

### ACTIVITY 4.2

Buy or consult two different newspapers and list differences in approach and stories covered in the two newspapers.

Brief news stories are now also available free on the Internet, for example News24 which focuses on South African news and is available at <http://www.news24.com/News24/Home/>; CNN which focuses on international and American news is available at <http://www.cnn.com/>. It is also possible to subscribe to the electronic version of the newspaper or to access the electronic version of the newspaper if you already subscribe to the newspaper in paper format. Newspapers are important sources of information on current events and are able to discuss issues in greater depth than is possible in televised news broadcasts.

### ACTIVITY 4.3

Which type of periodical would you consult if you needed information on:

1. Local events
2. Latest research on AIDS epidemic

## 4.4 Grey literature

Grey literature can be defined as a body of materials that cannot be found easily through conventional channels such as libraries or publishers. These sources are non-trade material, that is, it cannot be bought through bookstores. This material is seldom actively marketed and usually only available through specialised channels. (Behrens 2000; Wikipedia ... SV 'grey literature' 2008). Examples of grey literature include technical reports from scientific research groups, working papers from research groups or committees, trade literature such as house journals, advertising pamphlets, booklets, government publications and theses. Non-profit organisations and interest groups keep their members informed through newsletters and special publications that help shape public opinion, for example, environmental issues. In technological fields grey literature may include technical reports and memoranda, product codes and standards, special publications, handbooks and patents.

Virtually everything we read outside of periodicals and books can be considered grey literature. We all use grey literature in our daily lives for a variety of purposes.

The Internet is now a major source for the dissemination and retrieval of grey literature. Websites give users access to a body of digitally produced grey literature that complements the existing body of print materials. Scientific publishing on the World Wide Web makes it possible to disseminate new information to a global audience in a matter of minutes.

There are also a number of indexes to grey literature available on the Internet such as:

- The Grey Literature Network Service available at <http://www.greynet.org/greynethome/aboutgreynet.html>
- NY Academy of Medicine: Grey Literature Page: this site focuses on grey literature resources from the medical field and includes an extensive listing of agencies and organisations that produce health-related materials. Available at [http://www.nyam.org/library/pages/grey\\_literature\\_report](http://www.nyam.org/library/pages/grey_literature_report).
- Virtual Technical Reports Central: this site is hosted by the University of Maryland Libraries and offers a large listing of grey literature-producing institutions. This site focuses on technical and research reports. Available at <http://www.lib.umd.edu/ENGIN/TechReports/Virtual-TechReports.html>.

These indexes usually cannot be consulted free of charge.

Another type of grey literature – ‘alternative presses’ – perform a role as social and moral critics of science. Alternative presses inform us about harmful drugs, unsound medical procedures, food contamination, environmental pollutants, unsafe automobiles, and other issues that are not covered in mainstream grey literature. Alternative presses and grey literature in both electronic and print formats play a role in shaping scientific research and public policy agendas and contribute to an educated and enlightened society.

One of the problems with some grey literature is the absence of editorial control, so one cannot always be sure about authenticity and reliability of the information (Matthews 2004).

Next we discuss some of the most important forms of grey literature, namely, government documents, conference proceedings, reports and dissertations and theses.

### 4.4.1 Government documents

Government documents are also referred to in South Africa as official publications. They may be defined as: ‘information sources published by the authorities, and at the expense of a governmental body’ (Behrens 2000:352). They are issued by the government printer or a commercial publisher contracted by the government. All governments publish documents, and the USA government is the largest publisher in the world. Examples of official documents are:

- The Government Gazette which contains recently enacted laws and regulations for existing legislation. It also contains legal notices from non-governmental sources which concern the private sector, for example, applications for liquor licences, name changes and liquidations of estates. The Government Gazette is made available online by a number of suppliers such as GCIS at <http://www.gics.co.za/>; Green gazette at <http://www.green-gazette.co.za/> or through SABINET.
- Provincial gazettes which publish information relevant to the province.
- South African Constitution available at <http://unpan1.un.org/intradoc/groups/public/documents/UN/UNPAN005172.pdf>
- Bills and Acts: Bills are tabled in parliament for debate. If a Bill has passed through the legislative process and been approved it is then signed by the President. The Bill then becomes an Act or Statute and becomes law of the country.
- National statistics and census reports: censuses are conducted at regular intervals by government to find out information relating to population numbers; distribution of population; age distribution; personal income; education levels of the population, etc. This information is important for planning purposes. Statistics are compiled from information obtained from the public, business concerns and records of public institutions. Stats SA is the government body responsible for gathering, analysing, processing and publishing statistics in South Africa. Statistics are available online from <http://www.statssa.gov.za/>.
- Green papers and white papers: green papers are consultative documents in order to get feedback from the public prior to government formulating a policy. White papers contain policy formulated by government.
- Parliamentary documents, for example, Hansard which records debates in parliament; question papers list questions by members of parliament to parliament and reports of committees and commissions of enquiry.

## 4.4.2 Conference proceedings

A conference can be defined as a meeting of individuals invited to discuss and present information on a particular topic or set of topics in a related field or subject (MSDN Academic Alliance Developer Center 2005).

Conference proceedings were usually published after the conference and only a selection of those considered the best were included in the proceedings. Today, it is becoming more common to make the conference proceedings available at the conference so that all delegates can receive or purchase a copy at the time of the conference. Proceedings may be in electronic or paper format. Sometimes papers are available free on the Internet but usually the proceedings resulting from the conference must be purchased.

Conference proceedings are a good source of current information especially if papers are based on new research.

## 4.4.3 Reports

A report 'provides a final written description of a completed research project or an interim description of progress made towards the completion of a research project' (Behrens 2000:379). Many companies as well as state organisations and government departments are involved in research and the results of this research may be made available in the form of a report. Examples of government organisations that carry out research are the Council of Scientific and Industrial Research (CSIR), Human Sciences Research Council (HSRC), and the Medical Research Council (MRC). Some reports, especially on research carried out in the private sector may not be made available to the public but reports carried out by government departments and state organisations are usually available. These may be in electronic or paper format and some reports are available on the Internet.

## 4.4.4 Theses and dissertations

A thesis or dissertation is a report of an academic research project undertaken by a student to qualify for a degree or diploma (Behrens 2000:376). Theses or dissertations are sources of primary information as they contain reports of original research. Theses and dissertations are often difficult to get hold of because they are not published reports. Usually an electronic and/or hard copy is given by the student to the institution where s/he is studying.

The Networked Digital Library of Theses and Dissertations (NTLTD) is an international organisation dedicated to promoting the adoption, creation, use, dissemination and preservation of electronic analogues to the traditional paper-based theses and dissertations. In South Africa the NRF runs the NEXUS database which includes South African dissertations and theses.

**ACTIVITY 4.4**

Which information source would you use to find information on the following:

1. The latest government regulation on immunising children against TB
2. The number of children 0–5 years of age in KwaZulu-Natal
3. The title of a South African dissertation written by L. Tiemensma

## 4.5 Audio recordings, videos and DVDs

Most of us are familiar with audio recordings, videos and DVDs because we use them for entertainment purposes. However, they can also be used as sources of information.

### 4.5.1 Audio recordings

An audio recording may be defined as ‘the electrical inscription and recreation of sound waves usually used for the voice or music’. Digital recording and the compact disc were invented in 1982 (Wikipedia... 2008 SV ‘Sound recording’). Before this the means used for recording sounds were mechanical. Although there were initially various formats used for playing back audio recordings, the consumer standard was the vinyl gramophone record. The dominant format of vinyl records was 33½ rpm and 45 rpm. These were replaced by tape cartridges and CDs.

Recording on tape was first achieved in 1898 but the development of magnetic tape recorders and the commercial use of tape recorders and tapes only took place in the late 1940s and early 1950s. By 1963 Philips had introduced the compact audio cassette which by the 1970s dominated the market because of convenience and ease of use. Tape cartridges were used for many purposes such as entertainment (listening to music recorded in tape format), tuition, and in business environments (for example, for recording meetings). Tape recorders are still used but tapes used for entertainment and tuition are gradually being replaced by CDs, although tape cartridges are still used in some cars.

A compact disc (CD) is a small, portable, round medium made of moulded polymer for electronically recording, storing, and playing back audio, video, text, and other information in digital form. Initially, CDs were read-only, but newer technology allows users to record as well.

CD-ROM (Compact Disc, read-only-memory) is an adaptation of the CD that is designed to store computer data in the form of text and graphics, as well as hi-fi stereo sound. The format of the CD-ROM is the same as for audio CDs: a standard CD is 120 mm in diameter and 1.2 mm thick. Today, CD-ROMs are standardised and will work in any standard CD-ROM drive. CD-ROM drives can also read audio compact discs for music, although CD players cannot read CD-ROM discs (SearchCIO-Midmarket.com 2000).

The CD-ROM is an important innovation for the storage of information. It can store the equivalent of 30 000 pages on one disc. In order to use it a CD-ROM player and monitor are needed. Most computers have a CD reader. Books, databases, encyclopaedias, software and other information sources are available in CD-ROM format. The advantage of this format is that text, sound and moving images can be captured on one medium. So, for example, the *Encyclopaedia Britannica* is now available in CD-ROM as well as paper format. The advantage of this is that if you want to look up, say, a musical instrument such as a tuba, there is not only written information, but you can also hear what a tuba sounds like. The same applies to historical information where you can see pictures of important historical people, read about them, possibly hear them making a speech and see footage from important events they participated in.

### 4.5.2 Videos

A video has to do with the visual presentation of information and requires a monitor (either television or computer) on which it may be viewed. It may be defined as a sequence of images put together, one after another, to simulate motion and interactivity. Videos may include sound as well as images (Avtec Media Group 2008).

### 4.5.3 DVDs

A DVD can be defined as ‘a high density compact disc for storing large amounts of data especially high resolution audio-visual material’ (*Collins Essential English Dictionary* 2006).

DVD is short for digital versatile disc or digital video disc, a type of optical disk technology similar to CD-ROM. A DVD holds sufficient data for a full-length movie. DVDs are commonly used as a medium for digital representation of movies and other multimedia presentations that combine sound with graphics (Webopedia 2004 SV ‘DVD’). Most DVDs have the same dimensions as CDs but store more than six times as much data.

The next generation of DVD is already developed. The disc is identical in some aspects but uses high definition optical formats such as Blu-ray disc (Wikipedia 2008 SV 'DVD').

### ACTIVITY 4.5

Which audio–visual format would be required if you needed information on the following:

1. You are studying Shakespeare's play *Romeo and Juliet* and you are finding it difficult. You believe if you could hear and see it you would understand it better.
2. You need to listen to the Emperor Concerto by Beethoven.
3. You want to know what a viola looks and sounds like.

## 4.6 Review

In this chapter we discussed various information sources. Some of them such as books, magazines and videos you are probably very familiar with already. Others you may not have encountered as yet but you should be aware of them because they will be useful to you in your studies and later professional life. Although many of the sources are available in both paper and electronic format, some of them are only available in one or the other format. In the next chapter we will be discussing electronic sources and resources. We will be discussing the Internet, one of the major sources of information in today's world.

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## Answers to activities

### ACTIVITY 4.1

Some of the differences you may notice are:

- A journal will have a list of references or bibliography whereas a magazine article will not.
- An article in a journal will be longer.
- A magazine article will be shorter than a journal article.

### ACTIVITY 4.3

1. For information on a local event you would consult the local newspaper.

### ACTIVITY 4.2

Some of the differences you may notice are:

- That they cover different geographical areas, for example, the *Pretoria News* focuses on news in Pretoria whereas the *Sunday Times* has a national focus.
- That they cover different subject areas, for example, *Business Day* and *Sun*.

2. For information on the latest research on the AIDS epidemic you would consult a current journal.

**ACTIVITY 4.4**

1. *Government Gazette*
2. Stats SA is the government body responsible for gathering, analysing, processing and publishing statistics in South Africa.
3. The NEXUS database which includes South African dissertations and theses.

**ACTIVITY 4.5**

1. You would watch *Romeo and Juliet* on a DVD or video.
2. You would listen to the Emperor Concerto on a CD.
3. You would consult an online encyclopaedia either via the Internet or on a CD-ROM.

# 5

## The Internet

### Contents

- 5.1 Introduction
- 5.2 What is the Internet?
- 5.3 What is the World Wide Web?
- 5.4 Development of the Internet
- 5.5 What can you do on the Internet?
  - 5.5.1 Send and receive e-mail
  - 5.5.2 Subscribe to a mailing list
  - 5.5.3 Join a discussion group
    - 5.5.3.1 Newsgroups
    - 5.5.3.2 Chat rooms or Internet relay chat
  - 5.5.4 Blogs
  - 5.5.5 Peer-to-peer file sharing (also called P2P)
  - 5.5.6 File sharing
- 5.6 Streaming media
- 5.7 Voice telephony (VoIP)
- 5.8 Facebook
- 5.9 Finding information on the Internet
  - 5.9.1 Uniform resource locator (URL)
- 5.10 Review

Review activity

References

Answers to review activity

### Outcomes

After studying this chapter you should be able to:

- use and understand basic terminology related to finding and accessing electronic information sources especially the terminology of the Internet
- differentiate between the World Wide Web and the Internet
- identify various types of information sources available on the Internet
- be able to describe some of the things you can do on the Internet
- read a URL
- use a URL to find information

## Key concepts

<b>3G technology cell phones</b>	the third generation of developments in wireless technology, especially mobile communications. A 3G-enabled cell phone or computer with a 3G card can connect to the Internet as long as the person is in an area which has cell phone coverage
<b>broadband Internet access</b>	often shortened to just broadband; a high-speed Internet access using a modem
<b>browser</b>	software which you use to connect to and view WWW pages. Examples of browsers are Mozilla Firefox and Microsoft Explorer
<b>computer network</b>	computers connected by cable which exchange information using protocols recognisable by all the computers which are linked together
<b>dial-up Internet access</b>	a form of Internet access via telephone line. You need to dial-up each time you wish to access the Internet
<b>digitise</b>	to convert information into a form a computer can recognise and process
<b>discussion group</b>	used to send messages and information to a group of people with similar interests
<b>download</b>	to transfer information in a file from one computer to another computer or to store it on a disk
<b>e-mail</b>	short for electronic mail messages sent between people through computer networks. Your e-mail message travels within seconds from your computer to the computer of the person receiving the message
<b>home page</b>	the name for the title page or introductory page of a WWW site. You can move from a home page to other sites for more information, using hyperlinks
<b>HTML</b>	short for HyperText Markup Language; a computer coding used to create WWW pages

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<b>hyperlink</b>	a highlighted word, phrase or other element in a hypertext document which, when selected (for example, by clicking the mouse on a highlighted word) gives an automatic connection to another hypertext document
<b>hypermedia</b>	hypertext with additional electronic media (for example, graphics, video, animation, sound)
<b>hypertext</b>	text in electronic form which allows links to other electronic text; this enables us to retrieve information non-sequentially by moving from one document to another, using hyperlinks. Documents on the WWW consist of hypertext and hypermedia with hyperlinks
<b>Internet</b>	the worldwide network of thousands of interconnected computer networks (that is, a network of networks)
<b>list serv</b>	an electronic discussion group based on common interests that uses a mailing list to distribute messages to all members' electronic mail boxes
<b>mailing lists</b>	mailing lists create online discussion groups among people who share a common interest. A message sent to a single e-mail address is forwarded to the e-mail mailbox of everyone who has asked to subscribe to that mailing list
<b>MP3</b>	a standard technology and format for compressing a sound sequence into a very small file while preserving the original level of sound quality when it is played
<b>protocol</b>	standardised rules that govern the exchange of information between computers
<b>search engine</b>	software you use to search databases for information; the search engine enables you to search by means of keywords, subjects, etc. There are many search engines available for searching the WWW (for example, Google, Yahoo, Ananzi)

<b>telecommunication</b>	the exchange of information over significant distances by electronic means
<b>website</b>	a collection of files on the Internet, usually dealing with a single subject or related subjects. A site on the WWW is called a website
<b>software</b>	computer programs
<b>URL</b>	short for Uniform Resource Locator; the location, or address, of a site on the Internet. For example, the URL for <i>Time</i> magazine is <a href="http://www.time.com">http://www.time.com</a>
<b>web</b>	short for World Wide Web
<b>Wi-Fi</b>	the name of a popular wireless networking technology that uses radio waves to provide high-speed Internet and network connections. It is a means by which portable devices such as notebook computers can connect to the Internet wirelessly.

## 5.1 Introduction

In the previous chapters of the book we discussed traditional resources that are commonly found in a library. In this chapter we will discuss the Internet – one of the most influential technologies developed in the past few decades. Even if you do not own a computer the Internet will affect many areas of your life, such as ATMs for banking. But from our point of view the most important aspect of the Internet is our ability to access a wide range of information and information sources and to communicate with people in a variety of ways all over the world. In this chapter we will discuss the Internet, and various things you can do on the Internet such as e-mail, share files, Facebook and so on. The various ways of accessing information via the Internet will be discussed in Chapter 7.

## 5.2 What is the Internet?

The Internet is a worldwide network of networks, a networking infrastructure. It connects millions of computers together globally, forming a network whereby any computer can communicate with any other computer as long as they are both connected to the Internet. Information that travels over the

Internet does so via a variety of languages and protocols. Protocols are the technical standards that are required for the computers to communicate.

Data travels across ordinary telecommunication lines (such as cable, telephone, radio, or television lines) and so it is very easy for individuals and organisations to connect to the Internet. It is impossible to say how many computers are hooked up to the Internet as the number is constantly growing.

### **5.3 What is the World Wide Web?**

The World Wide Web or WWW or Web (we will use the WWW in this book but all are acceptable) is a way of accessing information through the Internet. It is an information-sharing model that is built on top of the Internet. The WWW uses the HTTP protocol and is used to transmit data over the Internet. The WWW also utilises browsers (software which you use to connect to and view WWW pages), such as Internet Explorer or Mozilla Firefox, to access web documents called web pages that are linked to each other via hyperlinks. Web documents can contain graphics, sounds, text and video.

The WWW is just one of the ways that information can be disseminated over the Internet. The Internet, not the WWW, is also used for e-mail, which relies on SMTP (Simple Mail Transfer Protocol), Usenet news groups, instant messaging and FTP (File Transfer Protocol). So the WWW is just a portion of the Internet, although a large portion, but the two terms are not synonymous and should not be confused. An analogy that can be used to explain the relationship is that the Internet is similar to the transport network and the WWW is one of the vehicles using the road. There are, however, many other vehicles using the transport system as well.

According to Worldwidewebsite.com (a site that measures the size of the WWW on a daily basis) the Indexed WWW contained at least 48.11 billion pages on Monday 10 August 2009. This means that it has virtually doubled in a year as it contained 27.16 billion pages on 2 October 2008.

### **5.4 Development of the Internet**

The Internet originated in the United States in 1969. It was developed by visionaries in the early 1960s who saw great potential value in allowing computers to share information on research and development in scientific and military fields. The Advanced Research Projects Agency (ARPA) developed technology over a period of time which created the ARPANET, a network of 20 computers to send information backwards and forwards in an open system. This allowed information to be sent from one computer on one network to be received by another computer on a different network.

Over time this network expanded, as more and more academic networks linked into the system. Today the Internet is a global computer network; it connects computers and networks of computers all over the world. The computers linked to this network are used by individuals, businesses, educational institutions and government departments. As the system is so open it means anyone can access it (providing they have the necessary equipment such as a computer, modem and telecommunications links).

There has been faster growth in the WWW than any other element of the Internet. It is used widely by governments, organisations and individuals not only to get information but also to make information about themselves available to a worldwide audience. The WWW runs on the Internet and so it needs the Internet as a basic infrastructure.

The Internet has millions of users worldwide and every day the number of users grows exponentially. The requirements for accessing the Internet are the necessary hardware (such as a computer system with a modem), a telecommunications link (such as a telephone line or wireless connection), a browser for the WWW (such as Mozilla Firefox or Microsoft Explorer) and a subscription with an Internet service provider to link you to the Internet. The Internet service provider will charge for services. Through the service provider, there is a link between the telecommunication line of the subscriber and the Internet network. There are thousands of service providers throughout the world; some examples of South African service providers are M-Web, TelkomSA, and iBurst. Common methods of home access to the Internet include dial-up, landline broadband (over coaxial cable, fibre optic or copper wires), Wi-Fi, satellite and 3G technology cell phones. Many libraries have computer terminals for their users to search for information on the Internet. There are also Internet cafes and kiosks in many of the larger cities and towns where for a fee you can use a computer terminal which is connected to the Internet.

There are many articles, handbooks and tutorials which explain in detail the components of computer networks and how these function. In this chapter we will not go into all this technical detail. We can give only some indication of the information sources available on the Internet and how these may be located. Since ICT (information communication technology) advances at an incredible rate, and the possibilities provided by the Internet increase daily, you need to constantly keep current with trends. There are periodicals and Internet sites which specialise in the use of the Internet, and these will provide the latest information. In this book we can only touch the surface of what was available at the time of writing.

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## 5.5 What can you do on the Internet?

You can use the Internet in a large variety of ways. The Internet is defining a whole new culture and you have an opportunity to be part of it. Here are some of the things you can do:

### 5.5.1 Send and receive e-mail

From a computer or mobile phone linked to the Internet you can send and receive e-mails to and from anyone in the world who has an e-mail address. The ability to e-mail anyone connected to the Internet anywhere in the world and communicate with them has revolutionised the way we communicate. Previously it would take time to send letters and wait for a reply. Now a message can be sent instantaneously.

Internet service providers will provide a subscriber with an Internet address but even if you are not an Internet subscriber you can get an e-mail address from some of the search engines used to access and search the Internet. For example, Google offers a free e-mail service called g-mail. Once you have signed in you will be able to access e-mail from any computer (or other device) with Internet access wherever you are in the world. Yahoo offers a similar service at [https://login.yahoo.com/config/login\\_verify2?&.src=ym](https://login.yahoo.com/config/login_verify2?&.src=ym).

### 5.5.2 Subscribe to a mailing list

If you have an e-mail address you can subscribe to a mailing list or list serv on a variety of subjects or start your own mailing list. For example, you can have the news headlines sent to your e-mail address on a daily basis, or join a mailing list in a particular topic that interests you. Mailing lists are an important means of staying informed on current developments in your field of interest.

If you want to find a mailing list on your topic of interest, do an Internet search. There are mailing lists on a wide range of topics. Many professional associations offer members the option of joining the mailing list to receive current information that may be of interest to them.

### 5.5.3 Join a discussion group

Discussion groups are used to send messages and information to a group of people with similar interests. A discussion group is controlled by a computer (mail server) which forwards a copy of any message it receives to those people who have chosen to join the discussion group. Discussion groups allow members of the group to contribute to any topic being discussed. The message is sent to a moderator who checks the message for suitability before it is

distributed to other members of the discussion group. Discussion groups are a useful means of disseminating information to a particular group of people. Members of a discussion group can either receive messages as they are sent, or as a compilation of messages (digest) at the end of the day.

### **5.5.3.1 Newsgroups**

Just as e-mail and WWW are two distinct services on the Internet, newsgroups are part of the 'Usenet' (user network), which is another service, or facility, on the Internet. A newsgroup has nothing to do with the daily news, but is an on-line discussion group. There are thousands of newsgroups covering every conceivable interest on the Internet. Newsgroups started in the late 1970s and continue to prosper alongside the web, although the web has its own discussion groups. Newsgroups start by someone posting an initial query or comment. As others reply, the text forms a chain of related postings called a 'message thread'. Newsgroups are similar to blogs (see 5.5.4), but usually have more questions and answers, whereas the blog is often used for general commentary. Newsgroups are also a source for MP3 files and pictures.

Newsreader software is used to 'subscribe' to newsgroups and read and post messages. It usually forms part of an e-mail program or web browser, and offers many features such as searching for and automatically subscribing to newsgroups that match some criteria (PC Mag.com 2008).

### **5.5.3.2 Chat rooms or Internet relay chat**

A chat room is a website that provides a venue for communities of users with a common interest to communicate in real time. Forums and discussion groups, in comparison, allow users to post messages but don't have the capacity for interactive messaging.

Chat room users register for the chat room of their choice, choose a user name and password, and log into a particular room (most sites have multiple chat rooms). Inside the chat room, there is generally a list of the people currently online, who also are alerted that another person has entered the chat room. To chat, users type a message into a text box. The message is almost immediately visible in the larger communal message area and other users respond.

Chat rooms can be found that focus on virtually any interest (SearchSOA.com definitions SV "Chat rooms" 2008).

Internet Relay Chat (IRC), similar to chat rooms, is a form of real-time Internet chat mainly designed for group discussion. It also allows one-to-one communication and data transfers (Wikipedia: the free encyclopedia SV "Internet Relay Chat" 2008).

### 5.5.4 Blogs

The term blog is a contraction of weblog. A blog is a web diary that consists of brief entries usually written by a single person (but may be corporate). Many interest groups now have blogs on which they allow discussions. An information science related weblog is the Information Research Weblog <http://www.free-conversant.com/irweblog/>. The newest entry is always posted at the top of the page. Blogs attract readers with similar interests and viewpoints. Blogs can be an important source of current information and viewpoints. An important issue from the point of view of using blogs for information is that they can be searched using blog search engines such as Technorati (Harris 2005:38).

### 5.5.5 Peer-to-peer file sharing (also called P2P)

Peer-to-peer file sharing is a mode of information exchange in which computer users with the same networking software can access files on one another's hard drives, without the use of a central server. Users designate the files they will share, which makes them available for keyword searching. This provides an excellent environment for collaborative work. An example of this is the Human Genome Project. Many young people use P2P for downloading music, movies and software (Harris 2005:44–5).

### 5.5.6 File sharing

In file sharing a computer file can be e-mailed to customers, colleagues and friends as an attachment. It can be uploaded to a website, FTP server, to a 'shared location' or onto a file server for instant use by colleagues. These simple features of the Internet, over a worldwide basis, are changing the basis for production, sale and distribution of anything that can be reduced to a computer file for transmission. This includes print publications, software products, news, film, video, photography and graphics. This has had a major impact on industries that produce and distribute these products (Wikipedia: the free encyclopedia SV "File Sharing" 2008).

## 5.6 Streaming media

Many existing radio and television broadcasters provide Internet 'feeds' of their live audio and video streams (for example, Radio 702, CNN). They may also allow time-shift viewing or listening (this means that you can either listen or watch before or after it has been broadcast). There are also many 'broadcasters' who only broadcast over the Internet. This means that an Internet-connected device, such as a computer or something more specific,

can be used to access on-line media in much the same way as was previously possible only with a television or radio receiver. The range of material is much wider, from popular to highly specialised, technical webcasts.

Podcasting is a variation of this where – usually audio – material is first downloaded in full and then may be played back on a computer or loaded on to a digital audio player such as an iPod or any MP3 player. These techniques using simple equipment allow anybody to broadcast audio-visual material on a worldwide basis, with little censorship or licensing control.

Webcams are a low budget extension of this phenomenon that allow short videos to be loaded and accessed on the WWW. Although the picture from a webcam is usually either small or updates slowly, it enables Internet users to watch events from remote areas such as animals around an African waterhole, the traffic at a local roundabout or their own premises, live and in real time. Video chat rooms, video conferencing and remote controllable webcams are also popular.

YouTube sometimes described as an Internet phenomenon because of the vast number of users and how rapidly the site's popularity has grown, was founded on 15 February 2005. At the time of writing this book it was the leading website for free streaming video.

## **5.7 Voice telephony (VoIP)**

VoIP stands for Voice over Internet Protocol that underlies all live Internet communication. Recently VoIP systems have become as easy to use and as convenient as a normal telephone. The benefit is that as the Internet carries the actual voice traffic, VoIP can be free or cost much less than a normal telephone call (Wikipedia: the free encyclopedia. SV “Streaming media” 2008).

## **5.8 Facebook**

Facebook is a social networking website launched in 2004 (available at <http://www.facebook.com>). The free-access website is privately owned and operated by Facebook, Inc. Users can join networks organised by city, workplace, school, and region to connect and interact with other people (Wikipedia: the free encyclopedia SV “Facebook” 2010).

## **5.9 Finding information on the Internet**

The web makes a huge amount of information available but in order to find relevant and reliable information, you need to be able to search the Internet

effectively and evaluate the information you retrieve. (This will be discussed in more detail in Chapter 7.)

The Internet is not owned by any body or organisation; there is also no organisation controlling or evaluating what is put on the Internet; nor is there an organisation or body organising the information for easy retrieval. The Internet also grows exponentially – every day more information is placed on the Internet. Some of this information is valuable but some of it is deliberately put on the Internet to mislead people, or for political purposes or to sell something.

### 5.9.1 Uniform Resource Locator (URL)

In order to find a specific site on the WWW you need to have a URL. The URL is the Internet equivalent of a full postal address and is used to connect to Internet sites around the world. URLs are a standard way of naming or specifying any kind of information on WWW. The URL indicates the location of a site on the network, so if you want to go to this site to find information, you need to type its address into your computer system. You do this in the space on the screen where your browser indicates. You carefully type the URL on the computer keyboard. Remember you must be one hundred percent accurate as URLs are case sensitive, and it is important to note whether a letter should be typed as upper or lower case.

It is useful to know how URL addresses are put together. This knowledge will help you in several ways: you may be able to spot a mistake in an address; you may not know the address of a particular organisation you want to contact but can make a good guess at what it might be; and when a site is no longer at the URL you have, you can try to locate it by eliminating some elements in the URL.

Let us look at a typical URL in Figure 5.1 on p.76, and break it into some smaller sections. We have taken a fairly simple address in this case, merely to indicate some main features of URLs.

Rapid changes occur on the Internet, such as sites disappearing or moving to new locations. If you are using a particular URL to find a site and get a message to indicate that the site cannot be found on the Internet, you can try to hunt down the site by eliminating (one at a time) the last few elements in the address. For example, if you have the following URL <http://www.unisa.ac.za/UCP/P&Tpage.html> which cannot be found, then you can start by first dropping the `/P&Tpage.html` and trying this. If it still cannot be found, then drop the UCP as well. You continue until you have a shorter URL which finds the site. Eventually you will get to the home page of the site, and from this page you may find a link to the site you are looking for.

**FIGURE 5.1: ELEMENTS IN A URL ADDRESS**

1                    2                    3                    4                    5

http://    www.unisa.    ac.za/    library/    index.html

1. The first section is the protocol that the site uses: http:// indicates that the resource is in hypertext.
2. The second section indicates the location of the host computer of the organisation (or individual) which has placed the site on the Internet. There are several features in this section which give one important hints. For example, www shows that the site is on the World Wide Web; the name of the organisation is usually recognisable (Unisa in this case).
3. The third section indicates the type of organisation which has placed the site on the Internet and the country in which it is situated. The abbreviation 'ac' means it is an academic institution; the abbreviation 'za' is for South Africa.
4. The fourth section relates to the directory structure within the host computer. This is where a particular set of computer files (which contain the information to be displayed on the network) is stored.
5. The fifth section is the name of a particular web page or file.

There are many elements and abbreviations used in URLs which you soon learn to recognise easily. For example, two common protocol abbreviations are:

- http://Hypertext Transfer Protocol (which shows that the source is in hyper-text and is linked to other web pages)
- ftp://File Transfer Protocol which allows you to move files between different computer systems.

A few examples of common abbreviations in a URL address are given in Figure 5.2 on p.77.

**FIGURE 5.2: EXAMPLES OF COMMON ABBREVIATIONS IN A URL ADDRESS**

COUNTRIES		SA EDUCATIONAL INSTITUTIONS		VARIOUS OTHERS	
au	Australia	uj	University of Johannesburg	ac	academic institutions
ca	Canada	unisa	University of South Africa (Unisa)	com	commercial businesses
hk	Hong Kong	nwu	North West University	edu	USA educational institutions
na	Namibia	uovs	University of the Free State	gov	government
sl	Swaziland	wits	University of the Witwatersrand	mil	USA military
uk	United Kingdom	up	University of Pretoria	org	other organisations
za	South Africa	us	Stellenbosch University		
zw	Zimbabwe				

## 5.10 Review

In this chapter we have briefly introduced you to the Internet and some of the things you can use it for. The Internet is an important source of information not just for academic purposes but also for everyday information needs. It can also be used for a large range of activities such as discussion groups, P2P, and e-mail. In the next chapter we will discuss electronic sources and in Chapter 7 we will discuss methods of searching for information on the Internet and other electronic information sources.

## Review activity

In this chapter you have been introduced to a number of concepts and terms which may be unfamiliar to you. Take the review quiz here to see if you have remembered what you have read.

1. The Internet and the WWW are synonyms. True/False
2. All you need to access the Internet is a computer. True/False
3. The language used on the WWW is the HTTP protocol. True/False
4. The fastest growing part of the Internet is Facebook. True/False
5. The Internet was developed in the USA in the 1980s. True/False
6. You can access the Internet via your cell phone if it has G3 technology. True/False
7. Even if you do not subscribe to an Internet service you can send and receive e-mail from anywhere in the world. True/False
8. One of the ways to keep up-to-date in your subject is to subscribe to a mailing list. True/False
9. A chain of related postings on a newsgroup is called a 'message thread'. True/False
10. A newsgroup and Blog are very similar. True/False
11. Blogs provide a venue for communities of users with a common interest to communicate in real time. True/False
12. File sharing allows you to listen to broadcasts in real time. True/False
13. In VoIP the Internet carries the actual voice traffic, so it can be free or cost much less than a normal telephone call. True/False
14. The FTP is the Internet equivalent of a full postal address and is used to connect to Internet sites around the world. True/False

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Wikipedia: the free encyclopedia. 2010. SV “Facebook”. Available <http://en.wikipedia.org/wiki/Facebook>. Accessed September 2010.

## Answers to activity

- |          |           |
|----------|-----------|
| 1. False | 8. True   |
| 2. False | 9. True   |
| 3. True  | 10. False |
| 4. False | 11. False |
| 5. False | 12. False |
| 6. True  | 13. True  |
| 7. True  | 14. False |

# 6

## Electronic sources and resources

### Contents

- 6.1 Introduction
- 6.2 Portals and gateways
  - 6.2.1 Regional portals and gateways
  - 6.2.2 Government portals and gateways
  - 6.2.3 Enterprise portals
- 6.3 Library portals
  - 6.3.1 Library catalogue
  - 6.3.2 Electronic journals
  - 6.3.3 Databases
    - 6.3.3.1 Bibliographic databases
    - 6.3.3.2 Indexing databases
    - 6.3.3.3 Abstracting databases
    - 6.3.3.4 Full text databases
- 6.4 Other sources
- 6.5 Review

References

Answers to activities

### Outcomes

After studying this chapter you should be able to:

- define the concept 'portal' and be able to describe some examples of portals
- list some of the information that can be found on various types of portals such as government portals
- list and describe the various sources that are available through a library portal
- differentiate between a bibliographic database and full text database

## Key concepts

<b>bibliography</b>	a bibliography can be defined as a list of information sources on a particular topic, or by a specific author, or about a specific author, or published in a specific country
<b>database</b>	a database is an organised collection of records or data presented in a standardised format that is searchable by computers
<b>federated search</b>	this allows the user to enter the search criteria once and eliminates duplication among the results so that instead of doing multiple searches you need only do one search
<b>library portal</b>	can be defined as a network service that brings together content from diverse resources, including the library catalogue, on-line subscription reference material, e-journals and learning and teaching material
<b>portal or gateway</b>	a web portal or gateway refers to a site that provides a single point of access to collections of information and resources on the World Wide Web

## 6.1 Introduction

In the previous chapter we discussed the Internet and the various things you can do on the Internet. In this chapter we will discuss other electronic sources and resources. There is some overlap between this chapter and Chapter 4 as some of the sources, such as journals, can be in either paper or electronic format. However, in this chapter we focus on those sources that are primarily available in electronic format.

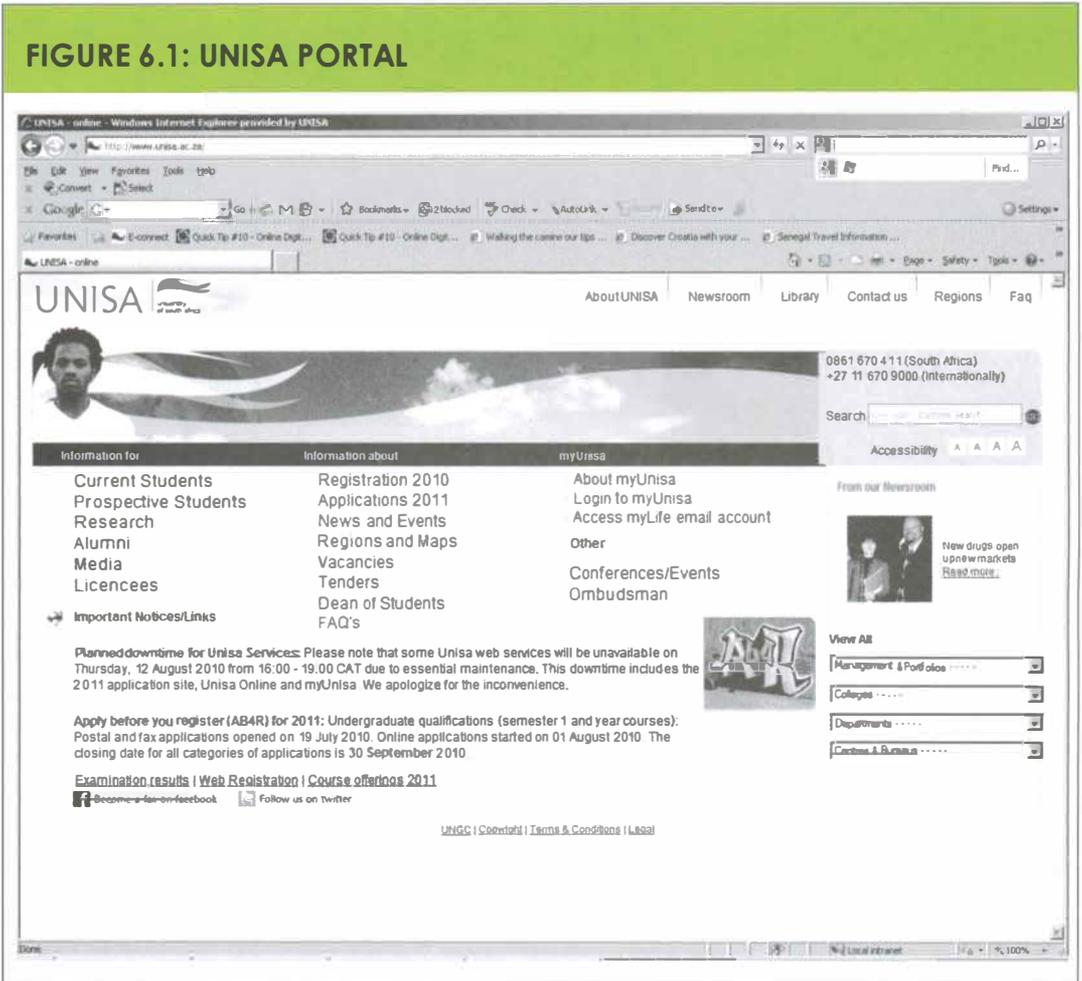
## 6.2 Portals and gateways

Some sources differentiate between the two terms ‘portal’ and ‘gateway’ but in practice the two terms are often used interchangeably. In this book we will use the term ‘portal’. A web portal or gateway refers to a site that provides a single point of access to collections of information and resources on the web. Portals present information from diverse sources in a unified way. There

are various kinds of portals such as government portals, regional portals and enterprise portals. Some of these will be discussed below.

A portal can also offer employees or users facilities to share information with each other, for example, through e-mail, blogs and chat rooms. Portals are created for a specific purpose and are usually either directed at a specific audience, deal with a specific topic or bring together information on a specific region or discipline.

**FIGURE 6.1: UNISA PORTAL**



An example of a portal is the Unisa homepage available at <http://www.unisa.ac.za/>. As you can see from Figure 6.1 this portal gives you access to many services offered by Unisa such as the library, information about degrees, registration, staff, research and so on as well as the possibility of contacting Unisa.

## 6.2.1 Regional portals and gateways

A regional portal is set up to serve specific needs in a geographic region. Regional portals may contain local information such as weather forecasts, street maps and local business information. Examples of regional gateways are:

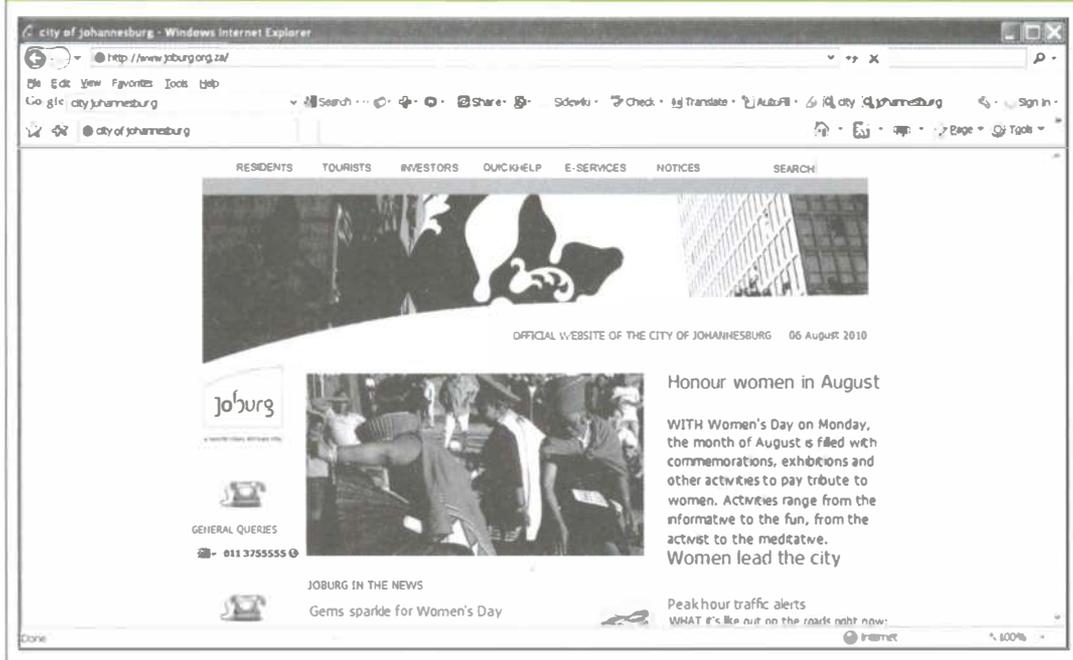
<http://www.pretoria.co.za/>

<http://www.southafrica.info/>

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

These sites offer tourist and business information, currency, sights and activities and other information. They offer a single entry point to information one may need either as a citizen or a tourist. Figure 6.2 shows the Johannesburg official site.

**FIGURE 6.2: OFFICIAL SITE OF THE CITY OF JOHANNESBURG**



## 6.2.2 Government portals and gateways

Government portals offer information on a particular country for its citizens and other interested parties. The South African Government website is found at <http://www.gov.za/>. You can search this website. For example, if you go to the option Speeches and Statements you can search according to the date, name of the speaker, words included in the speech, date the speech was given and so on. In the United States the main portal is <http://www.usa.gov> in English and <http://www.gobiernousa.gov> in Spanish. Many states in the USA and provinces in South Africa also have portals, for example, Gauteng Province's portal can be found at <http://www.gpg.gov.za/>. Figure 6.3 is an example of a government portal.

FIGURE 6.3: SOUTH AFRICAN GOVERNMENT SITE



## 6.2.3 Enterprise portals

Enterprise portals provide access to enterprise information such as corporate databases, applications (including web applications), and systems. Apart from being able to use a search engine, web portals offer other services such as

e-mail, news, stock prices, infotainment, and other features. (Wikipedia: the free encyclopedia. SV “Web portal” 2008). Enterprise portals can restrict various levels of access via passwords. This enables them to restrict access to confidential information and services. For example, if you are a student at a university you can access various services through the university portal that are not available to the general public. You will have to enter a password such as your student number to access restricted services. Figure 6.4 is an example of an enterprise portal.

**FIGURE 6.4: EXAMPLE OF AN ENTERPRISE PORTAL:  
RADIO 702 TALK RADIO**

The screenshot shows the Radio 702 website in a browser window. The address bar displays <http://www.702.co.za/pages/index.asp>. The page layout includes:

- Left Navigation Menu:** 702 HOME, NEWS/SPORT/BUSINESS, ON AIR INFO, MY 702, WHAT'S ON?, 702 IN VIEW, COMPETITIONS, CONTACT US, GURCKNAV, LEMUP, 702'S PRESENTERS, HEARD ON AIR, 702 eMAIL, TUNE IN, 702 CLASSIFIEDS, PROUDLY SOUTH AFRICAN, 702 PRESENTERS (listing Udo Carelse, John Robbie, Rudi Direko, and Chris Gibbons), and 702 Small Business AWARDS.
- Main Content Area:**
  - 702 TALK RADIO:** Your No. 1 News and Talk Station.
  - HEADLINES:** Includes a section for "COMING UP TODAY" with "OVERNIGHT LIVE" and "TALK AT NINE".
  - HEARD ON AIR:** A search bar for "Missed a telephone number or website address? CLICK HERE to look for it or type a search keyword in the box." with a "Search" button.
  - News Snippets:** "Ractliffe may face charges for possession of Campbell diamonds", "Sanef speaks out on police's treatment of arrested journo", "Lady Boks without star loose forward", "We are going the way of Zimbabwe - arrested journo", "New technology aims to stop car theft and hijackings".
  - WEATHER:** A table showing weather for Johannesburg, Pretoria, and Yzerfontein.
  - Exchange Rates:**

ZAR/USD	ZAR/GBP	ZAR/EUR
7.2328	11.5463	9.6013
  - Other Elements:** "Nominat a small business now", "Stand Up. Make a Difference. Go to www.leadso.co.za", and "Get the Traffic Report now!".
- Right Sidebar:** "LEAD A" section with the text "Stand up for your country. Volunteer at a charity near you." and the 702 logo.

The browser status bar at the bottom shows "Done, but with errors on page." and "Internet" with a 100% zoom level.

### ACTIVITY 6.1

Look at the examples of portals in Figures 6.1–6.4 and see which of them offer you the following:

- podcasts
- the facility to send a query or comment via e-mail or directly on the site
- various types of information
- access to connected sites

## 6.3 Library portals

From the point of view of finding high quality, reliable and usable information the most important type of portal is a library portal. A library portal can be defined as a network service that brings together content from diverse resources, including the library catalogue, on-line subscription reference material, e-journals and learning and teaching material. A portal offers a gateway to a range of high quality sources, presented to the user through a single interface, for example, the library website (JISC 2008). Library portals make a variety of information sources available through a single user interface. There are many library portals available on the WWW. Some are free of charge but others may charge a subscription fee or offer limited services for free. An example of such a service is that offered by UNESCO available at <http://www.unesco-ci.org/cgi-bin/portals/libraries/page.cgi?d=1>.

A well-stocked library may subscribe to hundreds of online databases and other resources on behalf of its patrons, each with its own search interface and login procedure. Library portals usually offer you the possibility of a federated search. This allows the user to enter the search criteria once and eliminates duplication among the results so that instead of doing multiple searches you need only do one search.

Some of the sources that can only be accessed through a library website will be discussed next.

FIGURE 6.5: EXAMPLE OF A LIBRARY PORTAL



### 6.3.1 Library catalogue

In Chapter 2 section 2.4 we discussed library catalogues. You may be able to search the catalogue through the library portal. This means that you do not need to come to the library physically to check what sources are available in that particular library. You can usually search library catalogues even if you are not a member of that particular library. The advantage of this is that if you know there is a particular source available at another library you may be able to request it as an interlibrary loan through your library.

Some of the things you may be able to do through the library website are:

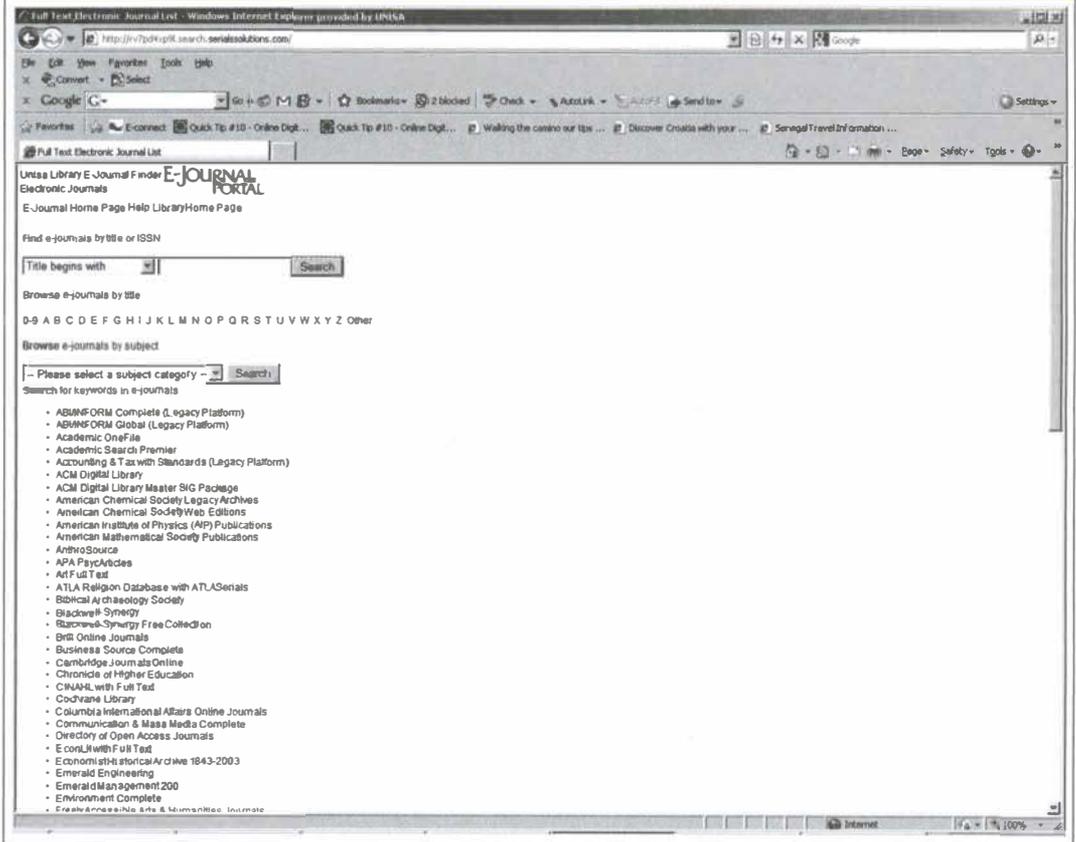
- reserve books if you are a member of the library
- search the catalogue according to a number of options, such as, author, title, subject, keywords

- search for sources before or after a specific date, or in a specific language.
- search the catalogue by combining keywords or using Boolean logic (this will be discussed in Chapter 7 section 7.2).

## 6.3.2 Electronic journals

Journals have been discussed in Chapter 4 section 4.2.1 and we mentioned there that libraries subscribe to journals either in paper or electronic format. Electronic journals to which the library subscribes may be accessed through the library portal. Access to electronic journals is usually restricted to library members. This means that if you have a reference to a particular article and the library subscribes to that journal, you are able to access the required article and print it without going to the library itself. It is also possible to search full text databases and access relevant articles. This is discussed in the next section.

**FIGURE 6.6: EXAMPLE OF SEARCH PAGE FOR E-JOURNALS AVAILABLE AT A LIBRARY**



### 6.3.3 Databases

A database is an organised collection of records or data presented in a standardised format that is searchable by computers. You can think of a database as an electronic filing system. In libraries, one of the most common types of databases is the catalogue. It is possible to search a database and retrieve individual records.

Databases can include the following:

- Bibliographic databases
- Indexing and abstracting databases
- Abstract journals
- Full text databases

#### 6.3.3.1 Bibliographic databases

A bibliography can be defined as list of information sources on a particular topic, or by a specific author, or about a specific author, or published in a specific country. Bibliographies give the bibliographical details of a source but do not include the text. The bibliographical details include some or all of the following: name of the author, title, journal title (if it is an article), publisher (for books), place of publication, date and any other information that may be required to identify the particular source. Some bibliographies also include a short abstract or description of the contents.

From the database you can obtain the bibliographic details of relevant sources but you still need to find these sources. Bibliographies make us aware of sources of information by a specific author, published in a country or geographical area or on a particular topic.

Types of bibliographies are:

- national bibliographies which list all the publications published in a particular country, for example, the *South African National Bibliography* (SANB) available at <http://natlib1.sabinet.co.za/search~S7>
- subject bibliographies which contain descriptions of many information sources on a specific topic. There are bibliographies of information sources on a wide variety of topics, for example, *Black Studies Database*, *Gender Studies Database*; bibliographies of all sources written by a particular author or works about the author, for example, *Annotated Bibliography of Jane Austen Studies, 1984–94* by Barry Roth

### 6.3.3.2 Indexing databases

Periodicals are published at regular intervals and are important sources of up-to-date information. Library catalogues do not usually provide references to articles in periodicals and newspapers, so we need some other retrieval aid to help us find and access articles in periodicals and newspapers. One of the best known indexing databases is the *Readers' Guide to Periodical Literature* which indexes periodicals of a general nature such as *Time*, as well as scholarly journals. The *Index to South African Periodicals (ISAP)* also indexes periodicals on many different topics but is country specific as it includes only periodicals published in South Africa. There are also specific subject indexing journals which cover only the periodicals published in a specific field of human knowledge (for example, law, music, medicine, geology, chemistry). Some examples of subject indexing journals are *Index Medicus* (which gives references to articles in the medical fields).

The entries you retrieve from a search in an indexing database will include the following information:

- author's name
- title of the article
- title of the journal (possibly abbreviated)
- date
- volume number
- issue number
- pages

Figure 6.7 on p. 91, shows a typical entry from an indexing journal.

Most indexing databases use specific subject headings or descriptors taken from a thesaurus. This means that you need to think of possible subject headings or descriptors that you can enter as access points when carrying out a search.

### 6.3.3.3 Abstracting databases

An abstracting database is similar to an indexing database, since it also guides you to the periodical in which an article can be found. However, an abstracting database also provides a brief summary of the article; this summary is called an abstract.

The purpose of the abstract is to save time as it provides you with more information than the title of the article is capable of indicating. An abstract

reflects the main ideas presented in an information source. This helps you to decide whether the information source is likely to contain information that is relevant to your needs.

### FIGURE 6.7: EXAMPLE OF AN ENTRY IN AN INDEXING DATABASE

AUTHOR: Machet, Myrna P.: Olën, Sandra I.I.

TITLE: Literacy environment of pupils in urban primary schools (survey in South Africa)

SOURCE: South African Journal of Library and Information Science  
(ISSN: 0256-887X) v 65 p 77–84 June '97

CONTAINS: bibliography

SUBJECTS COVERED:

School libraries/South Africa

Surveys/Literacy

Literacy/South Africa

#### ACTIVITY 6.2

After reading the information in Figure 6.7 answer the following questions on that index entry:

1. Can you identify the descriptors?
2. What is the purpose of these descriptors?
3. In which journal is this article published?
4. What is the date of publication?
5. How long is the article?
6. How would you find this article in your library?

Look at Figures 6.8 and 6.9. You can compare an entry that has been compiled for an indexing database (Figure 6.8) with another, for the same article, that has been compiled for an abstract journal (Figure 6.9 on p. 93). Note the additional information provided in the entry for the abstract journal.

### FIGURE 6.8: ENTRY FROM AN INDEXING DATABASE

AUTHOR: Behrens, S. J.: (Shirley J.)

TITLE: A conceptual analysis and historical overview of information literacy  
(bibliographical essay)

SOURCE: College & Research Libraries (ISSN:0010-0870) v 55 p 309–22  
July'94

SUBJECTS COVERED:

Literacy/Bibliography

Bibliographic instruction/Bibliography

Library science literature/Evaluation

It takes longer for an entry for an article to appear in an abstracting database than in an indexing database. The reason for this is that abstracts take more time to write, and therefore it takes the people who do the indexing longer to prepare the entries for an abstract journal, since not all articles have abstracts already written by their authors.

There are numerous abstracting databases which specialise in specific subjects. ERIC, which stands for Educational Resource Information Center, is one of the larger and better known abstract services in the United States. ERIC covers not only journal articles but also includes unpublished research reports, dissertations, conference proceedings, curricula and lesson plans in education and related fields. There are abstract journals in all the different subject fields, for example, Chemical abstracts (CAS) and Library and information science abstracts (LISA).

To locate information in an abstracting database, you need to think of appropriate subject headings or descriptors. If, for example, you are looking for articles on how to compile entries for bibliographies, you should think of possible synonyms such as 'references' and 'citations' and alternative terms such as 'referencing' or 'reference technique' or 'citing style'. Also consider

whether there is a more general or comprehensive topic which may include the topic you are looking for, such as 'bibliography'. If the database has its own thesaurus or list of descriptors, you can consult this for the correct form of descriptors.

### FIGURE 6.9: ENTRY FROM AN ABSTRACTING DATABASE

A conceptual analysis and historical overview of information literacy.

Behrens, Shirley J.

College and Research Libraries, v55 n4 p309-22 Jul 1994

ISSN: 0010-0870

Available From: UMI

Language: English

Document Type: REVIEW LITERATURE (07); JOURNAL ARTICLE (080)

Journal Announcement: CIJNOV94

Analyses definitions of information literacy by reviewing library and information science literature in the 1970s and 1980s. The response of the information profession to the expanding range of skills and knowledge required for information literacy is noted. Three main trends in information literacy from the literature of the early 1990s are identified. (Contains 51 references.)

DESCRIPTORS:

Change; Computer Literacy; Definitions; Development; Educational Change; \*Information Literacy; Information Science; Library Instruction; Library Role; Library Skills; Literature Reviews

IDENTIFIERS:

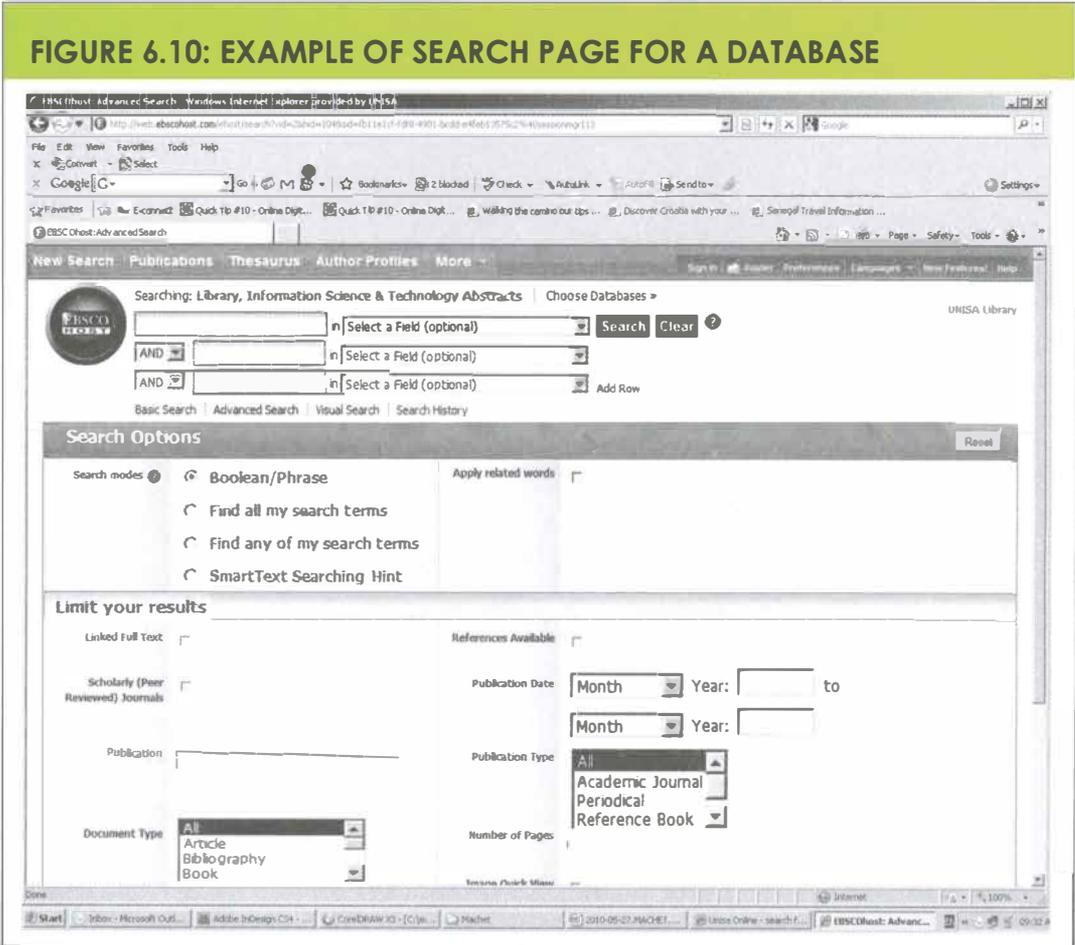
Historical Background; Information Impact; \*Information Skills; Library Literature

Formulate a search strategy by organising and writing down possible keywords, subject headings or descriptors. Remember, when searching electronic forms the menus will differ from database to database. However, a menu always provides you with various paths you could take to do the search.

### 6.3.3.4 Full text databases

Full text databases contain the full text of journal or newspaper articles, articles in an encyclopaedia, and chapters from books. The advantage of searching a full text database is that you can access the source directly. Full text databases also include full bibliographic details for the sources on the database. Electronic databases of information sources can usually be accessed through the library portal.

**FIGURE 6.10: EXAMPLE OF SEARCH PAGE FOR A DATABASE**



As can be seen from the example above you can search these sources by subject or if you know which database you wish to search you can access it through the alphabetical list.

## 6.4 Other sources

There are a number of other electronic sources that can be accessed through a library portal such as e-journals, e-newspapers, theses and dissertations. The library portal may also enable you to go on a virtual tour of the library; get practical step-by-step instruction in library skills, such as searching the Internet or using the catalogue. Most academic libraries will offer a range of sources and services via their portals.

**FIGURE 6.11: EXAMPLE OF WEBPAGE SHOWING DIFFERENT SOURCES AVAILABLE**

The screenshot shows a library website interface. At the top, there is a navigation bar with the text 'Library' and a breadcrumb trail: 'home > Library > Search for Information Resources > search for information resources'. Below this is a search bar with the text 'search for information resources'. A sidebar on the left contains a 'Library' logo and a list of links: 'About the Library', 'Branches', 'Collections', and 'FAQ'. The main content area features a heading 'there are a number of ways to search for information resources:' followed by a section titled 'electronic information resources by type'. This section lists various resources in three columns:

- a - z list of electronic resources
- OASIS library catalogue
- South African resources
- Unisa Library e-Journal Finder
- e-Books
- theses & dissertations
- e-Reference sources
- e-Newspapers
- digital collections
- other scholarly resources
- research support tools
- institutional repository
- resources by subject
- information resources on trial
- guidelines for workstation settings
- e-Resources news - coming soon

### ACTIVITY 6.3

1. What is the difference between a bibliographic database and full text database?
2. Name three ways you can search the electronic catalogue.
3. If you wanted to find out the author of a particular journal article, would you use a bibliographic database or the library catalogue?
4. Name three things you can do from home via the library portal (if you have access to the Internet).

## 6.5 Review

Portals are an important source of information. The advantage of using a portal is that portals allow you to access a range of information sources and services through one point. Portals also may allow for a federated search thus saving you time and energy. Important information such as statistics, white papers and government reports can be accessed through government and provincial

portals. Library portals give you access to a wide range of information sources and services. Some electronic sources are freely available on the Internet but the majority of quality research information is only available through subscription by a library, enterprise or individual. It is this information that you can access through the library portal as a member of the library.

In the next chapter we will discuss how to find information both in electronic sources and on the Internet.

## References

JISC see Joint Information Systems Committee

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## Answers to activities

### ACTIVITY 6.1

All the sites offer the facility to send an e-mail, query or comment via e-mail but only if one connects to another site through the portal.

All the sites have various types of information.

All the sites offer access to connected sites.

### ACTIVITY 6.2

1. If you look at the index entry in Figure 6.7 you will see that the descriptors are: School libraries/South Africa; Surveys/Literacy; Literacy/South Africa.

### (Activity 6.2 continued)

2. Their purpose is to describe the contents or subject of the article.
3. The article is published in the *South African Journal of Library and Information Science*.
4. The article was published June 1997.
5. 8 pages long.
6. You would find the article by looking in the periodical section of the library for that particular volume (65) of the periodical.

---

### ACTIVITY 6.3

1. A bibliographic database only has the bibliographic details of a source whereas a full text database will have the whole source.
2. You can search under title, author, keywords and subject terms. Some electronic catalogues may offer more options.
3. You would use a bibliographic database as a library catalogue does not include journal articles.
4. You can search the catalogue, reserve books, search the databases that the library subscribes to, renew books out on loan, and access electronic sources from home.

# 7

## Searching the Internet

### Contents

- 7.1 Introduction
- 7.2 Formulating your query
- 7.3 Boolean logic
  - 7.3.1 Boolean operator OR
  - 7.3.2 Boolean operator AND
  - 7.3.3 Boolean operator NOT
- 7.4 Using fields to search a database
- 7.5 Tools for searching the Internet
  - 7.5.1 Search engines
  - 7.5.2 Directories
  - 7.5.3 Meta-search engines
  - 7.5.4 Invisible web
- 7.6 Choosing keywords for an Internet search
- 7.7 Searching the Internet using Boolean operators
  - 7.7.1 Full Boolean logic with the use of the logical operators
  - 7.7.2 Use of brackets
  - 7.7.3 Implied Boolean logic with keyword searching
- 7.8 Features in common among some search engines
- 7.9 Evaluation of information on the Internet
  - 7.9.1 Who wrote the article and what are their credentials?
  - 7.9.2 Is the information current?
  - 7.9.3 Do the authors cite their references?
  - 7.9.4 Check for bias
  - 7.9.5 Beware of misinformation
- 7.10 Review

Review activities

References

Answers to activities

### Outcomes

By the end of this chapter you should be able to:

- construct a keyword search using Boolean operators
- differentiate between a free text search engine and directory based search engine
- select suitable keywords for searching the Internet
- carry out a search on the WWW using a search engine such as Google
- be able to list and apply evaluation criteria for information on the web

## Key concepts

<b>Boolean operators</b>	the words AND, OR, and NOT. Groups of keywords, descriptors or search terms are combined using these operators to search in electronic sources
<b>directory</b>	a web directory organises websites by subject, and is usually maintained by people instead of software
<b>invisible web</b>	the 'visible web' is what you can find using general web search engines and subject directories. The 'invisible web' is what you cannot retrieve ('see') using these types of tools
<b>meta-search engines</b>	a meta-search engine queries other search engines and combines the results. The user thus uses a combination of many search engines at once rather than just one to optimise web searches
<b>search engine</b>	a search engine is a program that searches documents for specified keywords on the WWW and returns a list of the documents where the keywords were found
<b>thesaurus</b>	a thesaurus is a list of descriptors (subject headings) for a specific subject field. The function of the thesaurus is to provide a standardised and controlled vocabulary for organisation and retrieval of information

## 7.1 Introduction

In this chapter we will discuss searching electronic sources and the Internet for information. Electronic sources, databases and the Internet make an enormous amount of information available, but unless you know how to find the information you need, it might as well not be there. To use electronic sources effectively you need to know how to search sources such as bibliographic databases to find the information you need. Each bibliographic database is constructed individually with sources specifically selected for the particular database and this leads to differences among them. Seemingly simple details

can have a profound impact when you are trying to conduct a search. In this section, we will be discussing the most common techniques to search both databases and the Internet. However, you will need to read the online help or experiment on your own to discover which methods work for a particular database or for a particular search engine.

The Internet also differs from databases. There is no controlling body that checks information placed on the Internet. Anyone can place information on the Internet and people put information there for a variety of reasons – some to inform or share information with others, some to sell something and some to deliberately misinform. We have to be more wary when using information from the Internet than information from a library or database. It is therefore important to be able to evaluate information found on the Internet and some of the criteria for doing this will be discussed in this chapter.

We will first discuss searching databases and then searching the Internet. We will conclude with criteria for evaluating information from the Internet.

## 7.2 Formulating your query

When looking for information on a database or the Internet the challenge is to ask your question the right way, so that you don't end up either with too many or too few search results, or simply unable to locate the material that you need. As with most skills, practice makes perfect!

The purpose of a successful search is to find information to match your information need and the clearer you have identified and defined that need, the more likely it is that you will find information on it. Your ability to find the information you are looking for in electronic sources or on the Internet is a function of how precise your queries are. Poor queries return poor results; good queries return great results. Before doing a search, you need to define your topic as completely and with as few words as possible. Write down exactly what information you're looking for, why you're looking for it, and what you're not looking for. This will help you to discover the best keywords for your search.

Once you have identified your key concepts or keywords it is a good idea to think of synonyms or other terms that may be used to describe it. You have no control over the words someone may have used to write their document therefore you have to think of all the possible words they may have used. A good way to do this is to use a dictionary or thesaurus or read up a bit on your topic in a general source such as an encyclopaedia.

### ACTIVITY 7.1

Select keywords for the following queries:

1. The effect of burning coal on global warming
2. Alternate forms of electricity
3. History of the genocide in Rwanda
4. Pros and cons of the death penalty
5. Should focus in prison be on rehabilitation or punishment
6. Copyright issues in the electronic era

## 7.3 Boolean logic

Much database searching is based on the principles of Boolean logic. Boolean logic refers to the logical relationship among search terms, and is named for the British-born Irish mathematician George Boole.

Boolean logic consists of three logical operators:

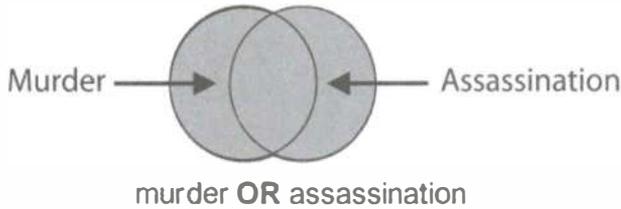
- **OR** is used to search for synonymous terms or concepts (I want documents that contain either word; I don't care which). The query 'cat' OR 'kitten' OR 'feline' OR 'tomcat' would return all documents that contained even one of these four keywords or phrases. Use OR to string together synonyms.
- **AND** is used to narrow a search by combining terms (I want only documents that contain both/all words). For example the search 'cat' AND 'kittens' would return only documents that contained both keywords. AND is the most frequently used Boolean command.
- **NOT** is used to narrow a search by excluding terms. (I want documents that contain this word, but not if the document also contains another word.) The query 'cats' NOT 'kittens' would return documents that include cats but not those that include kittens.

Each operator can be visually described by using Venn diagrams (Venn diagrams are used to visually explain the use of Boolean operators), as shown below.

### 7.3.1 Boolean operator OR

Query: I am investigating serious politically motivated crime such as murder and assassination.

**FIGURE 7.1: VENN DIAGRAM FOR OR**



In this search, we will retrieve records in which AT LEAST ONE of the search terms is present. We are searching on the terms 'murder' and also 'assassination' since documents containing either of these words might be relevant.

This is illustrated by:

- the shaded circle with the word 'murder' representing all the records that contain the word 'murder'
- the shaded circle with the word 'assassination' representing all the records that contain the word 'assassination'
- the shaded overlap area representing all the records that contain both 'murder' and 'assassination'

Using the OR operator enables you to retrieve all the unique records containing one term, the other, or both. The more terms or concepts we combine in a search with OR logic, the more records we will retrieve.

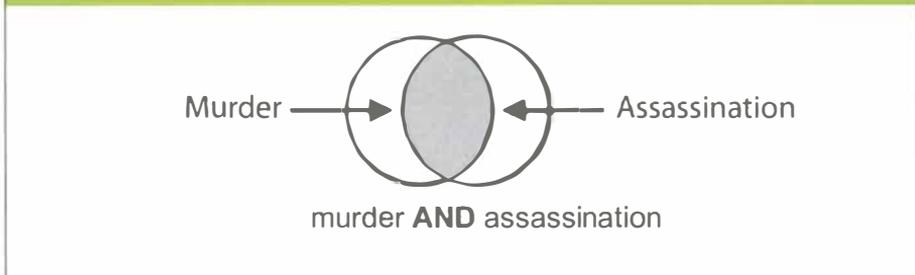
**FIGURE 7.2: NUMBERS OF RECORDS RETRIEVED WITH SEARCH USING OR (USING GOOGLE MARCH 2009)**

SEARCH TERM(S)	RECORDS RETRIEVED
Murder	103 000 000
Assassination	16 200 000
Murder OR assassination	119 000 000

### 7.3.2 Boolean operator AND

Query: I'm interested in the relationship between murder and assassination.

**FIGURE 7.3: VENN DIAGRAM FOR AND**



In this search, we retrieve records in which BOTH of the search terms are present.

This is illustrated by the shaded area overlapping the two circles representing all the records that contain both the word 'murder' and the word 'assassination'.

Notice how we do not retrieve any records with only 'murder' or only 'assassination'.

**FIGURE 7.4: NUMBERS OF RECORDS RETRIEVED WITH SEARCH USING AND (GOOGLE MAY 2010)**

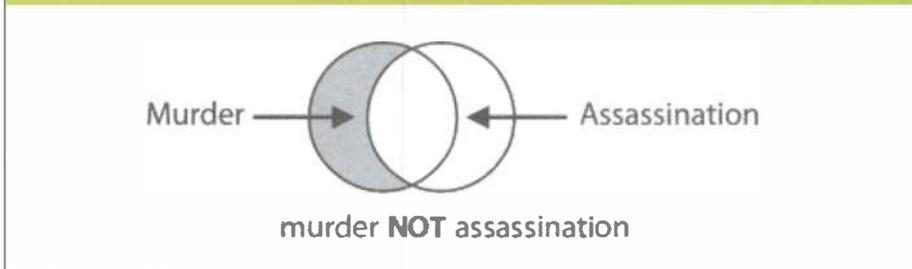
SEARCH TERM(S)	RECORDS RETRIEVED
Murder	103 000 000
Assassination	16 200 000
Murder AND assassination	2 410 000

As you can see from the example above the more terms or concepts we combine in a search with AND logic, the fewer records we will retrieve.

### 7.3.3 Boolean operator NOT

Query: I want to find out about murder but not assassination.

**FIGURE 7.5: VENN DIAGRAM FOR NOT**



In this search, we retrieve records in which **ONLY ONE** of the terms is present.

This is illustrated by the shaded area with the word murder representing all the records containing the word 'murder'.

Records containing the word 'assassination' are not retrieved, even if the word 'murder' appears there too.

NOT excludes records from your search results. Be careful when you use NOT: the term you do want may be present in an important way in documents that also contain the word you wish to avoid.

**FIGURE 7.6: NUMBERS OF RECORDS RETRIEVED WITH SEARCH USING NOT (GOOGLE MAY 2010)**

SEARCH TERM(S)	RECORDS RETRIEVED
Murder	76 800 000
Assassination	9 590 000
Murder NOT assassination	2 790 000

## 7.4 Using fields to search a database

Online databases offer you the option to search in different parts of the record (called fields) and can be a very precise way of finding a particular record. It also enables you to refine your search if you have retrieved too few or too many records. The fields that can be used when searching a database will include some or all of the following:

- Title (e.g. title of an article)

- Descriptors or keywords

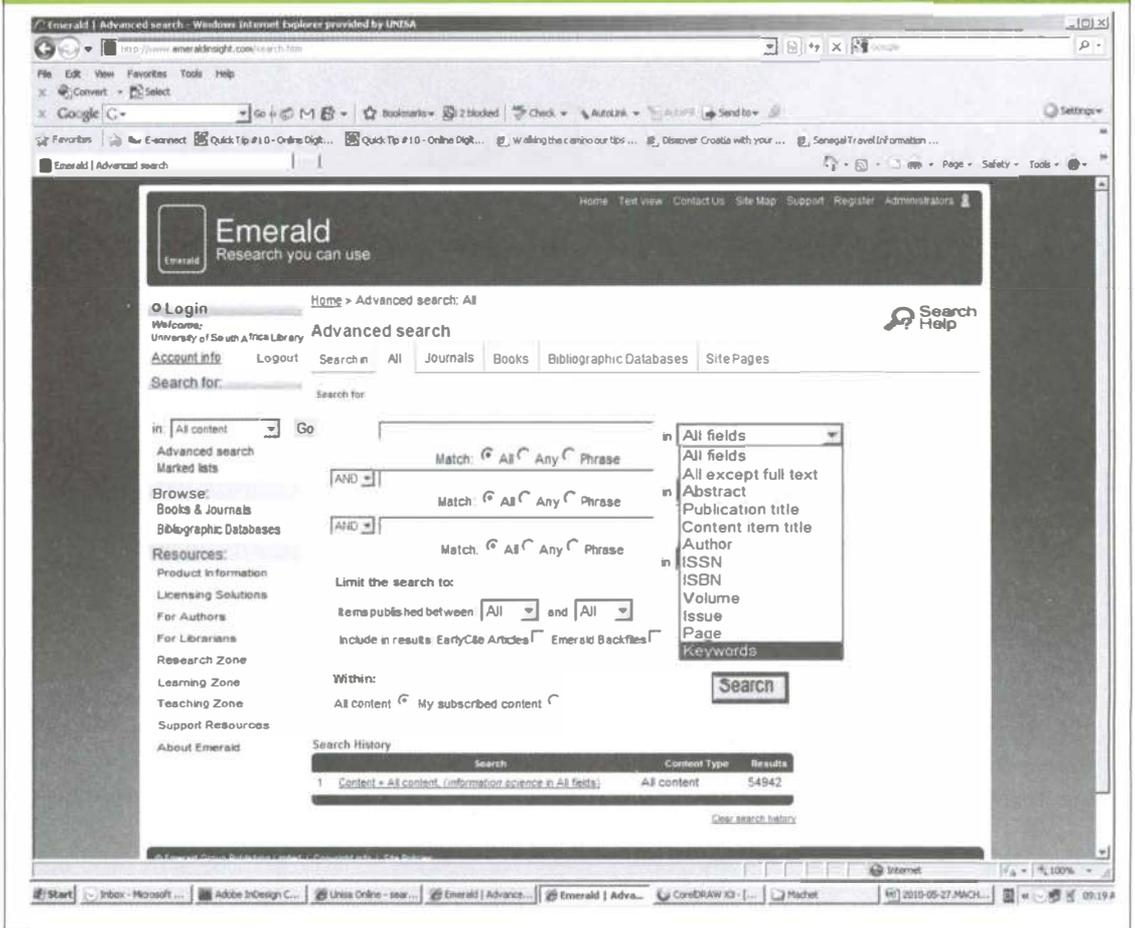
- Author

- Language

- Date

For example, if you are looking for the most recent information on a topic you can stipulate in the date field that you only require documents published after 2008.

**FIGURE 7.7: EXAMPLE OF A DATABASE SEARCH PAGE SHOWING FIELDS**



## ACTIVITY 7.2

Decide which Boolean operator you will use for the following queries:

1. I want information on Mandela's life on Robben Island.
2. I want information on Siamese cats and Burmese cats.
3. I want information on all venereal diseases except AIDS.

---

## 7.5 Tools for searching the Internet

There are various tools for searching the Internet and WWW. In this section we will discuss

- search engines
- directories
- meta-search aids
- searching the invisible web

### 7.5.1 Search engines

A search engine is a program that searches documents for specified keywords on the web and returns a list of the documents where the keywords were found. The documents may consist of web pages, images, information and other types of files. (Webopedia SV “Search engine” 2004; Wikipedia: the free encyclopedia SV “Search engine” 2008). General search engines cover a wide variety of topics and subjects and you can find information on nearly every imaginable topic using a general search engine. However, search engine indexes are created by computers so not everything is reliable or relevant. You must therefore use the information with caution (Bothma *et al.* 2008:72). We will discuss the evaluation of information found on the Internet in section 7.8.

There are a large number of search engines available but the most popular one at present is Google. Google is so popular that there is now a verb ‘to google’. Google has one of the largest databases of web pages, including many other types of web documents (blog posts, wiki pages, and document formats such as Word or Excel documents, PowerPoint presentations). Google’s popularity ranking often makes pages worth looking at rise near the top of search results. At the time of writing this book Google is the winning web search engine and so it is a good idea to learn to use it really well. Google alone is not always sufficient as less than half the searchable Web is fully searchable in Google. Using another search engine in addition to Google is usually a good idea. For this purpose, we recommend Ask.com, Yahoo!Search, AltaVista and AlltheWeb.

### 7.5.2 Directories

A web directory organises websites by subject, and is usually but not always maintained by people instead of software. As a result it is usually much smaller than a search engine’s database. There are two ways for sites to be included in a web directory’s listings:

- the site owner can submit the site to the web directory and the editors will review the submission
- the directory's editor(s) will eventually come across that site and if it meets their criteria it will be included

Sites are organised in a series of structured, hierarchical categories and menus. At the first level there are broad categories such as Society and Culture, Education, Science, Social Science. Clicking on these categories will show more detailed categories down to the lowest level where web pages dealing with the particular topic are listed. A directory can be easier to use and give better results to beginner searchers. Unlike a search engine it does not display lists of web pages based on keywords; instead, it lists websites by category and subcategory. The categorisation is usually based on the whole website rather than one page or a set of keywords, and sites are often limited to inclusion in only a few categories. Because web directories are compiled by humans rather than computer generated they tend to be more user friendly in their structure (humans know how other humans think).

Some examples of directories are as follows:

- Yahoo! Search available at <http://dir.yahoo.com/> is one of the oldest and largest directories on the web. It is created and maintained by people.
- Google directory available at <http://google.com/dirhp>. It has over a million URLs which are arranged hierarchically with 15 main headings and 45 second level headings. It was created by Google in conjunction with the Open Directory Project. This directory differs from other directories in listing sites according to importance and not alphabetically (Bradley 2004:61).
- The Direct Open Directory Project available at <http://dmoz.org/> is the largest, most comprehensive human edited directory of the web. It is constructed and maintained by a large global community of volunteer editors who are usually subject specialists.
- There are a number of directories with excellent hierarchies created by librarians such as the Internet Public Library available at <http://www.ipl.org/>. The Librarians Internet Index available at <http://www.lii.org/> is compiled by public librarians and includes only the highest quality sites. It also has reliable annotations. Infomine available at <http://infomine.ucr.edu/> is compiled by academic librarians from the University of California and elsewhere.

### 7.5.3 Meta-search engines

Meta-search engines do not own a database of web pages; they send your search terms to the databases maintained by search engine companies. In a meta-search engine, you submit keywords in the search box, and it transmits your search simultaneously to several individual search engines and their databases of web pages. Within a few seconds, you get back results from all the search engines queried. This is not generally recommended as few meta-searchers allow you to delve into the largest, most useful search engine databases. They tend to return results from smaller and/or free search engines and miscellaneous free directories, often small and highly commercial. However, if you have done a search using a search engine and come up with nothing and you do not wish to repeat the search a number of times with different search engines then it might be worthwhile to use a meta-search engine. A meta-search engine is also worth considering if you want to explore a topic more broadly. A good meta-search engine is Dogpile available at <http://www.dogpile.com>. It searches Google, Yahoo, LookSmart, Ask.com, MSN search, and more. Dogpile also offers a unique parallel mode for viewing and comparing each search engine's results. It is useful to see how little or how much overlap there is (University of California Berkeley Library SV "Metasearch Engine" 2008).

### 7.5.4 Invisible web

The 'visible web' is what you can find using general web search engines and subject directories. The 'invisible web' is what you cannot retrieve ('see') using these types of tools.

Here are some examples of material that cannot be searched by general search engines:

- The contents of searchable databases: most of the invisible web is made up of the contents of thousands of specialised searchable databases (library catalogues, article databases, etc.). Thus, these databases must be searched separately. An exception to this is Google Scholar which is part of the public or visible web. It contains citations to journal articles and other publications, with links to publishers or other sources where one can try to access the full text of the items. This is convenient, but results in Google Scholar are only a small fraction of all the scholarly publications that exist online. Much more – including most of the full text – is only available through article databases that are part of the invisible web.

- Excluded pages: search engine companies exclude some types of pages by policy.
- Pages deliberately excluded by their owners: a web page creator can insert special tags so that his or her page(s) are avoided by most search engines.

It is important to remember that the Invisible web exists. In addition to what you find in search engine results (including Google Scholar) and most web directories, there are databases that you have to search directly. This includes the databases and other electronic sources discussed in the last chapter. The contents of these are not freely available; libraries buy the rights for their authorised users to view the contents.

## 7.6 Choosing keywords for an Internet search

The Internet makes an enormous amount of information available but in order to use that information you must learn how to search the Internet effectively. You can maximise the potential of search engines by learning how they work, and how to use them quickly and effectively.

Similarly to finding information on a database, your ability to find the information you seek on the Internet is a function of how precise your queries are. Before doing a search, it's important to define your topic as completely and with as few words as possible.

The following are some tips to help you to choose your keywords:

- Most search engines work best if you provide them with several keywords. The recommended number of keywords is six to eight carefully chosen words, preferably nouns and objects. Why is it important to have so many? This is because using more keywords can reduce the number of possible documents returned by 99% or more. It also means that you eliminate irrelevant documents and increase your chances of finding the information you are looking for.
- Avoid articles (the, an), pronouns (he, they), and prepositions (to, from) in your queries. These occur so frequently in documents that search engines are programmed to eliminate them from a search.
- Avoid verbs, and use modifiers (descriptive words) only when they help to define your object more precisely, for example, 'cheddar cheese' rather than just 'cheese'.
- Ensure your spelling is correct and that you include alternative spellings, for example, color (American spelling) and colour (South African and British spelling).

- Your most powerful keyword combination is the phrase. Phrases are combinations of two or more words that must be found in the documents you're searching for in the EXACT order shown. You enter a phrase – such as 'cheddar cheese' – into a search engine, within quotation marks. Some search engines provide specific options for phrases, while others don't allow them at all; but most will allow you to enter a phrase in quotation marks. Check the 'Help' files of the search engine you're using to be sure what it accepts.
- Most search engines are insensitive to case: you can type your queries in upper case, lower case, or a mix of cases. If you use lower case, most engines will match on both upper and lower case; so for general searches, lower case is the safest form to use.

Not all search engines handle punctuation the same way. When in doubt, consult the 'Help' file.

### ACTIVITY 7.3

Identify keywords for the following queries:

1. I want to find family hotels in Durban close to the beach.
2. I want to find the average annual rainfall in Zimbabwe.
3. I want to read some reviews of the book: *The Rights of Desire* by Andre Brink.
4. I want information on the electronic social network Twitter.

## 7.7 Searching the Internet using Boolean operators

When you use an Internet search engine, there are three possibilities with regard to the use of Boolean logic:

- full Boolean logic with the use of the logical operators
- use of brackets
- implied Boolean logic with keyword searching

### 7.7.1 Full Boolean logic with the use of the logical operators

Few search engines offer the option to do full Boolean searching with the use of the Boolean logical operators. It is more common for them to offer simpler methods of constructing search statements, specifically implied Boolean logic and template language. These methods are discussed below.

If you want to construct search queries using Boolean logical operators, you will need to experiment with search engines and see what happens when you search. You can try some of the search statements shown below.

QUERY	BOOLEAN LOGIC	SEARCH
I need information about football	OR	football OR soccer
I'm interested in orphanages in Pretoria	AND	orphanages AND Pretoria
I'm interested in crime, but not murder	NOT	crime NOT murder

### 7.7.2 Use of brackets

The use of brackets is important when using Boolean operators. When you use brackets () the words in the brackets are searched first. For example, in the query: I want to learn about dog behaviour, you can use OR AND together with brackets: (dogs OR canines) AND behaviour. By putting the words linked with OR in brackets the search engine will process the two related terms first. Next, the search engine will combine this result with the last part of the search that involves the second concept. Using this method, we are assured that the OR terms are kept together as a unit.

When keywords are entered in a search on the Internet with no Boolean operators, most search engines default to either OR logic or AND logic. The majority default to AND.

### 7.7.3 Implied Boolean logic with keyword searching

Implied Boolean logic refers to a search in which symbols are used to represent Boolean logical operators. The symbols used are:

+ for AND

– for NOT

Most search engines support the AND NOT command. It is sometimes called BUT NOT or NOT, and is sometimes indicated by placing a minus sign (–) before the term or phrase to be removed. (Check the search tips of the engine you’re using to see which form of AND NOT it accepts). For example, if you are looking for sources on diabetes in children you could enter diabetes children – adults. However, you should apply this carefully because it will also exclude pages that deal with diabetes in children and adults. It is therefore a good idea to see what results you get from a simpler search before you apply AND NOT.

## 7.8 Features in common among some search engines

Search engines have become more standardised, allowing us to use some common search techniques in all of them. We give you some of these in tabular form.

### USING GOOGLE, YAHOO AND ALTA VISTA SEARCH ENGINES

#### *Things you can do*

Phrase searching by enclosing terms in double quotes: “terms”

Phrase searching with capitalised OR

Implied Boolean logic using – and +

#### *Things not supported*

Search engines are not case sensitive (that is, they don’t distinguish between capitals or lower case letters)

And here in tabular form are some ways the search engines differ:

<i>Search engine</i>	<i>Boolean operators supported</i>	<i>Default Boolean operator</i>
Google	OR	AND
Yahoo! Search	AND, OR, NOT	AND
Ask.com	OR, AND, – for NOT	AND
AltaVista	AND, OR, NOT ()	AND

## 7.9 Evaluation of information on the Internet

As we have said a number of times information on the Internet can be of varying quality. Some of it is excellent but much of it is not and some of it is deliberately put there to deceive or misinform people. It is therefore important to check the validity and quality of any information you get from the Internet. In this section we will give you some tips on how to evaluate information you get from the Internet because it is necessary to develop skills to evaluate what you find. When you use an academic library the sources (books, journals and so on) have already been evaluated by publishers and librarians. Every resource you find has been evaluated in one way or another before you ever see it. When you are using the WWW this does not apply. Anyone can write a web page and resources of varying quality can be found on the Internet. Below we will discuss the criteria you should use to assess information found on the Internet.

### 7.9.1 Who wrote the article and what are their credentials?

The first step is to check the credentials of whoever wrote the information. Similarly to any source that you use for academic purposes it is important to check who is responsible for the information. This may be a person (a single author) or it may be an organisation. If there is no clear indication of who is responsible for the site, check if the site has a link to home, about us, or any other link that will enable you to check who is responsible for the site. If it is an author then it is a good idea to check out the author's credentials. For example, the author may be someone whose name you recognise as an authority on the topic. However, if it is not a name you recognise it is a good idea to check the author's credentials by doing a Google search on the author's name. In this way you can check if the author has other publications, and what other information there is on him/her such as his/her institutional position. If it is an institution you also need to check if it is reputable. For example, if the information is published by government (check the URL for .gov in the address) or a reputable organisation (for example, CSIR, Witwatersrand University, American Cancer Association) then you can generally accept the information as authentic and trustworthy. However, if it is a commercial organisation the information may be biased in order to encourage you to buy a product. For example, an article on global warming is more likely to be unbiased if written by an independent researcher (such as someone working at a university) to one written by a researcher working for an oil company.

If you cannot establish an author or organisation responsible for the site then you should check the URL address. Often you can find the organisation

responsible for the site by taking the URL and gradually eliminating extensions from the right, for example, <http://info.cancerresearchuk.org/news/archive/newsarchive/2008/october/18811218> you can begin by deleting 18811218 and then delete october/ and so on until you get to <http://info.cancerresearchuk.org/> which will take you to Cancer Research UK, a government organisation. This indicates that the information on the site is trustworthy. A good way to check on the publisher or author is to look up the title or publisher of the page in a reputable directory that evaluates its contents (such as Librarians' Index, Infomine, About.com, or a specialised directory you trust).

### **7.9.2 Is the information current?**

Look for the date 'last updated' – usually at the bottom of a web page. Check the date on all the pages on the site. For some topics you want recent information, such as statistics, whereas in others it may not be relevant.

### **7.9.3 Do the authors cite their references?**

Similar to any good academic article or book, an article on the Internet should have references and/or footnotes to indicate where the information was obtained. Any good academic article will indicate his/her sources. In scholarly and research work, the credibility of most writings is proven through acknowledging one's sources. If there are no references or links then you need to ask: where did the author get the information from?

If there are links to other pages as sources, are they to reliable sources and do the links work?

### **7.9.4 Check for bias**

It is important to check that the author is not biased. It is also a good idea to check whether the author is affiliated with particular organisations, institutions or associations as this may indicate a bias. An example of this is a doctor who works for a company and endorses the product it makes. For example, the site <http://www.vitabase.com/doctor/default.aspx> allows people to ask doctors for medical advice. However, if you go to <http://www.vitabase.com/> you can see that this is a commercial site selling food additives such as Vitamin C and this would make the doctor's advice suspect even though the doctors are all qualified and their names and qualifications are given on the site.

The popularity of the Internet makes it the perfect venue for commercial and socio-political publishing. These areas in particular are open to misuse of data.

Always validate or confirm information on individuals, institutions or groups, and countries that you find on the Internet. If you don't know who wrote what you read or why they wrote it, you don't know if it's trustworthy.

### **7.9.5 Beware of misinformation**

There are sites on the Internet specifically placed there to misinform or for a prank. Try to avoid these sites. Examples of these sites that look genuine are:

- Dehydrated water available at <http://www.buydehydratedwater.com/>  
A commercial website selling dehydrated water
- Online Pregnancy Test available at <http://www.thepregnancytester.com/>

## **7.10 Review**

We have given you a brief overview of various methods of searching for information. Electronic sources have increased the number of sources available exponentially but to take advantage of the wealth of information that is available you need to be able to search effectively. There is a well-known saying 'rubbish in, rubbish out'. The relevance and amount of information you retrieve will be dependent on your search and selection of keywords. However, to be a good searcher you need to practice. There is no quick way to do it. You have to learn which databases, search engines or directories work for you. It also takes time to learn how to refine your search statement so that you get the best results. This chapter is the last chapter in this section: Finding information. In the next section we will discuss carrying out an information task.

### **REVIEW ACTIVITY**

1. Databases may use controlled or natural language. True/False
2. The Boolean operator AND is used to broaden the search. True/False
3. The most popular search engine is AltaVista. True/False
4. One of the differences between search engines and a directory is that a directory is usually compiled by people. True/False

5. The invisible web is that part of the web that cannot be accessed by search engines. True/False
6. When doing an Internet search it is best to start with a meta-search engine. True/False
7. Information is checked for accuracy before being placed on the WWW. True/False
8. There are good directories which have been compiled by librarians. True/False
9. The recommended number of keywords for an Internet search is 2–3. True/False
10. The most powerful search tool on the Internet is the use of a phrase. True/False
11. You can use all the Boolean operators with the Google search engine. True/False

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**ACTIVITY 7.1**

Keywords:

1. effect burning coal global warming
2. alternate forms electricity
3. history genocide Rwanda
4. pros cons death penalty
5. prison rehabilitation punishment
6. copyright electronic era

**ACTIVITY 7.3**

1. Family hotel Durban close beach
2. Average annual rainfall Zimbabwe
3. Reviews 'Rights of desire' Brink
4. Social Network Twitter

**ACTIVITY 7.2**

Boolean operators:

1. AND
2. OR
3. NOT

**REVIEW ACTIVITY**

1. True
2. False
3. False
4. True
5. True
6. False
7. False
8. True
9. False
10. True
11. False

# **Section 3**

**Planning and writing  
information tasks**

# 8

## Constructing a work plan

### Contents

- 8.1 Introduction
- 8.2 Why are interpreting a topic and a work plan important?
- 8.3 Interpreting the assignment topic
  - 8.3.1 Identifying the keywords
  - 8.3.2 Identifying the action words
  - 8.3.3 Identifying instructions, limitations and format
  - 8.3.4 Interpretating the topic
- 8.4 Work plan
- 8.5 Review
- Answers to activities

### Outcomes

By the end of this chapter you should be able to:

- identify the keywords and concepts in an assignment topic
- identify the verbs (action words) in the topic
- identify the instructions and limitations in an assignment topic
- understand the meaning of verbs commonly used in assignment topics and examination questions and what they require you to do
- construct a work plan using various techniques such as mind mapping

## Key concepts

<b>interpret</b>	to bring out the meaning of something
<b>plan</b>	to decide on a method of doing something
<b>topic</b>	a subject (for example, the topic of an assignment would be the subject that you are supposed to study and write about in that assignment)
<b>work plan</b>	your plan of how you will work through an information task

### 8.1 Introduction

Read the following scenario and then answer the questions below:

Veli liked to get her work done in time. When she got an assignment she would jump right in and start reading up on the topic and making notes. As soon as she felt she had enough information she would start to write her assignment. However, she often found that she had included irrelevant information in her notes. Another problem she sometimes had was that in spite of having taken copious notes she didn't have enough information on one or two aspects and had to go back to the library. She was also often disappointed in the marks she received for her assignments. In spite of having worked hard and read up on the topic the lecturer would make comments such as 'too much irrelevant information' or 'not enough information on various relevant aspects'.

If we look at the scenario above we can see that Veli had problems with her assignment because she wanted to start writing as soon as possible. She skipped the interpretation and planning stage and began immediately looking for information. As a result she read sources and took notes without a clear idea of what was relevant. All she had was a very general idea of the topic. Then when she sat down to write the assignment she found that some of her notes were irrelevant and she did not have enough information on some of the important aspects of the topic. She also found that her marks did not reflect the amount of work that she had put into the assignment. This could have been avoided by spending some time interpreting the topic.

- Do you take time to read and analyse an assignment question? Yes/No
- When you start working on an assignment do you have a work plan? Yes/No
- Do you identify the keywords in the assignment topic before you begin finding information? Yes/No

If you answered no to these questions then it is very important for you to study this chapter because in this chapter we will learn how to analyse an assignment topic and develop a work plan.

## 8.2 Why are interpreting a topic and a work plan important?

Interpreting the assignment question and compiling a work plan are important because they:

- save time
- give you a clear idea of what the assignment requires before you start gathering information so that you are sure that the information you collect is relevant and complete
- give you a chance to develop your own ideas about the topic so that the assignment is not just a regurgitation of sources.

## 8.3 Interpreting the assignment topic

To write a good assignment you must first have a clear understanding of what the task requires of you. Writing an assignment is similar to any other task. You are more likely to be successful if you clearly understand what you need to do and how you are going to do it. Take an everyday example such as doing the weekly grocery shopping. You are more likely to buy everything you need if you have first checked whether you are running short of anything and if you have planned what you are going to cook in the following week. Writing a shopping list will also help you to remember everything you need to buy. Similarly if you are writing an assignment you are more likely to write a good assignment if you understand exactly what is required by the assignment question. You will have a clear idea of what information you need to find and your reading and note-taking will be more efficient because you have a clear idea of what information you are looking for.

The first thing to do is therefore to interpret the assignment question because without clearly understanding what you are being asked to do you may collect

irrelevant information or miss important aspects. You analyse the question so that you are able to describe what the task is about, explain its scope and begin to plan how to answer it. To do this effectively you need to go through the following steps:

### 8.3.1 Identifying the keywords

Identifying the keywords is an important first step as it helps to clarify exactly what the topic of the information task is and what your focus should be. This sounds simple but it does require thought, especially if it is a topic you are not yet familiar with. Begin by reading the assignment topic very carefully a few times. Look up any words that you don't understand in the dictionary. Sometimes it may be necessary to use a subject dictionary or special reference works if the word is being used in a subject specific way. It is important to consider whether the words have alternative meanings and if you fully understand the meaning of the keywords. A word or concept may seem straightforward but on closer examination you may find it is more complex than you originally realised.

For example, look at the assignment topic below:

The concept of 'literacy' has changed according to changing needs in society. Write an essay on the information society and discuss why information literacy is essential in an information society.

- The word 'literacy' may seem relatively straightforward. We all know what literacy means in everyday language, that is, to know how to read and write. But if we consider the word in relation to information literacy it may mean something different. This is something we may need to find out and think about.
- Analysing the topic helps to alert us to complex concepts that may need further analysis and thought. It can also alert us to issues that we need to take into account when we start gathering information. For example, in the topic above we will have been alerted that we need to check whether information literacy means the same as reading and writing.
- Once you are sure you understand all the words in the assignment topic you need to identify the keywords.

If you look at the example in Figure 8.1 we can see that the focus of this assignment is websites and evaluation criteria. We are being asked not only the evaluation criteria for websites but also why it is important to evaluate them.

### FIGURE 8.1: EXAMPLE OF IDENTIFYING KEYWORDS

- **ASSIGNMENT TOPIC**

Discuss why it is important to evaluate websites and describe various evaluation criteria that should be used.

- **KEYWORDS AND CONCEPTS**

Evaluate websites

Evaluation criteria

### ACTIVITY 8.1

Identify keywords in the following assignment topics:

1. The concept of 'literacy' has changed according to changing needs in society. Write an essay on the information society and discuss why information literacy is essential in an information society.
2. Explain what Boolean operators are and briefly discuss each of the operators. Give examples of how and when you would use each of them.
3. Define and describe three of the following information sources and clearly indicate how their purpose differs. Give examples of when you would use them:
  - dictionaries
  - atlases
  - handbooks
  - encyclopaedias
4. Compare the Internet search engines Google and Yahoo

### 8.3.2 Identifying the action words

The next step once you have identified the keywords is to identify the action words or verbs. If we look at the assignment topic 3 in Activity 8.1 above you will see that you are being asked to *define* and *describe*. It is very important to take note of what you are being asked to do. For example, assignment topic 4 requires you to compare the search engines Google and Yahoo and this is very different to a topic that asks you to discuss the search engines Google and Yahoo. To answer the first topic you would need to state in what ways the two search engines differ but also in what ways they are the same whereas the second topic would require you to indicate the characteristics of each of the search engines. It is extremely important to make sure that you know what you have been asked to do before you begin looking for information.

Figure 8.2 includes the verbs commonly used in academic assignments and an indication of what is required.

#### ACTIVITY 8.2

Identify the verbs (action words) in the assignment topics in Activity 8.1.

### 8.3.3 Identifying instructions, limitations and format

At this stage we have identified the keywords and action words. We have made sure that we understand what the keywords mean and what the action words require us to do. The next step is to check if there are any limitations or other instructions and what format the assignment answer must be in.

Assignment questions usually specify a length. It is important to take note of this as it is an indication of how much information we will need. For example, an essay of 2 000 words on a topic will require much more information than a paragraph of 500 words. It is also important to note the format. You will write a very different answer if it must be a presentation to the class to one that must be in essay form. This will affect your preparation and it is important to keep this in mind when you begin.

### 8.3.4 Interpreting the topic

Once we have identified the keywords, action words, limitations or instructions it is a good idea to write down our own interpretation of the topic, that is, to put the topic in our own words. This will help to clearly identify what we need to do. Again this need not take more than a few minutes.

## FIGURE 8.2: VERBS COMMONLY USED IN ACADEMIC ASSIGNMENTS

Verbs are the 'action words' commonly used in academic assignments. Here is an indication of what is required when these words are used:

analyse	break down the premise and tell about the parts, show how the parts relate to each other and the whole
compare	explain how things are different from each other and how they are similar
contrast	discuss differences
define	give an accurate meaning of the term or concept with enough detail to show you really understand it
describe	tell how something looks or happened, including how, who, where and why; give the characteristics of something
discuss	include important characteristics and main points; give various opinions or explanations of the topic, show how these agree or differ and evaluate the various opinions or explanations
distinguish	indicate differences and similarities which makes a thing different from other things
enumerate	mention individual items or points. No detailed discussion is required.
evaluate	assess the value, significance, worth or relative importance of something. This involves having criteria or standards against which you will measure something. It should include your own opinion about the issue. An evaluation should always be supported by reasons.
explain	write about the topic in such a way that the reader gets a better understanding of the important aspects and how they are connected to each other
illustrate	explain using examples that demonstrate or clarify a point or idea
indicate	state briefly or give a broad outline without detail in order to give the reader the main ideas
outline	give the main points and relevant supporting details or examples
summarise	state briefly in a condensed form

### FIGURE 8.3: EXAMPLE OF THE INTERPRETATION OF AN ASSIGNMENT TOPIC

Topic:	'Plagiarism is not only a financial issue but also an ethical issue.' Discuss this statement in an essay of approximately 1 000 words.		
Keywords:	plagiarism	I will need to <b>define</b> the word plagiarism because it is a central concept in the question. I may also need to define ethical within this context.	Define
	financial issue	I will need to clearly <b>differentiate</b> between (1) ethical issues and (2) financial issues in regard to plagiarism.	Differentiate
	ethical issue	I will need to <b>substantiate</b> my arguments as to why plagiarism is an ethical issue as well as a financial issue.	Substantiate
Verb:	discuss	As I am being asked to <b>discuss</b> the topic, I will need to give various <b>opinions</b> or <b>explanations</b> of the topic and show how these <b>agree</b> or <b>differ</b> .	Give opinions, explanations agree? differ?
		The various opinions or explanations will have to be <b>evaluated</b> , that is I will have to decide which opinions I agree with and give my reasons.	evaluate
Instructions:	1 000 words	I do not have to discuss the topic in a lot of detail because the <b>specified extent</b> of 1 000 words is not very long.	Specified extent
Format:	essay	Structured composition with an introduction, a discussion and a conclusion.	Structure

## 8.4 Work plan

### ACTIVITY 8.3

Without using pen and paper do the following:

1. Work out how many combinations you can make with the numbers 1, 2.
2. Work out all the combinations you can be made with the numbers 1, 2 and 3.
3. Work out all the combinations that can be made with the numbers 1, 2, 3 and 4.

If you look at question 1 there are two possible combinations (12 and 21). Question 2 is more difficult but there are 6 combinations possible (123, 321, 132, 312, 213, and 231). The last question is very difficult and only a very few people are able to do it mentally but there are 24 possible combinations.

As you can see from the above activity it is difficult to keep track of complex items mentally. The complexity of what you are going to write in an assignment is much greater than the complexity of combining 1, 2, 3 and 4 so it is advisable to write down your thoughts and ideas in a work plan to help you organise them and ensure nothing important is forgotten.

Once you have identified the topic (or topics) of the assignment, checked what you are required to do and noted instructions, length and format, you can start compiling a work plan. There are a number of ways we can do this. We will describe only one technique that you can use, but you need to find what suits you best as we are all different. You may prefer to use a mind map, cards or to type directly onto your computer. The important thing is that you compile some sort of work plan. The form it takes does not really matter.

To make a work plan start with a blank piece of paper and write down the keywords. Spread your keywords over a whole page so you have room to write down your thoughts. Jot these down as they occur to you. As you are writing ask yourself questions such as What? Why? When? How? Where? Who? You may not know the answers to these questions but they help you to identify the information that you will need to answer the assignment question. If you know the answers to the questions or know where to find information that will help you answer the question, jot this down on your page. All this helps to stimulate your thoughts and to focus on the topic. You will also probably find that you know a lot more about the topic than you realised when you first read the assignment question.

Making notes spread all over a page below relevant headings enables you to record relevant thoughts. The next step is to organise them into a plan or an outline. This helps you to identify the aspects that you need to find information on. Remember this is a rough work plan and does not need to be too long or detailed. It is a working tool and how you construct it is entirely up to you, for example, if just a word or phrase is sufficient to remind you of an idea then there is no need to write a full sentence. But you should try to organise this rough plan in some way such as grouping ideas under headings or keywords or compiling a mind map as you go along.

On the rough plan it is also a good idea to note down what information you need and to start thinking where you will find it. It is important to think more widely than just your textbook and notes. If you are planning to use the Internet or the library catalogue to find information then start thinking of key terms or subject terms that you will use to search for information. It is also a good idea to note this on your plan.

This rough work plan helps you to find out what you know and equally important what you don't know about the topic.

The essential component of the working plan will be headings and subheadings related to the information task. These headings you select yourself to indicate the subject coverage of the task and the problems which need to be addressed in the task. In addition to these headings, there will be various other components of the plan, such as written notes to yourself, mind maps, and references to sources with relevant information.

#### FIGURE 8.4: EXAMPLE OF A WORK PLAN

**Assignment topic:**

'Define an Internet search engine and compare the Internet search engines Google and Yahoo. Indicate how you will evaluate a website.'

The assignment should be approximately 2 000 words.

**Keywords:**

Internet search engine; Google, Yahoo; website

**Action words:**

Define; compare; evaluate

**Instructions:**

2 000 words so not too much detail on each section

**Interpretation:**

- I need to define Internet search engines
- In order to define them I will need to find out their characteristics.
- I also have to compare Google and Yahoo so I will need to find out how they are similar and how they differ.
- I have to describe how I would evaluate a website so I will need to identify evaluation criteria.
- May be good idea to include an example to show that I understand how to evaluate a website.

**Internet search engine definition:**

- I will need at least 2–3 definitions of a search engine so I can write my own definition.
- Check textbook; see other sources in the library, keyword for search: Internet search engine or web search engine or search engine

**Google**

- Find out characteristics
- Can Boolean operators be used on it?
- What search options are there that can be used with this search engine?

**Yahoo**

- Find out characteristics
- Can Boolean operators be used on it?
- What search options are there that can be used with this search engine?

**Comparison of Google and Yahoo**

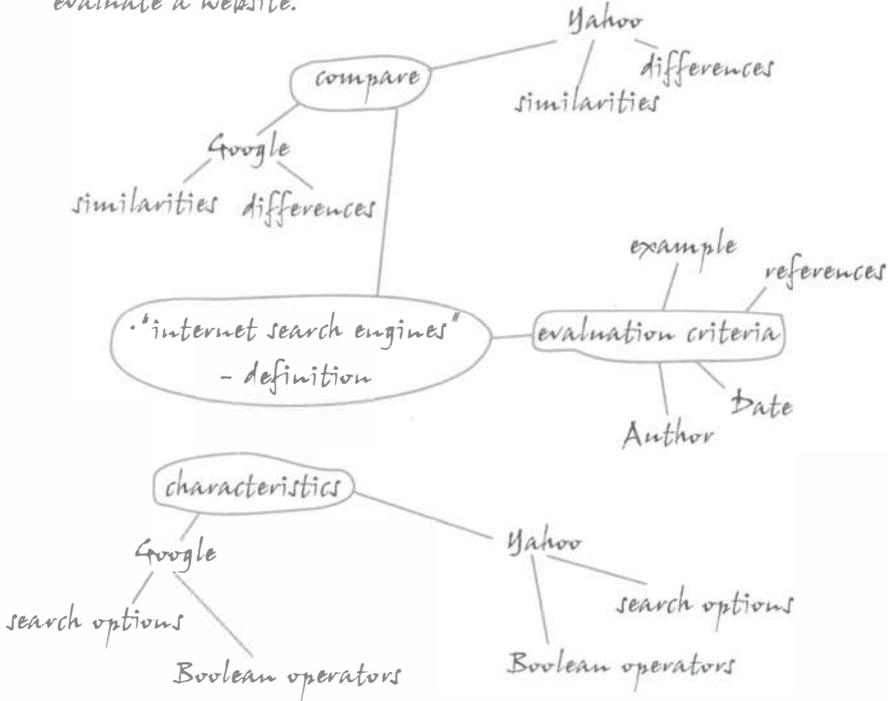
- How are they similar?
- How do they differ?

**Evaluation of a website**

- Criteria to be used in evaluating a website
  - Author
  - Date
  - References
  - What other criteria are there? Check.

**FIGURE 8.5: EXAMPLE OF A WORK PLAN USING A MINDMAP**

Define an Internet search engine and compare the Internet search engines Google and Yahoo. Indicate how you will evaluate a website.



### ACTIVITY 8.4

Compile a work plan for any of the topics given in Activity 8.1. You should not spend more than 30 minutes on making the work plan.

## 8.5 Review

In this chapter we have discussed how to analyse an assignment topic to help you to identify what you need to do when writing an assignment answer. We have also shown how to write an interpretation of the assignment topic and most importantly how to do a work plan. In the beginning of the chapter we

described a scenario where a student jumped into the task without spending the time to analyse it and work out what was required. Taking time to analyse your assignment topic beforehand will help you to answer the question properly and ensure that you include only relevant information. It is worthwhile to spend an initial hour or two in preparation to ensure a task is well done and obtain higher marks as a result.

## Answers to activities

### ACTIVITY 8.1

Keywords:

1. literacy; society; information society; information literacy
2. Boolean operators; how; when
3. Dictionaries; atlases; handbooks; encyclopaedias
4. Internet search engines, Google; Yahoo.

### ACTIVITY 8.2

The action words in the assignment topics in Activity 8.1 are:

1. Write, discuss
2. Explain, discuss
3. Define, describe, indicate
4. Compare

### ACTIVITY 8.4

#### WORK PLAN

**Keywords:** subject dictionaries; atlases; handbooks; general encyclopaedias

**Action words:** define; describe

**Instructions:** need only do three, how when I would use them

**Extent:** 2 000 words (approximately 700 words on each so not too much detail)

#### Interpretation:

- I need to define and describe subject dictionaries; general encyclopaedias and handbooks.
- In order to define them I will need to find out their characteristics.
- I also have to describe each of these information sources.
- I have to describe how I would use each source.

- I have to state when I would use each source so I have to know their function/ purpose.
- May be good idea to include an example for each to show that I understand how they are used and what is unique about each of them.

**Subject dictionaries:**

- Definition
- Description
- Some examples
- Are they all organised alphabetically?
- Check textbook; see other sources in the library, keyword for search subject in subject dictionary
- How would I use it?
- Layout (alphabetical)
- When?
- Look up meaning of subject specific words.
- Need to check other uses.

**General encyclopaedia:**

- Definition
- Description
- Some examples
- Are they all organised alphabetically? What other methods are used?
- Check textbook; see other sources in the library, keyword for search general encyclopaedia).
- What about electronic format? Wikipedia good example of a free one available on the internet. Evaluation may be an issue.
- Are there any others available on the internet?
- Cost?
- How would I use it?

- 
- Layout (alphabetical).
  - Electronic – need keyword search?
  - Subscription?
  - When?
  - Look up general information.
  - Need to check other uses.
  - If the University has subscribed can I access it at home via the internet?

**Handbooks:**

- Definition
- Description
- Some examples
- Check textbook; see other sources in the library, keyword for search handbook
- How would I use it?
- Index
- Table of contents
- Not sure need to check it out
- When?
- How does a handbook differ from a textbook?

# 9

## Finding relevant information

### Contents

- 9.1 Introduction
  - 9.2 What does retrieving information involve?
  - 9.3 Locate relevant sources
    - 9.3.1 How am I going to find sources in the resource collection?
      - 9.3.1.1 Using the catalogue
      - 9.3.1.2 Using an indexing and abstracting database
    - 9.3.2 Where are the sources to be found in the collection?
    - 9.3.3 How do we find the information in these sources?
  - 9.4 Selecting the information
    - 9.4.1 Is this information relevant for the assignment?
    - 9.4.2 What, and how much, information should we record?
    - 9.4.3 How should we record this information?
  - 9.5 Review
- Review activity  
Answers to activities

### Outcomes

After studying this chapter you should be able to:

- select relevant information for your information task from several located sources
- carry out a search in a library for relevant information
- expand the work plan as you become more knowledgeable about the topic

## Key concepts

<b>bibliographic control</b>	information sources are described in a systematic way, with the dual purpose of identifying the sources and enabling us to find them
<b>information retrieval</b>	location of information sources in a collection, followed by selection of specific information contained in these sources
<b>locate</b>	to find in a specified place (for example, to locate a book on a library shelf)
<b>record</b>	to write down relevant information which you have retrieved
<b>relevant</b>	something which is pertinent; applicable to your situation (for example, relevant information is information which can be used to answer your assignment question)
<b>select</b>	to choose relevant information from a located source

### 9.1 Introduction

In the previous chapter we discussed analysing and interpreting the assignment topic and compiling a work plan. In this chapter we will learn how to search for and find relevant information so we can write an appropriate and relevant assignment answer. We are going to look at what information we need to retrieve; where we will find this information; how we will retrieve the information; and how we know which retrieved information is best for our task.

The keywords, headings and subheadings on the work plan are a good place to start. They indicate what information we need but now we need to consider where we will find this information.

## 9.2 What does retrieving information involve?

Retrieving information involves two steps:

1. Locating relevant sources
2. Selecting the information

These two steps involve several activities. To retrieve information we need to locate sources in a collection either by physically going to the library or accessing sources via the Internet and then selecting relevant information from these sources. Relevant information is information that directly applies to the assignment topic. For example, look at the following assignment question:

Define an Internet search engine and compare the Internet search engines Google and Yahoo. Indicate how you will evaluate a website.

Relevant information has a direct relationship to the keywords and headings which we have jotted down on the work plan. We identified the keywords as Internet search engine; Google; Yahoo; evaluate website. Also on our work plan we jotted down various subheadings under the main headings. (Refer back to the work plan in Chapter 8 for these headings.)

### ACTIVITY 9.1

List synonyms for the following search terms:

1. Internet search engine
2. evaluate

When we start looking for information it is generally easiest to turn to our own collection of books and periodicals. However, our own collection of books and sources are generally not extensive and will therefore not give us enough relevant information for completing an assignment. An external collection, such as a library, on the other hand, contains so many different information sources that our search for information will be more complicated. Either way, the steps involved in searching for information are the same, whether they relate to an internal or an external collection. The steps are just simpler when the collection is small and when we are familiar with using it.

## 9.3 Locating relevant sources

Locating here means to find something in a specified place. We will rely strongly on our knowledge of library skills discussed in Chapter 2 in finding information in the library collection. There is a whole range of information sources which could be potentially useful in the library collection. We can visit the library or access the library catalogue and electronic sources via the Internet. There are various types of reference sources, such as encyclopaedias, yearbooks, handbooks, and dictionaries. There are also various aids, such as catalogues, databases, indexing and abstracting databases and special purpose bibliographies.

The library catalogue will identify not only books in the general collection, but also reference sources. Since reference sources have been compiled specifically to provide brief factual information, it is usually advisable to make use of them first – especially those which specialise in a particular discipline. A subject encyclopaedia on information science, for example, would be a good starting point for an assignment which falls within the discipline of information science. Some of these reference sources are available electronically such as general dictionaries and encyclopaedias, but there are many that can only be consulted in the library, especially subject encyclopaedias.

Most subjects have specialised reference sources, like encyclopaedias, handbooks, dictionaries, and databases.

An academic library which we would use for finding information for assignments will have many specialised reference sources in its collection. Some of these sources will be in book form, but many sources, especially current sources, may only be available in electronic format. There will be facilities for searching databases online, and also Internet connections at the library if we do not have access to these at home.

The large size of an academic library, the number of books stacked into rows and rows of shelves, and the numerous computer terminals dotted about on the different floors may make us feel very anxious if we are unfamiliar with libraries. The more familiar you are with the library and how a library works the less anxious you will be when you need to use the library. But even if we are skilled in using a library or a computer to find information, we still need a strategy for searching for information for our particular information problem. This is where the work plan can help you to plot your course through the maze of the library's collection, and guide you in finding suitable information sources. Let's look at the strategy.

### **9.3.1 How am I going to find sources in the resource collection?**

Large resource collections have particular systems for information retrieval (refer to Chapter 2). The main retrieval aid is the library catalogue. Other retrieval aids include bibliographies, indexing and abstract databases. (All retrieval systems work on the same basic principle. A retrieval system provides control over information sources, to enable us to find relevant sources. We call this bibliographic control. Bibliographic control means that information sources are described in a systematic way, with the dual purpose of identifying the sources and enabling us to find them.)

#### **9.3.1.1 Using the catalogue**

When we go into a library or access library retrieval aids through the Internet we first need to decide which retrieval aid we are going to use. You may have been given a reading list or bibliography to use to find more information. This list identifies sources that are relevant for that particular assignment, so this is a good place to start. The list of citations will probably be arranged alphabetically according to the names of authors.

These could be authors of books, authors of chapters in a collected work, or authors of articles which are in periodicals. You need to distinguish between the citations for books, and those for articles in periodicals, since you will use different retrieval aids for the two. The way in which the citations are compiled will allow you to tell whether the item is a book or an article. In order to locate recommended books you can use the catalogue which will indicate the location of the book and whether or not it is available.

Recommended articles may also be listed in the catalogue if they are available electronically. If they are not in the catalogue you will need to use a database to find the article. The periodical may be available electronically or may only be available in paper format. If it is only available in paper format you will need to go to the periodical section in the library to find the article.

As discussed in Chapter 2 when we search the catalogue if we have the author or title of a book, then we will look for the book under title or author or both. The catalogue will then indicate whether the book is available and where you can find it (that is, the location will be indicated as the general collection, study or reserve collection or the reference section). The skills we need to search a library catalogue include, for example, knowledge of how to search by author, title, keywords or subject. These provide entry or access points to the catalogue.

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Let us first take searching under author or title access points. This type of search is possible only if you already have an author's name or the title of a source. Since you already have the source identified, the reason for using the catalogue is to find out where the source is located in the collection (that is, where to find it on the shelf in the library). You would then look in the catalogue under the author's name or the title of the source or both. If you find an entry, then you know that the library has the book. You note down its call number, as this tells you where the book is shelved.

If you do not have pre-identified books, or if you want access to more than those books already in a list of readings, you will have to do a subject search in the catalogue. Here your work plan becomes very important. You have noted down keywords on your work plan, and these will start you off on the subject search. In our assignment task, for example, we have several topics identified, such as Internet search engines; Google; Yahoo; evaluation. These we can use as possible access points for searching the subject catalogue. If the library has books on these topics, the catalogue will identify them. Again, you must note down the call number for each identified book. It is also a good idea to write down the citations of the books, or print these from the computer catalogue if there is a printer attached. Figure 9.1 shows the results of a search of the Unisa Library catalogue (6 April 2009) using the keyword 'Internet search engine'.

**FIGURE 9.1: SEARCH OF CATALOGUE USING KEYWORD  
'INTERNET SEARCH ENGINE'**

internet search			
		Save Marked Records	Save All On Page
Mark		Year	Entries
	Internet Research Study And Teaching United States Case Studies : Lee. Sarah Hooke.	2006	1
	Internet Resources -- See <u>Computer network resources</u> --subdivision Computer network resources under subjects		1
	Internet Retailing -- See <u>Electronic commerce</u>		1
	<u>Internet Safety Measures</u>		4
Your entry internet search engines would be here -- <u>Search as Words</u>			
	Internet Searching -- See also the narrower term <u>Web search engines</u> --names of individual Web search engines		1
	<u>Internet Searching</u>		40
	<u>Internet Searching Congresses</u>		8
	<u>Internet Searching Directories</u> : Sherman, Chris.	c2001	1
	<u>Internet Searching English Speaking Countries</u>	c2000	1
	<u>Internet Searching Handbooks Manuals Etc</u>		3
	<u>Internet Searching Juvenile Literature</u> : Wolinsky, Art.	c1999	1
	<u>Internet Searching Study And Teaching</u>		2
		Save Marked Records	Save All On Page

As can be seen from the above search the catalogue does not use this keyword so we need to try another term, such as web search engine. In Figure 9.2 the results using this keyword are shown.

### ACTIVITY 9.2

Identify which sources in Figure 9.2 will be helpful for the assignment topic.

**FIGURE 9.2: SEARCH UNISA LIBRARY CATALOGUE USING KEYWORD 'WEB SEARCH ENGINE'**

UNISA  UNIVERSITY OF SOUTH AFRICA

Search Options

SUBJECT  Florida Campus

System Sorted

Show only the Available titles

---

Result Page 2 3 Next

**SUBJECTS (1-12 of 36)**

**Web Search Engines**

**1** [The adaptive web : methods and strategies of web personalization](#)  
  
 Berlin ; New York : Springer, c2007.  
 >Request  

<b>LOCATION</b>	<b>SHELF NO</b>	<b>STATUS</b>
Pretoria Open Collection	025.04 ADAP	AVAILABLE

**2** [Building research tools with Google for dummies](#)  
  
 Davis, Harold, 1953-  
 Hoboken, N.J. : Wiley, 2005.  
 >Request  

<b>LOCATION</b>	<b>SHELF NO</b>	<b>STATUS</b>
Florida Open Shelf	005.758 DAVI	AVAILABLE

**3** [Finding out about : a cognitive perspective on search engine technology and the WWW](#)  
  
 Belew, Richard K.  
 Cambridge : Cambridge University Press, 2000.  
 >Request  

<b>LOCATION</b>	<b>SHELF NO</b>	<b>STATUS</b>
Pretoria Open Collection	025.04 BELE	AVAILABLE

**4** [Google hacking for penetration testers](#)  
  
 Long, Johnny.  
 Rockland, Mass. : Syngress, c2005.  
 >Request  

<b>LOCATION</b>	<b>SHELF NO</b>	<b>STATUS</b>
Electronic Books		ONLINE

**5** [Google hacks](#)  
  
 Calishain, Tara.  
 Sebastopol, Calif. : O'Reilly, c2005.  
 >Request  

<b>LOCATION</b>	<b>SHELF NO</b>	<b>STATUS</b>
Florida Open Shelf	005.758 CALI	DUE 25-09-10

36

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Result Page 2 3 Next

(Search History)

As can be seen from Figure 9.2 most of the sources deal with Google. So it may be a good idea to search under the keyword Yahoo. Figure 9.3 is a search using the keyword Yahoo.

**FIGURE 9.3: SEARCH UNISA LIBRARY CATALOGUE USING KEYWORD 'YAHOO'**

The screenshot shows the 'oasis library catalogue' interface. At the top, there are navigation links: Library Home, Help, and New Search. Below these are icons for Start Over, Request, Save Records, MARC Display, Return to List, Limit/Sort Search, and Another Search. A search history bar is visible. The search results page shows a search for 'Yahoo' in the 'COURSE' field. The results are sorted by 'System Sorted' with 0 items. A checkbox for 'Show only the Available titles' is present. The search results for 'dYahoo' are displayed as follows:

Record: [Prev](#) [Next](#)

**Author** [Hock, Randolph, 1944-](#)

**Title** **Yahoo! to the max : an extreme searcher guide / Randolph Hock.**

**Publisher** Medford, N.J. : CyberAge Books/Information Today, Inc., c2005.

LOCATION	CALL NO	STATUS
Main Open Collection	025.04 HOCK	AVAILABLE

**Description** xix, 232 p. : ill. ; 24 cm.

**Subject** [Yahoo! \(Computer file\)](#)  
[Web search engines.](#)

**Note** Includes index.

**Notes** Yahoo!'s home page : an overview of Yahoo! -- Searching and browsing the Web with Yahoo! -- My Yahoo! : the best general portal on the Web -- Yahoo! groups -- Yahoo! news -- Yahoo!, the great communicator-- Buying and selling through Yahoo! -- Yahoo! finance -- Other seriously useful Yahoo! stuff.

**ISBN** 0910965692

The first step in seeing which books will be helpful and deal with the topic is to look at the subject and notes which will give a brief outline of what is in the book.

### 9.3.1.2 Using an indexing and abstracting database

The topics which we jotted on our working plan can also be used to find articles in periodicals. For this purpose we would use a database either a periodical indexing database or an abstracting database. There are also full text databases which can be searched. Periodical indexing databases to which the library subscribes will be available online for registered users. (Periodical indexing databases and abstracting databases are discussed in Chapter 6.)

To find articles in periodicals, we would use the identified keywords on our work plan to do a subject search in the database. It is important to choose a relevant database in which to do our search. Once we have identified periodical articles on the topics by using the database, we need a record of the references to articles we have found. We can print out the citations from the computer or e-mail them to ourselves.

In Figure 9.4 you can see the results of a search carried out on Emerald database.

#### FIGURE 9.4: RESULTS OF DATABASE SEARCH USING THE KEYWORDS 'WEB SEARCH ENGINE' 26 APRIL 2009

How many web-wide search engines do we need?

Source: Online Information Review; Volume: 32; Issue: 6; 2008  
View HTML | View PDF (492 KB) | Reprints & Permissions

Overlap among major web search engines

Source: Internet Research; Volume: 16; Issue: 4; 2006  
View HTML | View PDF (55 KB) | Reprints & Permissions

Date-restricted queries in web search engines

Source: Online Information Review; Volume: 28; Issue: 6; 2004  
View HTML | View PDF (212 KB) | Reprints & Permissions

Clustering search results. Part I: web-wide search engines

..... Cont.

Cont.

Source: Online Information Review; Volume: 31; Issue: 1; 2007

View HTML | View PDF (472 KB) | Reprints & Permissions

The retrieval effectiveness of web search engines: considering results descriptions

Source: Journal of Documentation; Volume: 64; Issue: 6; 2008

View HTML | View PDF (500 KB) | Reprints & Permissions

As you can see from the above search there are at least three journal articles that may have relevant information for our assignment. As they are available as full text it would be easy to check them quickly for relevance.

### ACTIVITY 9.3

List the three journal articles that may be relevant for the assignment.

We could also make use of a web search engine such as Google. See Figure 9.5 of a search carried out on Google.

## FIGURE 9.5: GOOGLE SEARCH USING SEARCH PHRASE 'WEB SEARCH ENGINES'

Advanced search  
About 210,000,000 results (0.14 seconds)

### Search Results

1. **Web internet search engines** 150+ listed

Web and internet search engines - 150+ listed and briefly annotated.

[www.philib.com/webse.htm](http://www.philib.com/webse.htm) - Cached - Similar

2. **AltaVista**

AltaVista provides the most comprehensive search experience on the Web! ...

SEARCH: Worldwide or Select a country RESULTS IN: All languages ...

Images - English - Submit a Site - About AltaVista

[www.altavista.com/](http://www.altavista.com/) - Cached - Similar

3. **Dogpile Web Search**

Dogpile.com makes searching the Web easy, because it has all the best search engines piled into one. Go Fetch!

[www.dogpile.com/](http://www.dogpile.com/) - Cached - Similar

4. **Web search engine** - Wikipedia, the free encyclopedia

A web search engine is designed to search for information on the World Wide Web.

The search results are generally presented in a list of results and are ...

[en.wikipedia.org/wiki/Web\\_search\\_engine](http://en.wikipedia.org/wiki/Web_search_engine) - Cached - Similar

5. **WebCrawler Web Search**

Offers a single source to search the Web, images, video, news from Google, Yahoo!, Bing, Ask and many more search engines.

[www.webcrawler.com/](http://www.webcrawler.com/) - Cached - Similar

As you can see from the above search results in 210 000 000 results were found. Although some of the results may be relevant such as number 4 we will need to evaluate the site carefully before using the information. This would not be necessary for periodical articles obtained through searching a database that we accessed via the library. The reason for this is that these articles have already been peer reviewed. It is also impossible to go through all 210 000 000 results to check which are most relevant. We could try an advanced search which will help us to narrow the number of results. For example, we can search under the phrase 'Compare Google and Yahoo'. See Figure 9.6 for a search carried out on Google using this phrase.

As we can see the number of hits is definitely reduced but none of them seem particularly relevant. The number is also still too many for us to examine them all.

**FIGURE 9.6: GOOGLE SEARCH USING SEARCH PHRASE 'COMPARE GOOGLE AND YAHOO'**

The screenshot shows a Google search interface with the query 'compare google and yahoo' entered in the search bar. The search button is labeled 'Search'. Below the search bar, it indicates 'About 12,300,000 results (0.23 seconds)' and 'Advanced search'. The search results are listed below, each with a magnifying glass icon to its left.

**compare google and yahoo** Search

About 12,300,000 results (0.23 seconds) Advanced search

**Google vs Yahoo! vs MSN Search: Comparing Search Algorithms**

10 Jun 2006 ... Article compares and contrasts the relevancy algorithms and business models of major large scale hypertextual search engines.  
www.seobook.com/relevancy/ - Cached - Similar

**yahoo! vs. google: synerge**

Comparing Google and Yahoo! Search results 1 - 100 for "synerge": Also: Compare Google and Google.cn. this is experimental & might go away at the engines' ...  
www.langreiter.com/exec/yahoo-vs-google.html - Cached - Similar

**Google - Yahoo Comparison: Compare the Search Results**

Tool for comparing the search results of Google and Yahoo in the same page.  
www.googleguy.de/google-yahoo/ - Cached - Similar

**News for compare google and yahoo**

**Facebook's Market Value Depends on Revenue**

9 hours ago  
At present, it has not reached maturity in terms of revenue stability and source compared to Google or Yahoo but there is a good comparison with those firms ...  
Financial Feed - 2 related articles

**Google overtook Yahoo in attendance**

IT Chuiko - 22 related articles

**Google vs. Yahoo: Clash of cultures - CNET News**

20 Jun 2005 ... Yahoo and Google are taking different paths in the quest to be king of ... one too as an example of the comparison of the different sites. ...  
news.cnet.com/Google...Yahoo.../2100-1024\_3-5752928.html - Cached - Similar

### 9.3.2 Where are the sources to be found in the collection?

From using the catalogue and various databases, we now have citations of books and periodical articles on our topic. We have identified some sources which appear relevant, and now we must find these books and periodicals in the library collection, that is, establish their physical location.

We will find the books arranged on the shelves according to their call numbers. While there, it is worthwhile looking briefly at the other books which are shelved at this classification number or on nearby adjacent shelves. They will probably deal with the same topic or a similar topic as the particular book we are looking for.

If an article is only available in hard copy we will need to go to the periodical section in the library to find the actual article. In most libraries, the periodicals are kept in a separate collection from the books, and they are usually shelved alphabetically according to the titles of the periodicals. Once you have found the periodical on the shelf, you first need to find the correct volume and number; then you look inside it for the relevant article. (The single article is our information source, not the whole periodical.)

Once we have located our information sources, we have to find or access the required information in the sources.

In the next section we discuss how to decide whether the information is relevant.

### 9.3.3 How do we find the information in these sources?

It is not necessary to read the whole source to find out if it has relevant information. You will do more detailed reading at a later stage in the information handling process. At this stage, you preview the sources we have found.

In Chapter 10 we discuss reading for writing, and offer suggestions on how to preview sources, such as skimming and scanning text.

This preview has two purposes. First, you have to confirm that the source contains information which appears relevant for your task. Second, you have to identify which sections in the source contain information which will be relevant for your task.

There are several short-cuts to locating information in sources. For example, with a book you can read the preface, scan the table of contents in the front of the book, or use the index at the back of the book, to find out whether the topics

on which you require information are in that book. You can read headings and subheadings in the various chapters. You can skim small sections of text for the main idea, or scan large sections such as chapters to pick out main topics. Similarly you can preview periodical articles by skimming through them to glance at headings, or if the article has an abstract (which most serious, scientific articles do) you can read this summary to find out what the main points are in the article.

Thus, by previewing you check all your located sources for relevant information. If you go through all our sources in this way and do not find sufficient relevant information, you need to go back to the retrieval system of the collection, and try a different approach. For example, you could use other search terms (synonyms) for a subject search in the catalogue and databases. Alternatively, you could try another database or another type of retrieval aid (for example, another search engine or web directory).

The next step comes once you have several sources which contain relevant information. Use bookmarks to mark the relevant sections in the sources. You can use slips of paper for the printed sources, and many online sources (including the Internet) provide a bookmark facility which enables you to mark those sections or files which you want to find again. This is only useful if you have your own computer.

The ideal situation is to keep all the located sources together, and to work on these at the same time, but this will not always be possible. For example, you may have to use some of the sources in the library because reference sources are not for loan. Some of the sources you can use at home such as books issued to you, or photocopies or printouts of a periodical article. Some sources may only be available at a later time because other people are using them when you require them. So the following step may have to be taken at different times for different sources. However, to simplify the explanation, we shall assume that you have several sources with you at the same time and that you can work on these together.

## **9.4 Selecting the information**

You now have several information sources, and within these sources you have noted or marked sections which seem to contain information on the topics identified on your work plan. The information appears to be suitable for the assignment. But all you have now are bits or blocks of what seem to be useful information.

You may think that you are now ready to start writing the final task. But there are still several things you must do before you reach the writing stage. You now have to examine the information you have found to be sure it is

relevant, since the located information is not necessarily applicable or suitable for the task.

### 9.4.1 Is this information relevant for your assignment?

At this point you have not yet read the information in any detail. You selected it by brief previews, skimming and scanning, and bookmarked it for deeper investigation. You can only decide whether the information is relevant or not by reading it carefully.

Bear in mind the requirements of the task (remember that you have jotted these down on your work plan). You need to question the information, using your work plan as your point of reference. By comparing the blocks of information with what the assignment requires, you will be able to isolate the relevant information from the rest of the information. Some of the information in the blocks could be peripheral (on the edge of the topic). If the information is of minor importance, you can jot it down. But if it is outside the scope of the assignment, it is not relevant.

Let us take our example to explain how we judge relevance:

Define an Internet search engine and compare the Internet search engines Google and Yahoo. Indicate how you will evaluate a website.

Do we have an adequate definition of what an Internet search engine is? If we want our definition to be adequate we should have at least three from different sources so we can compare them. Do we have sufficient information on the search engines Google and Yahoo so that we can compare them? Do we have information on how to evaluate a website? As we go through our sources in this way, we will find that our knowledge of the topics expands, and that we will recognise new aspects of each topic. These further aspects need to be noted down on the work plan. Put them in where they fit into related headings, or note them down as new headings or subheadings. In this way you expand your work plan, thereby creating new areas on which you will search for relevant information in your located sources. Some of these additional headings and subheadings may require that you return to the retrieval aids and search under these new terms.

If you find that you run out of space while adding new headings or subheadings, you can move some topics onto separate pieces of paper or cards. Your work plan is rough work and it does not matter what it looks like. It is your plan of action. Its purpose is merely to help you to plot your course through the information task.

Your next move comes after you have identified the specific blocks of information which are relevant for your task. You may have put certain books on one pile, or marked some books with pieces of paper where you identified relevant blocks of information. You will now start noting down the relevant information.

### 9.4.2 What, and how much, information should you note down?

Now you have to decide which specific blocks of information are important so that you can note down the relevant information. The amount of information you make a note of depends on the final form which the assignment will take. Since an essay assignment is a fairly lengthy document, you need quite a bit of information. However, for an assignment that consists of short question you will probably record less information. You record as much information as you need to answer the assignment question properly.

### 9.4.3 How should you record this information?

There are various ways to proceed from here. It may be possible to make photocopies of relevant sections of sources, or even print out the sections if the sources are in computerised form. If you do make photocopies or printouts, you are able to mark text and make notes on these pages. For example, you can circle sections of text, highlight or underline important blocks of text or keywords, or use some coding system (for example stars, asterisks, exclamation marks, numbers) in the margins. If you are limited to working from books or journals which do not belong to you, you will have to make notes from these.

At this point you have a collection of sources (either the originals, or marked and highlighted photocopies or printouts). You have a growing work plan which you will continue expanding as you start recording the relevant information. There are many ways of recording the information: your approach here depends on your own style of study.

In the next section of this book we learn about the writing process. Many of the skills we need we learn in that section (for example, text mapping strategies and organising our notes).

In an assignment you will have to include references to the information sources you used. You will thus have to record not only the blocks of relevant information at this stage, but also the source from which you are taking the information. Recording the information source is called compiling

a bibliographic reference or citation. The citation provides details about the information source so that it is uniquely described.

Chapter 12 includes a discussion on citations and explains how to compile a bibliography.

You could record the information by copying it out onto your work plan (or on additional pieces of paper or cards), and including a citation for the information source. You could record the relevant sections verbatim (that is word for word) or summarise them in your own words. If you record a section verbatim (for example, a definition), you must remember to include quotation marks so that you know that this is a direct quotation. The intention is that you will rewrite these at a later stage, when you actually start writing the assignment. If you are working from photocopies or printouts, you could even attach relevant pages or blocks of text to the pages of your work plan, thus not having to take lengthy notes or rewrite text.

You must write down where the information comes from. You could write a full reference (like you would include in your list of sources cited) or a brief one, but you must make a note somewhere of the full citation. Since you will have several cards or pieces of paper, on most of them you could include only brief details (for example, name of author, date and page number).

Alternatively, under the headings and subheadings on your work plan you could simply note down a brief reference to the source, and indicate the page number where the relevant information is to be found. This method is the simplest, but is feasible only if you have all the sources together and are able to keep these together until the assignment is complete. For example, if you have the books issued to you for a few days and have made your own photocopies of the periodical articles and sections from reference sources, this method of brief reference will be suitable.

In this manner you go through all your located sources, matching relevant blocks of text with their associated headings on your work plan. Sometimes you may have to return to sources you worked from earlier, and scan them to see whether they contain information related to the new headings and subheadings you added as your knowledge of each topic expanded.

You continue reading the marked blocks of text, and adding details to your work plan. That is, you either add notes such as summaries, or add references to where the text is in a source. You carry on in this way until you have gone through all the sources which you located.

## FIGURE 9.7: RECORDING INFORMATION ONTO THE WORK PLAN

Definition Internet search engine  
Hill p. 15  
Walters p. 7  
Neman p. 10  
Google  
1. Boolean logic  
Weiner p. 130  
Palgrave p. 76

Now look at the plan as a whole. Have you retrieved enough information on the main topics which you originally jotted down, based on the keywords you identified in the assignment theme? If the work plan at this stage indicates that you have gaps in your information to complete the assignment, you will need to repeat the search for information. But this time, your search will concentrate on the areas where you need more information.

Once you are satisfied that your work plan provides you with all the raw ingredients you need to complete the assignment, you will feel a lot more confident about your ability to complete the task successfully.

## 9.5 Review

You have now searched for and retrieved the information you need to write your assignment. You have expanded your work plan as your knowledge increased through reading. You have retrieved information which is relevant and have a work plan or several pieces of paper or cards, each with headings and various blocks of relevant information (and a note of the source from where these originate). Alternatively, under each heading you have brief directions to sources which contain relevant information and where in the source this relevant information is to be found.

Your work plan now represents the building blocks for your assignment. A common mistake is to treat this stage as the final stage, and think that the bits of information which have been jotted down are the final task. As you will see in the next chapter, although these bits of information are relevant, they still have to be put together in a particular way. They must be organised so that they answer the question posed in the assignment.

## Review activity

1. What are the two activities involved in retrieving information?
2. If you have a list of sources where would you start your search?
3. How would you use your work plan to help you carry out a subject search in the catalogue?
4. Why would using an indexing or abstracting database be better than doing a subject search using an Internet search engine? (List at least three advantages.)
5. How will you check whether or not a source looks relevant? (Name at least three things.)
6. Are you now ready to write the assignment?
7. If you answered no to the above question explain what still needs to be done.

## Answers to activities

### ACTIVITY 9.1

1. Some synonyms for Internet search engine are: web search engine; search engine
2. Some synonyms for evaluate are: validity; accuracy; reputable

### ACTIVITY 9.3

The three journal articles that may be relevant for the assignment are:

1. How many web-wide search engines do we need?

### ACTIVITY 9.2

The only sources that may be relevant are the first two sources listed.

2. Overlap among major web search engines
3. The retrieval effectiveness of web search engines:

Cont.

Cont. . . . .

• **REVIEW ACTIVITY**

- 1. The two activities are: locating relevant sources; and selecting the information.
- 2. You would start your search by checking the library catalogue for books referred to in the list so you can get a call number to enable you to find the books on the shelf.
- 3. Your work plan would include subject headings and keywords. You can use these to help begin your search for information by first doing a keyword and subject search of the catalogue. Afterwards you may want to check relevant databases.
- 4. An indexing or abstracting database is better than doing a subject search using an Internet search engine because:
  - Articles and other information sources have been evaluated before they are included in a database
  - The information retrieved from a database is more likely to be relevant
  - The number of sources retrieved is likely to be more limited
  - A database will usually allow you to specify date, language, etc.
- 5. In order to check for relevance you will:
  - Read the piece of information carefully
  - Check if the information matches up with the keywords or headings in your work plan
  - Check the requirements of your task.
- 6. No, you are not yet ready to write the assignment.
- 7. You still need to organise your information.

. . . . .

# 10

## Taking notes

### Contents

- 10.1 Introduction
- 10.2 Reading skills for studying
  - 10.2.1 Speed reading
  - 10.2.2 Skimming
  - 10.2.3 Scanning
  - 10.2.4 Study reading
- 10.3 Study reading
  - 10.3.1 Key concepts
  - 10.3.2 Identifying the topic sentence
  - 10.3.3 Reading critically
- 10.4 Note taking
  - 10.4.1 Copying
  - 10.4.2 Summarising
  - 10.4.3 Underlining and highlighting
  - 10.4.4 Textbook marking
- 10.5 Text mapping strategies
  - 10.5.1 Outlining
  - 10.5.2 Mind maps
  - 10.5.3 Organisational diagrams
  - 10.5.4 Flow charts
  - 10.5.5 Tables
- 10.6 Ethical use of information
  - 10.6.1 Intellectual property
  - 10.6.2 Copyright
  - 10.6.3 Plagiarism
- 10.7 Review

References

Answers to activities

### Outcomes

After studying this chapter you should be able to:

- distinguish different types of reading that you need for writing and studying purposes
- identify the topic sentence in a paragraph
- use various methods to take notes and map text
- avoid plagiarism
- use information in an ethical way

## Key concepts

<b>scanning</b>	form of reading where you run your eye quickly over the page to find a particular piece of information such as a particular word in the dictionary
<b>skimming</b>	reading only the key points, the main parts of the text while omitting other parts
<b>speed reading</b>	way of fast reading in which you read the passage through quickly to get an overview
<b>study reading</b>	intense, concentrated, critical reading
<b>summary</b>	a brief statement of the main ideas and concepts in a text
<b>text mapping</b>	a way of representing the text in a picture or a graph so you can gain an overview
<b>topic sentence</b>	the sentence that contains the main idea of the paragraph
<b>plagiarism</b>	the act of presenting someone else's words or ideas as if they are your own without any acknowledgement
<b>ethical</b>	ethics is the study of values including right and wrong ways to behave. Ethical means in accordance with the accepted principles of right and wrong.

### 10.1 Introduction

In the last chapter we discussed finding information that you needed for our assignment. In this chapter we are going to look at reading for writing. We are going to discuss different types of reading that you need for study purposes because you do not need to read everything in the same way. The types of reading we discuss are skimming, scanning, speed reading and study reading. We are also going to look at note taking and different ways of text mapping. This is very important because if you do not read and take notes effectively, you will be unable to write effectively. We will also learn about the ethical use of information and plagiarism.

### 10.2 Reading skills for studying

One of the most important things about reading for studying is that it is not a passive activity – it is active. You have to get involved with the text by

making predictions, identifying the main ideas, agreeing or disagreeing with what is stated, and coming to conclusions. When we read, we bring our own knowledge of the world and of the subject to our reading. This helps us decide on the meaning of the text and to decide whether or not we accept what is said in the text.

What reading skills do you need for studying?

When you read for study purposes, such as for an assignment or exam, you will need to read a number of different items such as chapters in a textbook, articles, or your study notes. Also in order to answer assignment questions you will need to find information on a particular topic and link information from different sources. Your awareness of information and where to find it will play an important role here. In order to do this as speedily and effectively as possible, it is important to have a number of different reading techniques that you use as required.

You use different reading techniques according to the material you are reading and your purpose in reading it. We are going to talk about the following reading techniques which will help when reading large sections of text:

- speed reading
- skimming
- scanning
- study reading

### **10.2.1 Speed reading**

Speed reading is a fast way of reading in which you do not skip anything but you do not stop to look up words you may not understand or go over difficult sections. You read the passage through quickly to get an overview.

Speed reading is a good technique:

- to get a general overview of what is covered in the text
- to get background information which will help you understand the topic better

You may go back to read the text later if it will be useful. But you speed read it first to find out if it will be useful.

### **10.2.2 Skimming**

When you skim read you read selectively, and deliberately leave out some parts of the text. You look for important ideas and skip less important material. One way to do this is to look at the title, subtitle or bold-faced type and then

read the first paragraph, the last paragraph and the first sentence of each paragraph to get all the main ideas.

Skimming is a good technique to use to:

- get the general idea of a text before reading it more thoroughly
- see whether a text is relevant for your purposes
- check if the text has the information you are looking for
- review material already read or studied.

### 10.2.3 Scanning

Scanning is a form of reading where you basically move your eyes over the page. This type of reading is used when you are looking for something specific such as a telephone number in the telephone book, or looking for a name of somebody in a text. You scan, for example, by looking for capital letters and looking for only that name or particular piece of information.

Scanning is a good technique to use:

- to cut through quantities of information quickly when you want to find a specific piece of information such as a name or a date
- to find keywords from a question or assignment
- to find definitions

### 10.2.4 Study reading

Study reading is intense, concentrated, critical reading because you need to understand and remember what you have read.

Study reading is a good technique to use for:

- material that you want to understand and absorb
- material that you want to evaluate carefully (that is, check whether you agree or disagree with an author, whether any information is missing, and whether it is logical)

## 10.3 Study reading

We are going to focus on study reading here because this type of reading is essential for good writing. However, the other types of reading are also important and if you are unable to speed read, skim or scan we suggest that you practise these techniques as they all save you time and make you a more effective reader.

When you have to write up information on a topic you first need to:

- understand the different parts that make up the topic and their relative order and importance.
- have something meaningful to say about it (have retrieved relevant information)

Before you begin study reading any text you should look at the following:

- **Read the abstract.** At the beginning of most scientific articles there is some text called an abstract. This gives you a brief summary of the contents of the article. It is an important guideline as to whether the article is likely to contain relevant information.
- **Skim the headings and subheadings.** Most textbooks, articles and study guides use headings and subheadings to organise the text. The headings will guide you to the aspects and topics covered and to the way the information is ordered.
- **Skim the table of contents.** This can also give you an overview of subjects covered and approach of the author.
- **Look at the index** at the end of a book which will indicate pages on which specific topics are covered. This can be used to supplement the table of contents.
- Also **look at the Introduction or Preface** in a book. These sections often tell you the main points in the book, and the author's purpose.

Once you have decided that the information in a source looks as if it is relevant, you should study read it. When you do this it is important to interact with your text in order to ensure that you get the most important ideas. In this section you are going to look at some guidelines as to how to do this.

### 10.3.1 Key concepts

When you study read, you begin by looking for the key concepts and topic sentences. These are the elements that will help you to see the central focus in the text. Key concepts are sometimes defined near the beginning of a piece of text. It is very important to understand the meaning of key concepts as this will help you to read the text critically. For example, in this book some of the key concepts are identified at the beginning of each chapter.

### 10.3.2 Identifying the topic sentence

In most forms of writing the text is divided into paragraphs. Each paragraph develops a main idea. This is done by having one topic sentence and a number of related sentences. In most scientific writing, paragraphs are made up of a topic sentence and supporting evidence. The topic sentence tells you what the subject of the paragraph is and the other sentences give evidence to support this statement. To find out the topic sentence you have to ask yourself: 'What is the paragraph about?' Usually the topic sentence is at the beginning of the paragraph but it can be anywhere in the paragraph. Sometimes the topic of the paragraph is only implied.

Why do you need to identify the topic sentence?

- Identifying the main idea helps you to get a clear understanding of what you are reading.
- It will help you remember the information which is important (for example, for exams).
- It helps you build up a mental outline of the topic.
- It will help you write better assignment and exam answers as you will be able to identify the main ideas.

Look at the example below and see which sentence is the topic sentence.

The FIFA World Cup, or the Football World Cup, is an international football competition contested by the national football teams that are members of the Fédération Internationale de Football Association (FIFA), the sport's global governing body. The first tournament took place in 1930 and the championship has been awarded every four years since then. Currently there are 32 teams competing for the title. The qualification phase takes place over three years prior to the World Cup, and is used to determine which teams qualify for the tournament together with the host nation(s). The World Cup is the most widely-viewed sporting event in the world, with close on a billion people watching the final.

The first sentence is the topic sentence because it is the most general sentence about the World Cup and all the other sentences are related to that first sentence. Sometimes a paragraph does not have a topic sentence. Usually, however, there is a main idea controlling the paragraph (that is, the topic is implied).

As you can see when you identify or formulate the topic sentence it helps you to identify the main idea in the paragraph. When you are doing an information

task such as an assignment this is important as it will help you to make good summaries and focus on the most important points and ideas.

### ACTIVITY 10.1

Formulate your own topic sentence for the paragraphs below:

I remember as a child the thrill of airplanes. Air travel in those days was rarely undertaken and when someone was fortunate enough to travel he or she would dress up to suitably mark the occasion. Women wore hats and might even wear gloves to complete the outfit. Nobody would dream of travelling in a track suit and takkies. Journeys took far longer than today. Travelling to London would require a stop over and passengers would spend the night in a hotel before continuing on their flight. So different from the hurly burly of air travel today!

Some people in South Africa feel the names of streets, towns and public buildings should be changed if they are named after famous people from the colonial and apartheid era. They feel that names, such as Pretoria, are a reminder of times and people best forgotten. Also, they no longer wish to have monuments or streets commemorating and glorifying the memory of these people. On the other hand, changing names is very costly. Maps, stationery and street signs have to be changed. Perhaps this money could be better spent on homes and hospitals. Another problem is if there is another change of government perhaps the new government would want to change the names again. A better solution is to ensure that all new buildings, towns, etc. are given neutral names, such as First Street, rather than names of people whom the government of the day wish to commemorate.

### 10.3.3 Reading critically

In the previous chapter we discussed the evaluation of information for an assignment. Study reading is an important skill that enables you to evaluate information because it requires you to concentrate and read critically. In order to do this you need to ask yourself the following questions as you read:

- What is the general topic?
- What is the writer's main point?
- What kind of audience is the writer addressing?
- Do you agree with what the writer is saying?
- Why do you agree or disagree with the writer?

- Does the writer seem biased?
- Do you have any knowledge that could challenge the writer's ideas?
- Is there any information missing?
- Are there any important logical or sequential links missing?
- Can you link what you are reading to other information you have read?

Remember that study reading requires you to really absorb and think about what you have read. You will probably need to read a text more than once to do this effectively. The first time you read a text you will get the general meaning. But it is only in second or even third and fourth readings that you will be able to absorb difficult and complex terms and ideas and think about the text critically.

## 10.4 Note taking

In the previous chapter we discussed taking notes from sources you found in order to answer an assignment question. Before you can write up information for an assignment you need to take notes. This is an important skill. Note taking is part of study reading because writing is a tool for understanding and thinking. Remember we said earlier that reading is active. When you read something and then rewrite it in your own words, you make it your own. You now understand it. You are fitting that text into your existing knowledge base. Also, when you read for an assignment the text is unlikely to be written specifically to answer your question. You need to select relevant information from the text and also put it into an order that will be most helpful for you to answer the assignment question.

Just as it is important to identify the main idea in a paragraph, so it is important to identify the main ideas in longer passages. You will read and write more effectively if you think about the main ideas rather than paying equal attention to every detail. When you make notes, you focus on and select the most important information. If you have underlined or highlighted the topic sentences this should be easy to do. You also need to include your own comments, insights and ideas.

When you make notes it is important to compile a citation for the source. This is important for two reasons:

- You may wish to go back to the source at a later point to get more information.
- If you use the information in a written assignment you will need to include a citation in a list of sources cited.

You learn about citations and the list of sources cited in Chapter 11.

There are various methods of taking notes that you can use. The following are the most common:

- write notes on cards, using a separate card for each aspect or topic
- write notes in a notebook or on loose sheets of paper which are filed
- write notes on a computer
- underline or highlight sections in books or photocopies of articles
- mark text in a textbook

You can only use the last two methods if the information source belongs to you.

### 10.4.1 Copying

When you write notes, you need to use your own words rather than copying directly from your source. If you put the information into your own words, you will be sure that you have understood the source and made the information your own (that is, increased your knowledge base). You will be aware of sections you have not understood and need to reread or aware of words that you do not understand and may need to look up in a dictionary.

However, when you make notes, you may find that there are certain things you wish to copy directly from the source because they are expressed so well. These are quotations and you need to make sure that you put a direct quote in quotation marks ('...') so that you remember that if you use the quote in our own writing that you acknowledge that these are not your own words but the original author's words. You also need to note the citation of the source and the page from which the quote is taken so that if you use the quotation you can acknowledge it correctly.

**FIGURE 10.1: EXAMPLE OF NOTE WITH CITATION**

Political prisoners with life or long sentences pressed a whole lot of living out of the books they read. From some of their reflections it is clear that books and reading inhabited their most private intellectual and emotional spaces. (Censorship and the reading practices of political prisoners in South Africa, 1960-1990, *Innovation*, 35(Dec 2007):39).

### 10.4.2 Summarising

When you summarise something you reduce a large quantity of information to the most important points. A summary is a brief statement of the main ideas and concepts in a text. Its main purpose is to record the most important points in a condensed form. When you summarise a piece of text you need to consider what the author's main idea is and what supporting evidence the author has provided. It helps you because you need to thoroughly understand the material before you can summarise it.

Here are some suggestions for writing summaries:

- Identify the author's main point and write a statement that expresses it.
- Identify the most important information the author includes to support or explain his or her main point. Include this in your summary.
- Include definitions of key concepts.
- The amount of detail you include depends on your purpose.
- Try to keep the summary objective and factual.

### ACTIVITY 10.2

Summarise the following paragraph in two or three sentences:

The Great Depression was started by the stock market crash in October 1929. The value of stock dropped rapidly in the USA. Stock markets in other countries in the West followed this trend. Some people committed suicide as they saw their fortunes disappearing. The main cause of the stock market crash was the high level of speculation by the general public. From 1925–1929 stock prices had increased rapidly. On 24 October 1929 stock values dropped sharply and continued to fall as people realised that the price of stock was far higher than their real value. By Tuesday 29 October prices had not improved and people panicked and sold a record number of shares of stock. Many people lost large sums of money as stock prices fell far below the prices they had paid for it. Banks and those businesses which had large sums invested in the stock market were forced to close.

### 10.4.3 Underlining and highlighting

Underlining and highlighting are the most common forms of taking notes. Here are some guidelines to effective underlining and highlighting:

- Read first and then underline or highlight selected text. Do not underline or highlight while reading.
- Read the headings. Headings are labels for what is contained in that section.
- Try to only underline or highlight major general ideas and the important facts that explain or support the main idea.
- Do not underline or highlight complete sentences. You underline or highlight only enough so that you can see what is important and so that your underlining or highlighting makes sense when you reread.
- Keep underlining and highlighting to the minimum.
- You can only use this method in books that belong to you.

**FIGURE 10.2: EXAMPLE OF UNDERLINING**

The Great Depression was started by the stock market crash in October 1929. The value of stock dropped rapidly in the USA. Stockmarkets in other countries in the West followed this trend. Some people committed suicide as they saw their fortunes disappearing. The main cause of the market crash was the high level of speculation. From 1925–1929 stock prices had increased rapidly. On 24 October 1929 stock values dropped sharply and continued to fall as people realised that the price of stock was far higher than their real value. By Tuesday 29 October prices had not improved and people panicked and sold a record number of shares of stock. Many people lost large sums of money as stock prices fell far below the prices they had paid for it. Banks and those businesses which had large sums invested in the stock market were forced to close.

**10.4.4 Textbook marking**

Underlining in your textbook sometimes needs to be supplemented by marking the textbook in other ways. Some of the methods you can use are:

- Labelling, for example, marking definitions, examples, important points or writing keywords in the margin
- Numbering
- Drawing arrows to show relationships
- Writing comments

When you mark text you actively engage with the text. You have to think about the text while you are reading and you have to understand the text. It not only encourages you to be an active and critical reader, but it will help you review material much more easily when you need to revise.

**FIGURE 10.3: EXAMPLE OF TEXTBOOK MARKING**

TYPE OF MARKING	EXAMPLE
marking definitions	<i>Definition</i> <u>Scanning</u> is a form of reading where you run your eye quickly over the page to find a particular piece of information.
marking examples	<i>eg</i> Looking for a telephone number is an example of scanning.
numbering lists of causes, reasons, events, et cetera	<u>Types of libraries</u> include national, public and special ... <sup>①</sup> <sup>②</sup> <sup>③</sup>
marking important sections	<i>NB!</i> The point of the experiment is to test the purity of the water.
your own comments, questions or criticisms	<i>How it agrees</i> The death penalty acts as a deterrent to crime.
draw arrows to show relationships	<u>Learning to read at school depends on complex factors. The child needs to have preliteracy skills.</u>
references to related material	<i>See article by Rowse</i> The impressionist revolution in painting developed from the rebellion against academic painting.
labelling sections by writing keywords in the margin	<i>Individual against odds</i> One of the great themes in literature is the individual against great odds.

## 10.5 Text mapping strategies

Text mapping is a visual or graphic method of organising information. It involves drawing diagrams to show how ideas or concepts in a chapter or article are related.

When you text map you:

- gain an overview of the text as a whole
- separate text into parts
- show the relation of different parts to each other
- note the relation of one part to the whole text

In the same way as an architect draws plans of a house, your text map should help you to gain an overview of the text you have read. Doing text maps increases understanding, helps you remember what you have studied, and increases your ability to read critically. Once you become familiar with them and find which ones work for you, you will find that they are a great time saver and will improve your study skills. Text maps help you develop a graphic arrangement of the main ideas in a text. Generally text maps are made by identifying the main ideas and supporting details which are then placed in a visual or graphic form.

There are a number of methods that can be used for text mapping. We will discuss some of the most common.

### 10.5.1 Outlining

Outlining is a form of text mapping in which you organise text in a clear and shortened form. It pulls together important information and shows how the ideas interconnect. Outlining is an effective way of organising and illustrating the relationship among ideas. An outline should show the relative importance of ideas and the relationship between them. A good way for you to show different levels is to use labels (for example, numbers or letters) consistently for each level. For example:

**Assignment topic: The case for and against the death penalty**

- 1 Case for the death penalty
  - 1.1 People can see that justice is done
    - 1.1.1 Sets an example
    - 1.1.2 Family of victim feel that the perpetrator pays for crime
  - 1.2 Acts as a deterrent
    - 1.2.1 People contemplating violent crime will be deterred
- 2 Case against the death penalty
  - 2.1 The death penalty is inhumane
    - 2.1.1 Death penalty dehumanises the people who have to apply it

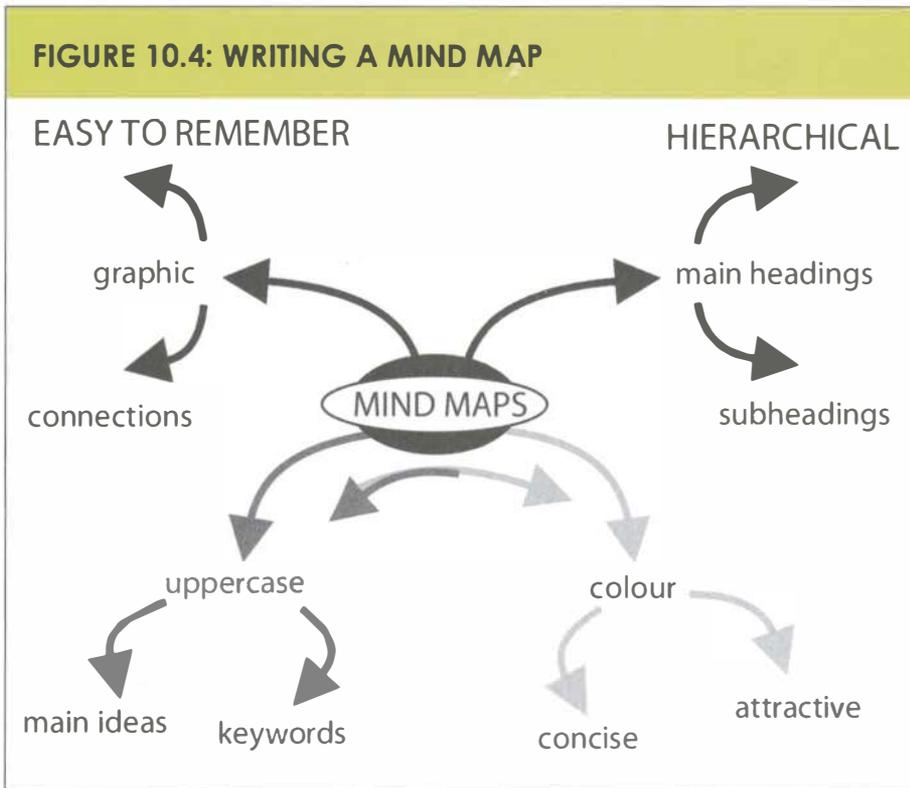
Here are some suggestions for developing an effective outline:

- Concentrate on showing the relative importance of ideas.
- Be brief.
- Use your own words as much as possible.

## 10.5.2 Mind maps

Mind maps are suitable for text in which there is one main topic which can be divided and subdivided.

Look at Figure 10.4. The centre of the mind map is the main topic, for example 'reading skills'. You write this down and circle it and then draw lines radiating from this topic. At the end of each line you draw more circles with aspects or subdivisions of the main topic written in each circle. You can then repeat the process again with the subtopics and details until you have exhausted each of them.



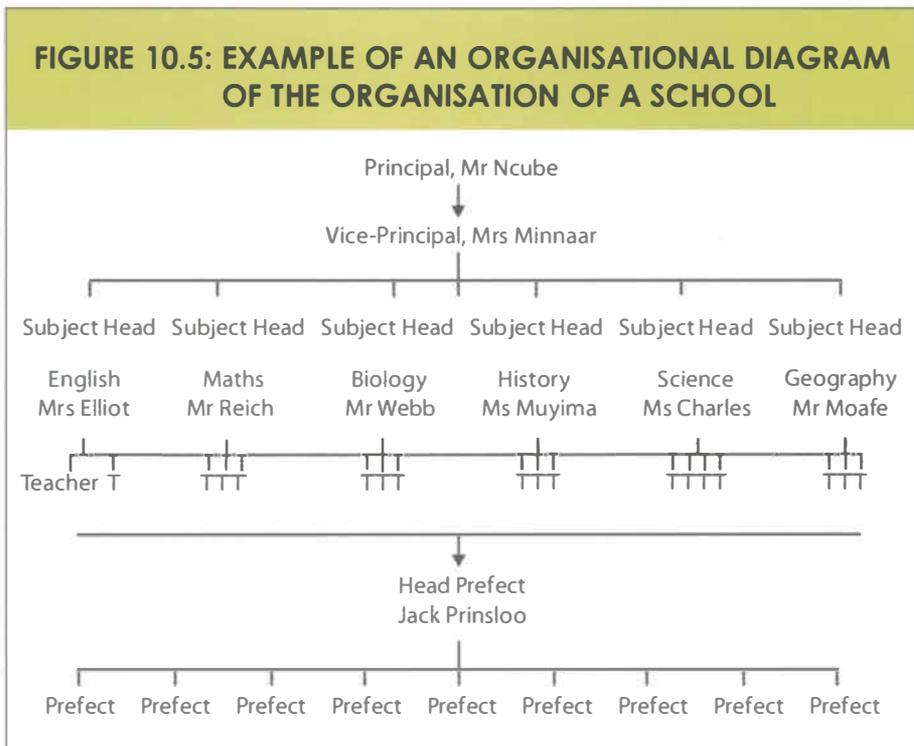
When you draw up a mind map, you must first decide on the central statement or topic. Describe it in a word or two or short phrase. Write it in the middle of your sheet of paper and circle it. Look for broad divisions. Add branches leading to circles in which you write keywords for these divisions. Try to find subdivisions within each division. Add more branches leading to circles with keywords for these subdivisions.

Mind maps are useful for topics which have a central main idea or theme which can be divided and subdivided. It is not good for linear or sequential topics or comparisons. For example, you probably would not use a mind map to describe the steps in the food chain. A mind map is useful as it forces you to find key concepts, which means you distinguish between central and less important information. You have to divide information into categories.

A mind map is also an excellent tool for revising your work at the end of the year when you are studying for exams as it summarises the main points. Many people find that mind maps are an excellent aid to memory. You could make a mind map to summarise the main points of each chapter you need to study. That way you can check your memory and concentrate on the main ideas for each chapter.

### 10.5.3 Organisational diagrams

An organisational diagram is useful for visually representing hierarchical structures (see figure 10.5), that is a piece of text that explains relationships from the highest to the lowest level, or from the broad overall topic to the



most important categories and subcategories. To construct an organisational diagram you first decide on the overall topic and put it in a box at the top of the page. Identify the most important categories. Put them in boxes below the first box. Draw lines to connect the boxes. Add as many rows of boxes as necessary.

### 10.5.4 Flow chart

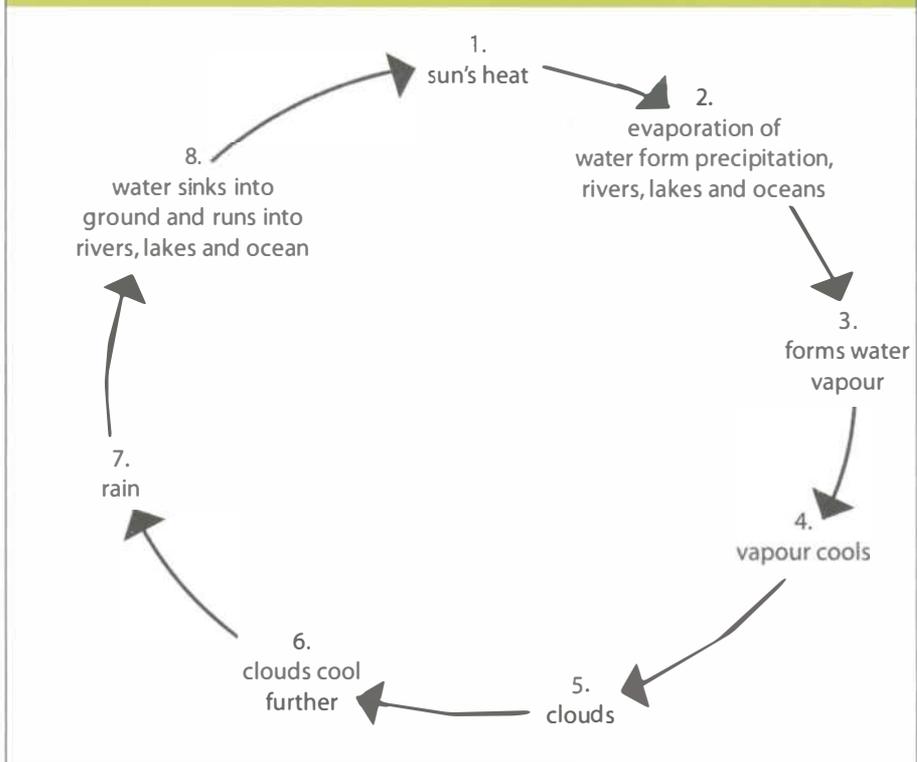
A flow chart describes the steps or sequence of actions or events which move through time and illustrate the dynamic (active) structure of the process or sequence. These actions occur in sequence in a predictable fashion. Arrows are used to show how the various parts of the chart relate to each other. A flow chart can be linear (the action moving in one direction) or circular.

#### **FIGURE 10.6: EXAMPLE OF A LINEAR FLOW CHART SHOWING THE WRITING PROCESS**

Prewriting -> organising notes -> outline -> first draft -> rewriting ->  
editing -> proof reading -> final draft

To make a flow chart, you need to identify the keywords or key concepts for the important components of the chart. Arrange the keywords in the correct order and link them together. In a circular flow chart the keywords or concepts should be numbered showing the beginning of the cycle. Indicate the sequence (order in which events take place) by using arrows. Add anything that you think may be helpful such as outside elements that may affect the flow.

**FIGURE 10.7: EXAMPLE OF CIRCULAR FLOW CHART SHOWING THE WATER CYCLE**



### 10.5.5 Tables

Tables are a good text mapping strategy for text using a diagram that compares or contrasts two or more things. A table may have two or more columns. Drawing up a table helps you to focus on points of comparison. Look at our example.

**FIGURE 10.8: EXAMPLE OF A TABLE SHOWING THE COMPARISON OF CHARACTERISTICS OF MAMMALS AND FISH**

MAMMALS	FISH
Live on land and in water	Live only in water and get oxygen from the water
Use lungs to breathe	Use gills to breathe
Warm blooded	Cold blooded
Have a backbone	Have a backbone
Young are born live	Lay eggs

You can use these various text mapping strategies for a work plan as well as when you synthesise information for a task such as an assignment.

### ACTIVITY 10.3

1. Skim Chapter 9 and jot down the main headings. Check how many you remembered.
2. Draw a text map of sections 1 and 2 (reading skills and study reading) of this chapter including the main points.

## 10.6 Ethical use of information

### CASE STUDY

At school Mary received excellent marks. She learnt things off by heart from her textbook and study notes and rewrote it verbatim in examinations and essays. However, when she got to university this no

Cont.

longer worked. Lecturers failed her for plagiarism and she was threatened with disciplinary action. Mary was worried. No-one at school had taught her about plagiarism or minded when she copied word for word.

If you are like Mary it is important that you read and take note of the next section about ethical use of information.

Ethics is a branch of philosophy which examines questions about morality. Ethical use of information deals with the morally right way to use information. There are various laws which apply to the correct use of information such as the right to privacy, copyright, and the right to intellectual property. The aspects we will deal with here are:

- intellectual property
- copyright
- plagiarism

### 10.6.1 Intellectual property

Intellectual property (IP) refers to creations of the mind: inventions, literary and artistic works, and symbols, names, images, and designs used in commerce. Intellectual property is divided into two categories: industrial property, which includes inventions (patents), trademarks, industrial designs, and geographic indications of source; and copyright, which includes literary and artistic works such as novels, poems and plays, films, musical works, artistic works such as drawings, paintings, photographs and sculptures, and architectural designs. Rights related to copyright include those of performing artists in their performances, producers of phonograms in their recordings, and those of broadcasters in their radio and television programmes (World Intellectual Property Organisation. N.D.). A work that is copyrighted will usually have the symbol ©.

Industrial rights or copyright means that anyone who wishes to reproduce the work or use it in some way must first obtain the permission of the person who created it.

### 10.6.2 Copyright

Copyright gives the creator of an original work exclusive right for a certain time period in relation to that work, including its publication, distribution and adaptation; after which time the work enters what is called the public domain.

This means that the work can be reproduced without permission of the author or the payment of royalties.

Copyright applies to any expressible form of an idea or information that is substantive (something that exists in its own right such as a book, CD or DVD) and discrete (separate) and fixed in a medium. Some jurisdictions also recognise the ‘moral rights’ of the creator of a work, such as the right to be credited for the work. Most jurisdictions recognise copyright limitations, allowing ‘fair’ exceptions to the author’s exclusivity of copyright, and giving users certain rights. For example, you can photocopy or use a section of a work for educational use but not the whole work. The percentage usually regarded as fair use is 10 per cent (Wikipedia: the free encyclopedia 2009 SV “Copyright”).

This means that any original work that is fixed in a tangible medium (such as a book or DVD) is copyrighted. This includes poems, web pages, paintings, photographs, novels, songs, videos or computer software. These are copyrighted the moment the ‘author’ has expressed herself or himself in an original work. The following expressions are also copyrighted: texts of advertisements, choreographed dances, maps, statues and stuffed animals. None of these can legally be copied without permission (University of Wisconsin–Platteville 2008).

This means that if you buy a pirated copy of a DVD or CD you are breaking the law. This is because the work has been copied without the author’s permission and the people involved in the creation of the work are not receiving any payment. Just as you do not want to be cheated out of payment for your work, so these people also do not want their work stolen.

### 10.6.3 Plagiarism

Plagiarism is the act of presenting someone else’s words or ideas as if they are your own without any acknowledgement. As students or academics you are exposed to people’s ideas and intellectual creations constantly. For study and research purposes you are expected to include the information in your own work and ultimately to integrate it into your own knowledge framework. However, it is absolutely essential that you learn to acknowledge information you have obtained from a source as soon as possible in order to avoid plagiarism. If you use someone else’s ideas in your work and fail to acknowledge this you will be committing plagiarism (Bothma *et al.* 2008:125).

People who write scholarly articles or books normally do not make money out of doing it. They write and publish these works to make their research or ideas known to other people working in their discipline. But these writers deserve recognition. You give recognition by acknowledging authors in the

text and by citing them in the bibliography. People deserve recognition when you use their ideas or words. In the same way you would not like it if someone copied your work and passed it off as his or her own work. It is dishonest to do this with writers' words and thoughts. Although there is unlikely to be any legal consequence unless the work is subsequently published, it is immoral and a form of theft. As students who are participating in scholarly activities it is important to be ethical in the way you use information.

### ACTIVITY 10.4

Indicate which of the following examples are copyright violations or plagiarism:

1. Mary worked hard on her assignment and copied the relevant information from her prescribed textbook. She didn't bother to acknowledge her source because it was the prescribed book for the course.
2. Veli paraphrased the section in the textbook but didn't acknowledge the source because she had changed the words.
3. Dan copied the latest CD by Madonna for his friend on his computer.
4. Makgoma bought the beautiful copy of a Fenzi bag that was being sold at the flea market for much less than she would pay for an original.
5. Eddie looked up a difficult word in the dictionary as he wasn't sure what the word meant. When he used the word in his assignment he didn't acknowledge the dictionary.
6. Hetta found a site on the Internet that had relevant information for the assignment. She cut and pasted relevant sections but did not acknowledge the source because it was on the Internet.
7. Thabo needed to give a definition of a subject term in his assignment. He used a subject dictionary but he did not acknowledge the source because it was a dictionary.
8. Melissa couldn't remember what year Nelson Mandela was sent to Robben Island. She asked her mother and her mother remembered the date. Melissa did not acknowledge the source in her essay.

## 10.7 Review

In this section we have focused on important reading techniques that you need for studying purposes, namely, speed reading, skimming, scanning and study reading. These reading techniques will also help you to be a better writer. To write well you have to be an active reader and think about what you have read. You need to be able to analyse the structure of what you have read as well as the content.

We have discussed various forms of note taking. When you are working from library books or journals it is important to write up your notes either on cards, in a notebook or on the computer. This helps you to ensure that you have understood what you have read and is also an important tool for writing assignments and revision before exams. If your textbook belongs to you, you can underline or highlight in the textbook itself. You can also make notes and comments in the text itself, such as marking definitions.

We have discussed various text mapping strategies to help you analyse the structure of a piece of text as well as to help you identify the important content. Some of these are underlining, mind maps, organisational diagrams, flow charts and tables. You need to practice these strategies and become familiar with them so that you are able to apply them easily, and find those that are the most helpful to you. You may think that they are a waste of time when you first begin to use them. But as you become familiar with them and find the ones that work for you, you will find that not only do they save time but they also help you improve our information handling skills.

We have also discussed ethical use of information and the importance of avoiding plagiarism and other copyright violations. You learnt why it was not right to copy directly from your sources and the importance of acknowledging your sources. In the next chapter you will learn about evaluating your information.

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## Answers to activities

### ACTIVITY 10.1

Your topic sentence may differ from the ones suggested but they should contain the main idea which you have indicated.

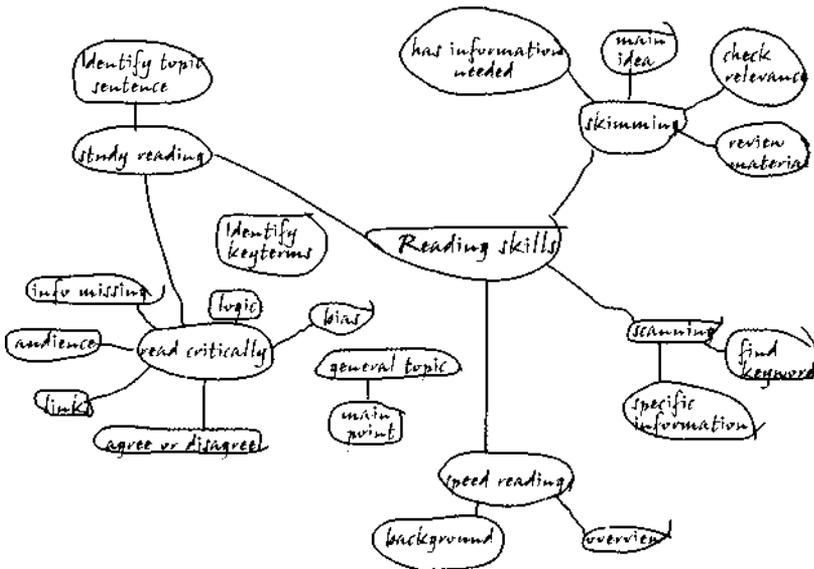
1. Travelling by air used to be prestigious and exciting.
2. The wisdom of changing names of streets, towns and public buildings in South Africa is debatable.

### ACTIVITY 10.2

The Great Depression in the 1930s was caused by the stock market crash in the USA in 1929. The prices of stocks dropped sharply. Banks and businesses which had large amounts of money invested in the market were forced to close.

### ACTIVITY 10.3

Our text map is a mind map but you may have chosen another type of text map such as segmenting and labelling. Even if you chose to draw a mind map it may not look the same as ours but it should include the main points.



**ACTIVITY 10.4**

1. Mary committed plagiarism. It does not matter that it was her prescribed textbook – she still needs to acknowledge the source. She also should not copy word for word but always try to put information in her own words so that the lecturer can see whether or not she understood what she wrote about.
2. Veli still needs to acknowledge the source even if she has paraphrased the section. The ideas and information were obtained from a source and the source must therefore be acknowledged or it is plagiarism.
3. Dan has no right to do this as the CD is copyrighted. He is therefore breaking the law by making a copy.
4. Makgoma has also broken the law because designs are protected by industrial law and also the name is copyrighted.
5. Eddie is correct. He does not need to acknowledge the dictionary in this case.
6. Hetta has committed plagiarism because even though there is a great deal of information available free on the Internet it is still copyrighted and needs to be acknowledged.
7. In this case Thabo was wrong as he is quoting directly from the dictionary. This is not information that would be commonly known and he would need to show that he derived the definition from an authoritative source.
8. Melissa did not need to acknowledge her source as this is common knowledge.

# **Section 4**

**Completing the  
information task:  
Finalising an assignment**

# 11

## Evaluating your information and filling in the gaps

### Contents

- 11.1 Introduction
  - 11.2 Dealing with facts
    - 11.2.1 Definitions
    - 11.2.2 Facts
    - 11.2.3 Inference
  - 11.3 Dealing with non-facts
    - 11.3.1 Assumption
    - 11.3.2 Opinion
    - 11.3.3 Viewpoint
  - 11.4 Critical reading and writing
  - 11.5 Evaluating information for relevance
  - 11.6 Review
- References  
Answers to activities

### Outcomes

After studying this chapter you should be able to:

- distinguish between opinion and fact
- make an inference
- identify a writer's viewpoint
- be aware of hidden assumptions
- differentiate between inductive and deductive arguments
- evaluate your information for relevance to the assignment topic

### Key concepts

<b>assumption</b>	something we believe in but have not checked out carefully to see if it is based on fact (for example, many people assume that men are better aeroplane pilots than women)
<b>fact</b>	something proven with substantial evidence that people do not dispute (for example, the world is round)
<b>inference</b>	a conclusion or generalisation based on known facts
<b>premise</b>	assumptions on which an argument is based

## 11.1 Introduction

In the previous chapter we discussed reading for the purpose of writing up information. We discussed different types of reading and focused in particular on study reading. When you study read, you read actively – you make predictions, and think whether you agree or disagree with what the writer is saying. We also talked about note taking and various types of text mapping, such as flow charts, mind maps and tables. When you take notes or use text mapping techniques, you are interacting with the text and mastering it. These skills are an important aspect of being information literate, since they help you when you are handling information.

In this chapter we discuss evaluating information. Evaluating information covers a wide range of activities but because this book is limited in its scope we are only going to discuss certain aspects. The aspects we cover are definitions, assumptions, the difference between fact and opinion, inferences, evaluation of different arguments, deductive and inductive reasoning and critical thinking and evaluating information for relevance. These activities are critical for information literacy as they are essential for evaluating information. You need to evaluate your information for accuracy and relevance to the topic. Also you need to ensure that you have covered all the aspects you need to cover in order to answer your assignment question.

### ACTIVITY 11.1

When we read we encounter different kinds of statements and arguments, not all of which are equally sound or convincing. Read the statements below and decide which ones you find convincing:

- I think Yvonne Chaka-Chaka is the best singer in South Africa.
- All women who cover their hair are religious fundamentalists.
- Dan Brown must be a good writer because so many people read his books.
- Martha must be on diet again – she refused any chocolate cake.
- My friend ate beetroot and it cured his AIDS. Beetroot can cure AIDS.

If you look at the first statement you can see that this is an opinion and is not correct or incorrect but a personal viewpoint. The second statement is incorrect. Women may cover their hair for a number of reasons – one of these may be religious beliefs – but it does not mean they are fundamentalists. The third argument is more convincing. The person has given a convincing reason for concluding that Dan Brown is a good writer. The fourth statement also

sounds reasonable but there may be other reasons for Martha's refusal of cake, for example, she may have had a big lunch. The conclusion after the fifth statement is not sound as you cannot generalise on the basis of one incident.

As you can see from Activity 11.1 not all arguments are equally convincing or valid. In this chapter we look at different kinds of arguments and statements and learn how to evaluate them.

## 11.2 Dealing with facts

In expository writing we deal with various types of factual writing such as definitions, facts and inferences.

### 11.2.1 Definitions

In order to think and communicate well, we need to clearly understand the words and concepts we use. As obvious as this sounds, it is not a common habit to make sure that we understand words. We often think that we know, or sort of know, what a word means. However, we cannot think clearly and critically if we do not clearly understand the meaning of the terms or concepts. The French philosopher Voltaire once said, 'If you would argue with me, first define your terms'. What he was saying was that one must be very clear as to what the key terms mean if you wish to persuade someone to see things the same way you do.

What is a definition?

When we define something we discover or establish the boundaries or limits that separate it from another word. The definition should ensure that the word has only one meaning and cannot be confused with other terms.

To define a word or concept, a writer may explain what it is (for example, an inanimate object or an abstract idea); describe it; explain what it is used for; explain how it works; compare it to something that is similar but more familiar to the average person; and/or explain what various parts of the word mean. A definition is always used within a specific context and a good definition should include that context. For example, within the context of tennis the word 'love' means a score of nil. In other contexts, such as a love song, 'love' would have a totally different meaning.

The first step in defining a word is to use a comprehensive and reputable dictionary. However, if you are writing within a particular discipline, such as psychology or physics, you will need to use a subject dictionary rather than a general dictionary to establish the meaning of the word. The reason for this is that words may have a specific meaning within a discipline which is different from the way the word is used in everyday language.

An example of this is the term ‘bug’ that has one meaning in everyday conversation and another in computer science. Bug is defined in the Oxford English Dictionary as ‘A name given vaguely to various insects, esp. of the beetle kind, also to grubs, larvæ of insects’ (2009, SV ‘bug’). According to the Linux Information Project (2005) ‘bug is an error or flaw in a computer program that may prevent it from working correctly or produce an incorrect or unintended result’. As you can see this definition defines bug within the context of computer science.

Writers who define key concepts usually place them within contexts that help to make their meaning clearer. These definitions of terms may be more useful than a dictionary definition. For example, the word ‘illiterate’ is defined in the Oxford English dictionary online as: a. Of persons: Ignorant of letters or literature; without book-learning or education; unlettered, unlearned; spec. (in reference to census returns, voting by ballot papers, etc.) unable to read, i.e. totally illiterate. Also, more generally, characterized by ignorance or lack of learning or subtlety (in any sphere of activity)’ (2009, SV ‘illiterate’). However, people working in the field of literacy have many definitions of literacy depending on the level of literacy and the purpose for which the definition is to be used. For instance, during World War II the US Army defined illiterates as ‘persons who were incapable of understanding the kinds of written instructions that are needed for carrying out basic military functions or tasks’ (Levine 1986:26). This definition includes the context. When defining terms in an assignment it is a good idea to look at two or three definitions (see Figure 11.1) of a term or context and then compile your own definition based on these sources.

## 11.2.2 Facts

It is important to distinguish between different types of information, such as facts and opinion. Facts are usually well established, highly informative and persuasive. A fact is something proven with sufficient evidence so that few people dispute it. An example of a fact is: Johannesburg is the largest city in South Africa.

The following are criteria (rules) that you can use to help you decide whether or not a statement is fact. Keep in mind that these are only guidelines:

- A fact should be verifiable. This means that it can be confirmed by another source such as a reference book, witness, observation or expert.
- A fact should be verifiable by a reliable and dependable source. When there is disagreement about facts we have to decide which source to accept. We decide this on the basis of reliability of the source. For example, if

**FIGURE 11.1: COMPILING A DEFINITION****DEFINITION OF 'SEARCH ENGINE'****Step 1**

Find at least three definitions of the term or concept.

**Definition 1**

'A program that searches documents for specified keywords and returns a list of the documents where the keywords were found. Although search engine is really a general class of programs, the term is often used to specifically describe systems like Google, Alta Vista and Excite that enable users to search for documents on the World Web and USENET newsgroups.

Typically, a search engine works by sending out a spider to fetch as many documents as possible. Another program, called an indexer, then reads these documents and creates an index based on the words contained in each document. Each search engine uses a propriety algorithm to create its indices such that, ideally, only meaningful results are returned for each query' (Webopedia SV 'search engine' 2009).

**Definition 2**

'A software program that searches a database and gathers and reports information that contains or is related to specified terms. A website whose primary function is providing a search engine for gathering and reporting information available on the Internet or a portion of the Internet' (Answers.com SV 'search engine' 2009).

**Definition 3**

On the Internet, a search engine is a coordinated set of programs that includes:

- A spider (also called a 'crawler' or a 'bot') that goes to every page or representative pages on every website that wants to be searchable and reads it, using hypertext links on each page to discover and read a site's other pages
- A program that creates a huge index (sometimes called a 'catalog') from the pages that have been read
- A program that receives your search request, compares it to the entries in the index, and returns results to you (TechTarget SV 'search engine' 2009)

..... Cont.

**Step 2**

List the various characteristics in the three definitions.

- A search engine is a general/ coordinated class of programs that search documents/ the web and USENET newsgroups
- Uses a spider (also called a 'crawler' or a 'bot') to read the documents; goes to every page or representative pages on every website that wants to be searchable and reads it, using hypertext links on each page to discover and read a site's other pages
- returns a list of the documents where the keywords were found
- the term is often used to specifically describe systems like Google, Alta Vista and Excite that enable users to search for documents on the World Web
- a website whose primary function is providing a search engine for gathering and reporting information available on the Internet or a portion of the Internet
- A program that creates a huge index (sometimes called a 'catalog') from the pages that have been read
- A program that receives your search request, compares it to the entries in the index, and returns results to you

If you look at the list of characteristics you will see that each definition has contributed something different from the other two.

**Step 3: My definition of a search engine**

A search engine is a coordinated class of programs that searches documents on the web and USENET newsgroups. It uses a spider (also called a 'crawler' or a 'bot') to read the documents and goes to every page or representative pages on every website that wants to be searchable and reads it. The program uses hypertext links on each page to discover and read a site's other pages. The program creates an index which is sometimes called a 'catalog' from the pages that have been read. When you enter your keywords, the program compares them to the entries in the index, and returns results containing the keywords to you (Answers.com SV 'search engine' 2009; TechTarget SV 'search engine' 2009 Webopedia SV 'search engine' 2009; ).

As you can see I have taken elements out of all three definitions and combined them using my own words as much as possible. I have included all the points but have omitted unnecessary repetition. Also note that I have acknowledged all three sources that I used.

Archbishop Desmond Tutu testified to a fact we would be inclined to accept it because our knowledge of his character as a truthful man makes him a reliable source.

- The fact should be probable. For example, some people believe that the world will end early in the 21st century, yet most people do not believe this because it is improbable. There is nothing to indicate that the world will end except some predictions by people such as astrologers and fortune tellers. Also there is no other supporting evidence to make us believe this would be true.
- The fact should be plausible. Does the fact confirm or contradict other known facts? This rule is not foolproof because new facts may conflict with 'known' facts. For example, when Galileo first stated that the world was round this conflicted with the 'known' facts of that period that the world was flat. Today we accept that the world is round because there is supporting evidence for this from science.

### 11.2.3 Inference

To infer is to draw a conclusion based on known facts. An inference is an 'educated guess' which we use to explain something. We draw inferences by reasoning from or interpreting the available evidence, as illustrated in Figure 11.2. For example, if you see a woman crying you can infer that she is upset. But, remember, an inference should not be stated as absolute truth.

Facts and inferences are linked together through generalisations. Facts have little significance or meaning in themselves until generalisations can be derived from them. In expository writing, the topic sentence of a paragraph is usually a generalisation that summarises the main idea to be demonstrated in that paragraph.

Three common problems in student writing are:

- A failure to draw an inference and to only give the facts.
- A tendency to draw inferences for which there is insufficient evidence.
- Confusing facts with inferences.

Refer to Figure 11.2 for an example of drawing on inference.

**FIGURE 11.2: EXAMPLE OF DRAWING AN INFERENCE**

What inference can we draw based on the following set of facts dealing with a child?

- He has a good appetite.
- He likes chocolate.
- He is offered a bar of chocolate and he refuses to eat it.

Here are some of the inferences we could have drawn:

- The child is not well and does not feel like eating.
- He does not like that particular type of chocolate.
- He has had a good meal recently and is full.

In order to draw a valid conclusion, we would need more information.

## 11.3 Dealing with non-facts

When we read we often have to deal with non-facts such as assumptions, opinions and viewpoints. It is sometimes difficult to differentiate these from fact or to decide which are based on sound reasoning. In this section we will give you some ideas as to how to judge the validity of non-facts

### 11.3.1 Assumption

When we make an assumption we take something for granted which we have not necessarily checked out beforehand. How does an assumption differ from an inference? An inference is arrived at by a process of reasoning based on what is known. An assumption is taken as given and does not necessarily have any basis in fact or conscious reasoning.

Unwarranted or unconscious assumptions are beliefs, values or ideas that are not consciously recognised or expressed. Stereotypes, such as ‘fat people are jolly’, are usually based on unconscious assumptions. These assumptions lead to faulty reasoning. We need to identify and examine assumptions if we are to think critically as hidden assumptions can lead to arguments and conclusions which are not soundly based.

Hidden assumptions may be based on:

- the belief in the superiority of a particular race, religion, gender or individual viewpoint

- value judgements
- the way we were taught
- lack of experience of differences

The problem is that it is often difficult to recognise a hidden assumption especially if we personally agree with the assumption. Many statements based on hidden assumptions sound very reasonable. It is only when we expose the hidden assumptions that we realise that they are not really reasonable. We need to examine a writer's statements and arguments for hidden or unexamined assumptions.

Look at the following statements and see if you can identify the hidden assumptions:

1. Men make better doctors than women.
2. I am surprised that your German Shepherd dog didn't bite me.
3. The death penalty stops people from committing murder.

Statement 1 is based on a common assumption that men are intellectually superior to women and therefore will be better doctors. Statement 2 is based on the hidden assumption that all German Shepherd dogs are vicious and will therefore bite passers-by. Statement 3 is based on an assumption that people consider the penalty before they commit a crime. However, research shows that many people who commit murder do so in a moment of passion and they do not think of the possible penalty.

### ACTIVITY 11.1

Read the statements below carefully and decide whether they are fact, inference or assumption:

1. There is intelligent life on other planets.
2. Why should we be the only form of intelligent life in the universe?
3. Many people have seen Unidentified Flying Objects (UFOs) which could be some type of spaceship flown by extra-terrestrials.
4. Governments deny that they have evidence of extra-terrestrial life.
5. One reason for governments hiding information they have about life on other planets could be that they don't want people to panic.
6. Mars is the planet that is most likely to have extra-terrestrial life.
7. I say this because Mars resembles Earth in several respects.
8. There are Martian polar caps which are similar to the Earth's polar caps.
9. A Martian solar day is only thirty-seven and a half minutes longer than a solar day on earth.
10. The axis on which Mars rotates is tilted by about 24 degrees to the plane of its orbit – very similar to the 23.5 degree axis tilt of the Earth (Block, 1988:13).

A conscious or working assumption can be used as a creative strategy. It is working out something on the basis that the assumption is correct. For example, you may invest in property based on the assumption that property prices will continue to rise. This assumption, however, should be based on some facts, such as that property is in short supply and building cannot keep up with demand. Working assumptions are based on reasonable expectations and we all base many decisions on working assumptions.

If you look at Activity 11.1 you can see that it is a mixture of fact, assumptions and inference. The problem with some of the inferences is that they are based on unfound or unproven assumptions. For example, there is an assumption in Statement 5 that governments are hiding information about extra-terrestrial life.

### 11.3.2 Opinion

An opinion is a conclusion, conviction or belief formed about any matter based on evidence of some kind. We can dispute or disagree with other people's opinions because they are not a clearly proven matter. In order for an opinion to be convincing, it should be based on factual evidence or extensive experience. An expert's opinion on a topic is usually respected because of his/her extensive experience. For example, an experienced doctor's diagnosis will be respected. However, even an expert's opinion may be wrong and can be disputed. There are many incidents where a doctor has given an incorrect diagnosis or a number of doctors have disagreed on a diagnosis. Reasonable opinions are well-supported and based on reliable evidence which is given to support the opinion. Unreliable or irresponsible opinion is based on insufficient evidence or on feelings and beliefs.

We need to guard against fixed opinions which are based on feelings, emotions or prejudice rather than on facts or experience. For example, one may have a fixed opinion about women pilots being unreliable based on a belief that women are liable to panic and become hysterical in an emergency. Fixed opinions can prevent us from thinking clearly or critically about an issue and restrict our understanding.

### 11.3.3 Viewpoint

When we read critically it is important to learn to recognise a writer's viewpoint and how it shapes the content of a message. The recognition of the writer's viewpoint puts all the things we have learnt about so far in this chapter to the test because it uses all of these. Many forms of writing are specifically written in order to persuade us to believe something, for example, most advertisements are trying to persuade us to buy something.

You have to guard against prejudiced or biased writing which specifically selects evidence and facts to support the writer's viewpoint and opinions and omits facts or evidence contrary to his/her point of view. Viewpoints, similarly to assumptions and opinions, can be conscious or unconscious. Let's look at an example.

### FIGURE 11.3: EXAMPLE OF DIFFERING VIEWPOINTS

People in favour of genetically modified food and those against will give different evidence to support their arguments as you can see from this table below.

#### PRO GENETIC MODIFICATION

Farmers may benefit because of the potential for increased crops, healthier animals, fewer diseases and lower costs of production.

The environment could benefit because of the reduced use of toxic chemicals, as well as the potential to grow more on less land.

Multinational companies have already freely shared some of their GM technology with developing nations.

#### AGAINST GENETIC MODIFICATION

Once GM crops have been planted, any changes they cause in the ecosystem cannot be reversed.

Farmers could be tied in to multinational companies that produce the GM seeds and these may cost more.

Multinationals will increasingly own intellectual property in agriculture thus dominating world markets.

Writers can be very persuasive if they select facts or evidence that support only their viewpoint, rather than represent all sides of an argument. When reading critically you should always try and check the writer's viewpoint. Ask yourself the following questions:

- Is the writer presenting only one side of a topic?
- Does the writer have a particular point of view that s/he is trying to persuade us to accept?
- Is the writer using emotive language to try and persuade us to accept a particular viewpoint? For example, referring to abortion as murder is likely to arouse negative emotions.

## 11.4 Critical reading and writing

When you read and write critically you are objective and judge an argument according to standards that test truth and reliability. You evaluate the statements and arguments using what you have learned about facts, opinions, inferences and viewpoints. You measure them against your ideas or concepts of a good argument and study them to see whether there are hidden assumptions, opinions, etc. that could make the statements invalid. In order to decide which argument to accept or to use in your writing when two writers disagree or present conflicting statements, you need to look at which writer offers the best evidence for his or her statements. Has one writer based his or her argument on hidden assumptions or a biased viewpoint? Making evaluations is a complex thinking task that requires making judgements according to conscious standards.

These standards can be summarised in the form of the following questions:

- What viewpoint and values shaped this argument?
- How is the argument structured in terms of reasons and conclusions?
- What is the issue of controversy?
- What are the strengths and weaknesses of the argument?
- Are the reasons adequate to support the conclusion?
- Is the reasoning sound – are the premises true and the reasoning valid?
- Are there any hidden assumptions that would make the argument invalid?
- Are any keywords ambiguous?
- Is any important information or evidence left out?
- Is any information false, contradictory or incompatible?
- What is the conclusion of the argument and does the evidence support it?

Looking for missing information when you are unfamiliar with a subject is difficult. You need to read carefully and constantly ask yourself questions. Are there missing definitions? Is the premise of the argument clearly stated?

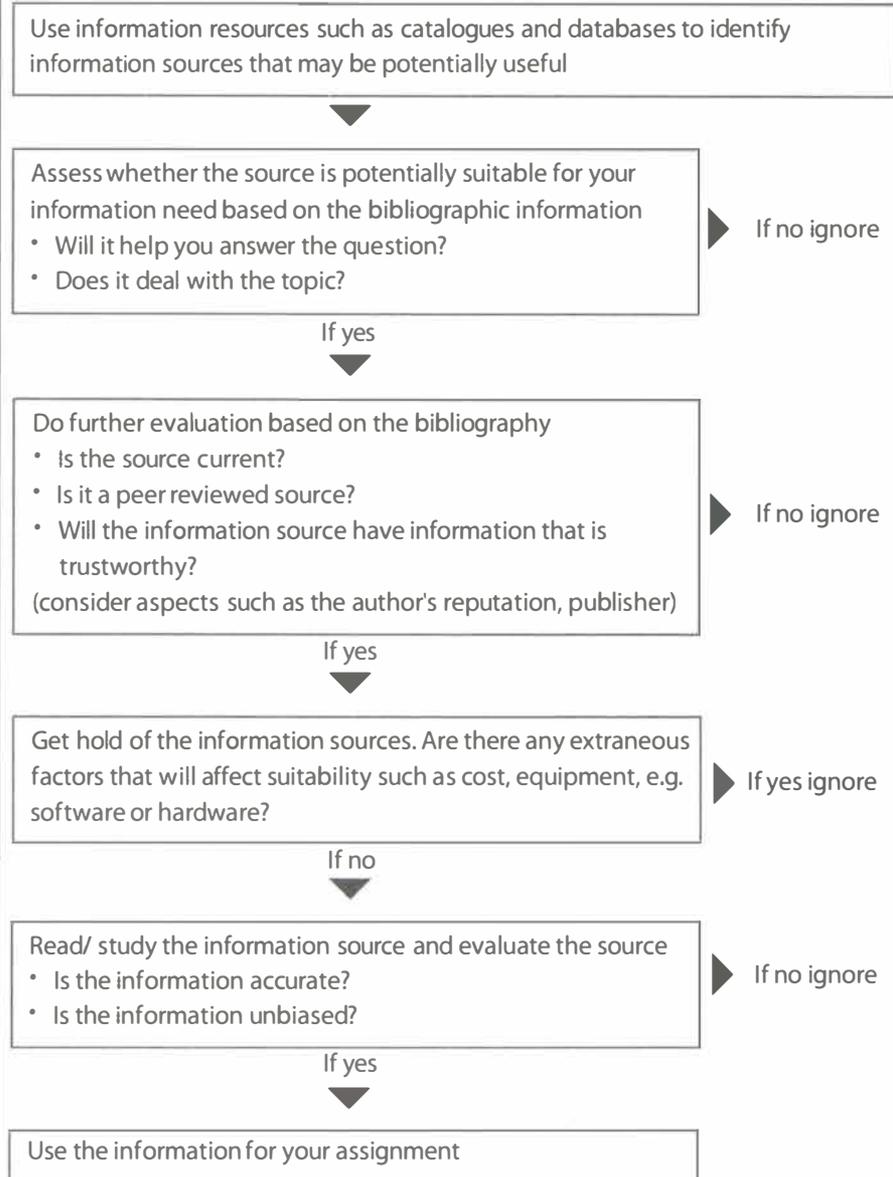
## ACTIVITY 11.2

Evaluate the following arguments and decide which are valid and why.

1. The South African government ought to sell ivory. By doing this they can prevent poaching and illegal trade in ivory. A large number of elephants are culled (selected and killed) every year as the number of elephants becomes too great for the land to support. If they are not culled other animals would be unable to survive since elephants eat so much that there would not be sufficient grazing left for smaller animals such as buck. South Africa could sell the ivory obtained from these culled animals. It could also sell ivory which the government confiscates from poachers and illegal ivory traders. If this was all sold it would satisfy the market and thus put poachers out of business.
2. Koalas are dying on the Kangaroo Island in Australia. The reason given by the Government (who wants to cull the koalas) is that the Eucalyptus trees on which these animals feed are being wiped out on the island because of over-browsing. However, I do not agree with this. There are a number of possible other reasons for the animals dying. There are many sheep on the island that destroy new Eucalyptus saplings by grazing on them. The colony of koalas on the island started from a small number so there has been a great deal of inbreeding. As a result there is insufficient genetic variation to ensure a healthy population. All koala are vulnerable to the bacterium Chlamydia and this is why there are limited numbers of koalas in Australia. It is probable that the koalas on Kangaroo Island are also dying because of this virus (Australian Koala Foundation. [nd]).

## 11.5 Evaluating information for relevance

It is not only important to check the quality of the source and information, it is also important to evaluate your information for relevance to answer your information need. The figure below illustrates the process of evaluating information for an assignment.

**FIGURE 11.4: EVALUATION PROCESS**

Adapted from Bothma *et al.* 2008:155)

## 11.6 Review

In this chapter we have discussed various types of thinking skills that we need in order to read and write critically. We have talked about the importance of definitions in limiting the meaning of important terms and concepts. We have differentiated between fact, opinion, and assumption. We have discussed inferences and how to draw inferences. We have looked at viewpoints and how these can influence the structure and validity of an argument. We have also looked at evaluating arguments and critical reading. You need to constantly practise critical thinking and reading as they are not easy skills to master and are important for information literacy and lifelong learning.

In the next chapter we discuss prewriting and the writing up of information in assignments. The skills that you have learned in this chapter are important for writing. You need to be as critical about your own writing as you are about the writing of others.

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## Answers to activities

### ACTIVITY 11.1

1. assumption
2. assumption
3. inference
4. fact
5. inference
6. inference
7. inference
8. fact
9. fact
10. fact

### ACTIVITY 11.2

1. This sounds like a well-reasoned argument. The writer has given the reasons for his or her conclusion that South Africa ought to sell ivory. However, the writer has written from a particular viewpoint and not discussed any of the counter arguments, such as, whether elephants need to be culled.
2. Perhaps there are other alternatives such as selling them to zoos. Also the writer has assumed that this would satisfy the market and therefore stop poaching but there is no guarantee that the market would be satisfied.
2. This appears to be a well-reasoned argument. The author has given reasons for the view that koalas are dying from other reasons besides the one given by the Government of over-browsing. These arguments should be examined before taking the drastic step of culling the koalas. However, there is neither a date nor an author given for the article on the Internet and the site is one maintained by the Australian Koala Foundation that works to save koalas. The information therefore could be prejudiced and would have to be substantiated.

# 12

## Referencing and reference techniques

### Contents

- 12.1 Introduction
  - 12.2 Purpose and function of references in an assignment
  - 12.3 Compiling citations for books
    - 12.3.1 Book with a single author
    - 12.3.2 Book with two authors
    - 12.3.3 Book with three or more authors
    - 12.3.4 Chapter in a collected work
    - 12.3.5 Book with an editor
    - 12.3.6 Citing more than one source
  - 12.4 Periodical and newspaper articles
  - 12.5 Electronic sources
  - 12.6 Other types of information sources
  - 12.7 Unpublished information sources
  - 12.8 Government publications
  - 12.9 Structure of a list of sources cited
    - 12.9.1 Listing more than one source written by the same author
    - 12.9.2 Listing works by an author who has some works in collaboration
  - 12.10 Review
- Answers to activities

### Outcomes

After studying this chapter you should be able to:

- read citations (that is, written references to specific information sources) with understanding
- compile citations for books, periodical articles, chapters in a collected work, reference sources, and electronic information sources
- compile a correct list of sources cited, for inclusion at the end of a written assignment
- arrange the citations in the correct order in the list of sources cited

## Key concepts

<b>collected work</b>	a book of works by different authors selected for publication by an editor (for example, a textbook which contain chapters written by several different authors)
<b>compiler</b>	person who collects together the essays, poems, plays or other information sources for a book
<b>edition</b>	a specific version of a book. The original version is the first edition; if the book is then republished these new versions are later editions (for example, revised edition, 2nd edition, 3rd edition)
<b>editor</b>	person who selects and prepares the works of other authors for publication (for example, for publication in a collected work, or in a periodical)
<b>publication date</b>	year in which an information source was published. For a book, this date is sometimes found on the title page, but more usually on the verso (back) of the title page.
<b>publisher</b>	company (or person) which prepares and issues information sources for public distribution and/or sale
<b>verso</b>	the back of the title page of a book
<b>volume</b>	<ol style="list-style-type: none"><li>1. a book in a numbered set or series of books</li><li>2. for periodicals, the separate issues published during a specific calendar year are each given a separate number and together these numbered issues make up a single annual volume</li></ol>

### 12.1 Introduction

In Chapter 10 we spoke about the ethical use of information and the need to avoid plagiarism by citing our source of information. We also discussed taking notes and mentioned how important it is to note the source from where we obtain information so that we can acknowledge our source of information when we write an assignment. In this chapter we will discuss the correct way to acknowledge or cite the sources we have consulted or quoted in the text.

You will also learn how to compile a list of all the sources you have cited (that is referred to) in your written text. This list is called a Reference list. Other names for this list are References, List of references, List of sources cited or even Bibliography. The list is also sometimes called a List of sources consulted if you include sources you have consulted but not necessarily cited in your text.

As you locate and access relevant information sources for an assignment, you need to record certain details of these sources. It is important to record this information while collecting and organising the information because by the time you actually write your assignment, you may no longer have the sources with you.

There are different techniques or methods of compiling citations but all the methods focus on the same elements to be included in a citation. In this chapter you will be looking at only one way of doing this but once you are familiar with the elements of a citation it will be relatively easy to apply other referencing methods. Whatever method you use, the important thing is to be consistent.

## 12.2 Purpose and function of references in an assignment

The reason you make references (to the sources you have cited) in the text of your assignments is to acknowledge that you have used viewpoints, information, arguments or research findings of specific authors and to indicate who these authors are. In other words, you are using the arguments and research of other authors to support YOUR ideas. References give strength to your arguments and provide evidence for what you say.

The main purposes and function of the references within the text and list of sources cited at the end of the assignment are the following:

- By acknowledging a source in the text you make the reader aware of where the information or idea comes from. In the list of references you provide full citations so that the reader can identify the specific information sources referred to. This enables the reader to identify the information source and verify information cited by reading the relevant pages if so desired.
- A list of references at the end of an assignment or research article or report enables the reader to ascertain what sources have been consulted. By scanning the references, it is immediately apparent whether important standard texts have been consulted and whether current information sources which may provide recent information or perspectives have been used.

- By acknowledging a source in the text and listing the source in the list of references you avoid plagiarism and ensure that you make ethical use of information.
- In the same way that you evaluate the information you use for your assignments, the readers of your assignments evaluate the quality of your information. By acknowledging your sources you give an indication of the validity of your arguments and quality of the information in your assignments.
- A list of sources can also be useful for someone looking for information on the topic.

For all of these reasons, it is very important to learn how to apply a reference technique.

There are many different techniques, methods and styles of citing sources. There are published handbooks and manuals which can be used for advice on reference technique, for example *The Chicago manual of style* (available <http://www.chicagomanualofstyle.org/home.html>). There are professional organisations which provide guidelines on reference techniques for their specialised fields, for example, the Modern Language Association of America (MLA), the American Chemical Society (ACS), the American Institute of Physics (AIP), and the American Psychological Association (APA).

In this book, the method we use and discuss is known as the Harvard method. This is a relatively simple method which was developed in America and is widely used.

## 12.3 Compiling citations for books

Most methods of referencing are very similar with only minor variations. Punctuation, position of various elements of the citation such as date, and capitalisation may vary according to the style used. Whatever style is used, it is important to be consistent.

Each entry in the list of sources cited is called a 'reference' or 'citation'. We are now going to discuss how to acknowledge and compile citations for various types of sources.

### 12.3.1 Book with a single author

When compiling a reference for a book you must ensure that each reference includes the following elements in the order listed:

- author(s) name(s) and initials (usually first names are not written out in full)
- date of publication (usually just the year)

- title of the book as it appears on the title page (the rules of language apply when capitalising the title of a book)
- edition (if not 1st edition)
- place (usually city but may be town) of publication (if more than one place is listed on the title page use only the first named place)
- publisher

When citing a book in the text the following are included:

- author's name
- year of publication
- page on which the information is found

The title of a book is always underlined when handwritten or given in italics when printed. When a citation runs over to two or more lines of text, you indent the second line as well as any subsequent lines. This is called a hanging indent. For example:

Wells, G. 1986. *The meaning makers: children learning language and using language to learn*. London: Hodder & Stoughton.

### FIGURE 12.1: EXAMPLE OF CITATION FOR A BOOK

In the reference list:

Salinger, TS. 1996. *Literacy for young children*. 2nd ed. Englewood Cliffs, NJ: Merrill.

Note: If there are two initials there is no full stop between the two initials only after the 2nd initial. Take note of the punctuation as it is important that this is correct.

Acknowledgement in the text:

Salinger (1996:8) contends that ....

It can be argued that ... (Salinger 2003:8)

Note: There is a colon (:) between the year and page number.

This type of reference is also used for business reports, annual corporate newsletters, etc. where the company or organisation is given the credit for authorship.

### FIGURE 12.2: BOOK WITH CORPORATE AUTHOR

Reference list:

READ Educational Trust. 2007. Annual report. Johannesburg: READ Organisation.

Acknowledgement in the text:

According to the READ Educational Trust (2007:4) the standard of literacy ...

It is contended that the standard of literacy is ....( READ Educational Trust 2007:4)

In this case, the READ Educational Trust is listed as a corporate author rather than listing a single author by name.

### 12.3.2 Book with two authors

If you have to cite a book which has been written by two authors you make the entry under the name of the first author and then you use an ampersand (&) followed by the name of the second author. There is no full stop after the first author's initials only after the second author's.

### FIGURE 12.3: BOOK WITH TWO AUTHORS

In the reference list:

Coveney, P & Highfield, R. 1995. *Frontiers of complexity: the search for order in a chaotic world*. New York: Ballantyne Books.

Acknowledgement in the text:

Coveney and Highfield (1995:29) argue that ...

The universal Turing machine ... (Coveney & Highfield 1995:29).

N.B. The ampersand is used if the reference is in brackets but if the names are given in the discussion 'and' is written out.

### 12.3.3 Book with three or more authors

When there are three or more authors the work is entered under all the author names the first time it is cited but subsequently only the first author's name followed by ... (*et al.*) which indicates that there are several other authors whose names have not been given in full. In the reference list all the authors' names are given.

#### FIGURE 12.4: BOOK WITH THREE OR MORE AUTHORS

In the reference list:

Stilwell, C, Leach A & Burton, S. 1999. *Knowledge, information and development: an African perspective*. Pietermaritzburg: School of Human and Social Studies, University of Natal.

Acknowledgement in the text for the first time:

Stilwell, Leach and Burton (1999:34) state that knowledge and development ...

Knowledge and development in Africa ... (Stilwell, Leach & Burton 1999:34)

Acknowledgement in the text subsequently:

Stilwell *et al.* (1999:34) state that knowledge and development ...

Knowledge and development in Africa ... (Stilwell *et al.* 1999:34)

### 12.3.4 Chapter in a collected work

When compiling a reference for a chapter in a collected work you must ensure that each reference includes the following elements:

- author(s) name(s) and initials
- date of publication of the book (usually just the year)
- title of chapter as it appears in the book
- title of collected work as it appears on the title page
- editor(s) name(s) and initials
- place of publication
- publisher
- page numbers on which the chapter appears (both beginning and end page numbers)

**FIGURE 12.5: CHAPTER IN EDITED BOOK**

In the reference list:

Phillips, J. 1995. Poland: 10 years old, in *Children in the Holocaust and World War II: their secret diaries*, edited by L. Holliday. New York: Pocket Books:1–19.

Acknowledgement in the text:

According to Phillips (1995:7) one of the problems she experienced ...

One of the problems experienced by children in the Holocaust was ... (Phillips 1995:7)

**12.3.5 Book with an editor**

If you are referring to the book as a whole then there are different ways of compiling a citation for a book which has an editor. For example, in the Harvard method when there is an editor or editors you usually enter the work under the title followed by the date of publication. Next, give the name(s) of the editor or editors following the word 'editor'. An alternative method is used in some citation systems (such as APA and MLA), where the editor's name is simply put in the place of the author with (ed.) or (eds.) after the name.

**FIGURE 12.6: BOOK WITH AN EDITOR**

In the reference list:

Cook-Gumperz, J. (ed.). 1986. *The social construction of literacy*. Cambridge, Mass.: Cambridge University Press.

Acknowledgement in the text:

In the book *The social construction of literacy* (Cook–Gumperz 1986) the issue of social context is discussed by a number of authors.

The issue of the social context of reading is discussed by a number of authors (Cook–Gumperz 1986)

### 12.3.6 Citing more than one source

When writing an assignment you may wish to cite two or more authors to support a piece of information. The sources are listed alphabetically in the List of references. In the text the sources may be listed alphabetically or chronologically. If they are listed chronologically then they are listed with the most recent source cited first. See Figure 12.7 for examples.

#### FIGURE 12.7: CITING MORE THAN ONE SOURCE

In the reference list:

Braman, S. 1998. The information society, the information economy, and South Africa. *Communicatio* 24(1):67–75.

Dick, A.L. 2002. South Africa's information industry and Mbeki's African Renaissance. *Mousaion* 20(1):23–27.

Nassimbeni, M. 1998. The information society in South Africa: from global origins to local vision. *South African Journal of Library and Information Science* 66(6):13–16.

Acknowledgement in the text:

Alphabetically:

Braman (1998), Dick (2002) and Nassimbeni (1999) emphasise the importance of the issue of an information policy within South Africa.

South Africa does not as yet have an information policy but this could be essential in ensuring the economic use of information (Braman 1998; Dick 2002; Nassimbeni 1999).

Or chronologically:

South Africa does not as yet have an information policy but this could be essential in ensuring the economic use of information (Dick 2002; Nassimbeni 1999; Braman 1998).

## 12.4 Periodical and newspaper articles

When compiling a reference for an article in a periodical or newspaper the reference should include the following elements:

- author(s) name(s) and initials (usually no first names)
- date of publication (usually just the year)

- title of article (use language rules for capitalisation)
- title of newspaper or periodical in italics if typed or underlined if written (all the main words are capitalised in the title e.g. *Journal of Abnormal Psychology*)
- periodical volume and number
- newspaper date (newspapers and popular magazines may not have a volume and number)
- section of the newspaper if in a separate supplement, for example, the classified supplement
- page numbers on which the article appears

### FIGURE 12.8: PERIODICAL ARTICLE

In the reference list:

Beckmann, J. 2008. Aspects of student equity and higher education in South Africa. *South African Journal of Higher Education* 22(4):773–788.

Acknowledgement in the text:

Beckmann (2008:778) states that ...

Student equity in South Africa is .... (Beckmann 2008:778)

The name of the journal not the title of the article is in italics. The number is given in brackets after the volume number.

**FIGURE 12.9: NEWSPAPER ARTICLE**

In the reference list:

Momberg, E. 2009. The madness of the Aids-denial era. *Pretoria News* 20 July:7.

Acknowledgement in the text:

Many will remember the drawn-out battle in 2004 to ensure people received ARVs (Momberg 2009:7).

According to Momberg (2009:7) in 2004 ....

Some newspaper articles do not give the author's name. In such cases the article is entered under title. Here is an example of a citation of a newspaper article without an author.

**FIGURE 12.10: NEWSPAPER ARTICLE WITHOUT AN AUTHOR**

In the reference list:

SA loses 17% of its new doctors each year. 2009. *Pretoria News* 20 July:2.

Acknowledgement in the text:

South Africa is losing nearly 20% of its doctors each year (SA loses ...2009:2).

According to the *Pretoria News* (SA loses ...2009:2) South Africa is losing ....

Note that when an article is cited in the text it is not necessary to give the full title, only sufficient to identify the source in the list of references.

### ACTIVITY 12.1

1. Barbara Fine Clouse wrote a book called *The student writer: editor and critic*. The book was published in 1992 by MacGraw-Hill Inc. The publisher is in New York. It is the 3rd edition of this book.
  - a. Write out the appropriate information for the following:
    - Author(s) of book: .....
    - Publication date: .....
    - Title: .....
    - Edition: .....
    - Place: .....
    - Publisher: .....
  - b. Now write the citation.
2. An article entitled: 'AIDS in South Africa: a bibliometric study on HIV/ AIDS literature in South Africa from 1982 to 2002' by Sara Biba Mithal and Athol Leach was published in *Mousaion*, volume 24, number 2, pages 185–210 in 2006.
  - a. Write out the appropriate information for the following:
    - author(s) of article: .....
    - publication date: .....
    - title of article: .....
    - periodical title: .....
    - volume: .....
    - issue/number: .....
    - pages: .....
  - b. Now compile the citation.

Note that when you write out the citation for an article, you underline or italicise the title of the journal, not the title of the article. Note the bracket around the issue number and the colon before the page numbers.

## 12.5 Electronic sources

Just as with printed sources, online sources must be cited in a way that allows readers to identify and retrieve them. It is important to maintain as much consistency as possible between the referencing of paper-based and electronic materials in an assignment.

When compiling a reference for an electronic source such as for a CD-ROM or a file on the Internet you must ensure that each reference includes the following elements:

- **Author(s) name(s) and initials:** this is the name of the person or organisation responsible for creating the material. As for a print document, if a web resource does not have an author/authoring body, refer to it in text by the title (or the first few words of the title) and enter it under its title in the reference list. (Disregard ‘a’, ‘an’ or ‘the’ at the beginning of a title and file alphabetically under the first major word of the title when compiling the reference list.)
- **Date of publication or last update:** use the date the material was created or last updated. If this is not stated, use the copyright date. Sometimes the copyright date is a span of years, for example, © 2000–2004. In this case, use the later date. If no date is provided, use the abbreviation n. d. (no date).
- **Title:** use the title from within the document. If a document does not have a title you may be able to use the wording in the title bar at the very top of your screen, if it is descriptive of the contents.
- **URL:** this is a crucial element that directs the reader to the source. When referencing online sources you should aim to direct your reader to the exact source of your information. Thus it would not usually be appropriate to give a reference to a whole website.
- **References should direct readers to the specific information you have used.** For example, direct readers to a particular web page, not to an entire website.
- **If a source does not have the information you need, use the details that are available to describe it.** If you’re not sure, it’s better to provide more information about a source than less.
- **Some materials are published in both printed and electronic formats.** You should reference the document type that you used.
- **Retrieval date:** it is important to note the date you retrieved the material because the Internet environment is dynamic and material is constantly changed, added and deleted.

### FIGURE 12.11: CITATION FOR AN ELECTRONIC SOURCE FROM THE INTERNET

In the reference list:

Development Bank of South Africa. 2007. Information Usage policy.  
<http://www.dbsa.org/informationusage/Pages/default.aspx>. Accessed  
 19 July 2009.

Acknowledgement in the text:

According to the Development Bank of South Africa (2007) public bodies are required to compile and publish ....

In South Africa public bodies are required to compile and publish ...  
 (Development Bank of South Africa 2007)

Note that usually it is not possible to give page numbers.

Sometimes periodical articles (newspaper, magazine and journal articles) are available electronically and in hard copy. When you cite these sources you give the details of the one you consulted. So, if you consulted the electronic version of an article then you will list the details for this format (see Figure 12.12).

#### ACTIVITY 12.2

Figure 12.12 is a page on the World Wide Web (called a web page).

1. Select the following information from the web page in Figure 12.12:
  - author(s)
  - date
  - title
  - format
  - URL
2. Now that you have identified the necessary elements you can compile the citation.

It is important that the URL is recorded accurately because if you make any spelling or punctuation errors, the correct information source on the Internet will not be found. URL addresses change frequently so it is important that the URL is cited correctly. You should also include the last modified date if it exists on the site. Also note that quite frequently the © date can be a range of dates such as 2004–2010. If this occurs you give the latest date. Figure 12.12 is an example.

FIGURE 12.12: EXAMPLE OF A WEB PAGE

The screenshot shows the website for Talk Radio 702. The header features the station's logo '702 TALK RADIO' and the slogan 'Your No. 1 News and Talk Station'. A navigation menu on the left includes links for '702 HOME', 'NEWS/SPORT/BUSINESS', 'ON AIR INFO', 'MY 702', 'WHAT'S ON?', '702 IN VIEW', 'COMPETITIONS', 'CONTACT US', and 'QUICKNAV'. Below the menu are sections for 'LINEUP', '702'S PRESENTERS', 'HEARD ON AIR', '702 eMAIL', 'TUNE IN', and '702 CLASSIFIEDS'. A 'PROUDLY SOUTH AFRICAN' logo is also present.

The main content area displays a headline: 'TALK RADIO 702 PRESENTER TO FILL UP BLOOD STOCKS' dated 'Thursday, 25 October 2007'. The article text reads: 'Talk Radio 702 is holding a blood drive to assist the South African National Blood Service (SANBS) in its effort to collect sufficient blood ahead of the festive season. The drive, taking place on Saturday, November 3, from 9am to 3pm, at the Mr Price court at Cresta Shopping Centre, was initiated by Talk Radio 702 presenter, Udo Careise, following a blood shortage SANBS experienced in September, 2007.'

Two quotes are included: 'I want to help SANBS to collect enough blood before December, when there is an increase in accidents and the usage of blood,' said Careise, who presents the Early Morning Breakfast Show, weekdays from 4am to 6am. and 'It is important that the country has enough blood in stock - one of our listeners might end up needing a blood transfusion over the holiday.'

The article continues: 'Deborah Forster, head of marketing for SANBS's Egoli Zone, said the support from a major radio station like Talk Radio 702 was of great importance to SANBS. "The radio station's listeners are known for being well-informed, community orientated and caring," she explained. "To collect sufficient blood remains an ongoing challenge. Talk Radio 702's support shows that SANBS is not alone in its quest to save lives."

The article concludes: 'Throughout the day, Talk Radio 702 will punt additional clinics where blood donors can donate blood. Blood donors are between the age of 16 and 65, weigh 50kg or more and lead a sexually safe lifestyle. For more information on the blood drive, contact Deborah Forster at (011) 877-4000.'

A 'Back to Press Centre' link is provided at the bottom of the article. At the very bottom of the page, there is a small footer: 'email webmaster c Primedia Broadcasting terms & conditions'.

FIGURE 12.13: ELECTRONIC PERIODICAL REFERENCE

In the reference list:

Machet, MP. 2003. Who reads what? Fiction reading by young people in South Africa. *Innovation* 26 (June). <http://www.innovation.ukzn.ac.za/InnovationPdfs/No26pp20-28Machet.pdf>. Accessed 20 July 2009.

## 12.6 Other types of information sources

When compiling a citation for other types of information sources, for example, a slide, picture, map, film, sound or video recording, you must ensure that each record includes the following elements:

- person(s) responsible for the content of the information source (if there are fewer than four who are principally responsible). For example, the photographer who took the photograph for the slide; the composer of a song or piece of music that has been recorded; the illustrator or artist who painted the picture. If you are unable to determine who is principally responsible enter the citation under its title.
- date
- title
- place of publication or distribution
- publisher or distributor
- format (slide, sound recording, video recording, picture, etc.)

Here is an example of a sound recording:

*Hail, gladdening light: music of the English Church*. 1991. The Cambridge Singers directed by John Rutter. Cambridge: Collegium Records. Compact disc.

## 12.7 Unpublished information sources

When you write a citation for an unpublished paper (such as a conference paper), your citation is very similar to a citation for an article in a periodical. Look at the example (Figure 12.14) of a citation for a conference paper, an unpublished information source you may need to use.

You need to include the following information:

- name of speaker(s)
- date
- title of presentation
- title of conference: Note that the title of an unpublished source is not underlined or italicised
- place of conference

These references are similar to articles, but they refer to papers given at conferences.

### FIGURE 12.14: CONFERENCE PAPER

In the reference list:

Dick. AL. 1992. The coexistence of orality and literacy: towards more understanding. Paper presented at the Symposium: Towards more understanding: the making and sharing of children's literature in Southern Africa, 6–12 September, 1992, Baxter Theatre, Cape Town.

Acknowledgement in text:

Dick (1992) stated that orality and literacy differed in various ways.

Orality and literacy differ in various ways (Dick 1992).

## 12.8 Government publications

If you cite a government publication it is important to include:

- the country, for example, South Africa
- department, for example, Department of Education
- date
- title
- place
- publisher

White Papers contain statements of government policy while Green Papers put forward proposals for consideration and public discussion. They are cited in the same way.

### FIGURE 12.15: GOVERNMENT PUBLICATIONS

In the reference list:

White paper:

South Africa. Ministry of Welfare and Population Development. 1994. White paper on population policy. *Government Gazette* 399(19230).

Green paper:

South Africa. Department of Communication. 2000. Green paper on e-commerce. *Making it your business*. Pretoria. Department of Communications.

Act of Parliament:

South Africa. 1996. Constitution of the Republic of South Africa, as amended in 1996. <http://www.polity.org.za/html/govdocs/constitution/saconst.html>. Accessed 25 January 2005.

Acknowledgement in the text:

According to the Department of Communication (South Africa. Department of Communication 2000:2) ...

The Constitution in South Africa stipulates ...(South Africa 1996)

You may come across examples of information sources that you need to include as citations in your writing, but that we have not given you any information about here. Try to find an example of a citation for that type of information source in your information from lecturers or institution. But if you do not find any information to help you, be as consistent and as complete as possible when compiling a citation.

## 12.9 Structure of a list of sources cited

In the list of sources cited, the citations (references) are given in one alphabetical order, even if you have used different types of information sources such as books, articles, chapters from collected works and electronic information sources. You list the citations alphabetically according to the surnames of the authors. If there is no author, you list by the title. You use the first word of the

title unless the first word is an article such as ‘A’, ‘An’ or ‘The’ (in which case you use the second word in the title).

### 12.9.1 Listing more than one source written by the same author

Sometimes you have the situation where you need to cite more than one source by the same author. If the sources are published in different years then the citation in the text is the same as in Figure 12.1. In the list of references the sources will be listed in chronological order with the oldest first. Figure 12.16 is an example.

#### **FIGURE 12.16: TWO OR MORE SOURCES WRITTEN BY THE SAME AUTHOR PUBLISHED IN DIFFERENT YEARS**

In the reference list:

Grbich, C. 1995. Male primary caregivers and domestic labour: involvement or avoidance? *Journal of Family Studies* 1(2):114–129.

Grbich, C. 1999. *Qualitative research in health: an introduction*. St. Leonards, NSW: Allen & Unwin.

However, if the sources are published in the same year then you add a, b, etc. after the date to differentiate between the two sources. Notice that the items are listed alphabetically in the reference list according to the title. See the example in Figure 12.17.

### FIGURE 12.17: TWO OR MORE SOURCES WRITTEN BY THE SAME AUTHOR IN THE SAME YEAR

In the reference list:

Pretorius, EJ. 2005a. ESL learner differences in anaphoric resolution: Reading to learn in the academic context. *Applied Psycholinguistics* 26:521–539.

Pretorius, EJ. 2005b. What do students do when they read to learn? Lessons from five case studies. *South African Journal of Higher Education* 19(4):790–812.

Acknowledgement in the text:

Pretorius states (2005b:791) that reading skills are essential for academic success

More and more universities are testing for reading because ... (Pretorius 2005b:791)

## 12.9.2 Listing works by an author who has some works in collaboration

When you compile your list of sources for an author who has written some works in collaboration with another author or authors, you must arrange these references after the references for the sources written by the one author alone.

### FIGURE 12.18: LISTING WORKS BY AN AUTHOR WHO HAS SOME WORKS IN COLLABORATION

Pretorius, EJ. 2002. Reading ability and academic performance in South Africa: are you fiddling while Rome is burning? *Language Matters* 33:169–196.

Pretorius, EJ & Machet, MP. 2004. Socio-educational context of literacy accomplishment in disadvantaged schools: Lessons for reading in the early primary school years. *South African Journal of Language Teaching* 38:45–62.

Figure 12.19 on page 220, is an example of a list of references.

**FIGURE 12.19: EXAMPLE OF A LIST OF REFERENCES**

- Behrens, SJ, Olën, SII & Machet, MP. 1999. *Mastering information skills*. Pretoria: Unisa Press.
- Bothma, T, Cosijn, E, Fourie EL & Penzhorn C. 2008. *Navigating information literacy: your information society survival toolkit*. 2nd edition. Cape Town: Pearson.
- Braman, S. 1998. The information society, the information economy, and South Africa. *Communicatio* 24(1):67–75.
- Coveney, P & Highfield, R. 1995. *Frontiers of complexity: the search for order in a chaotic world*. New York: Ballantyne.
- Grbich, C. 1995. Male primary caregivers and domestic labour: involvement or avoidance? *Journal of Family Studies* 1(2):114–129.
- Grbich, C. 1999. *Qualitative research in health: an introduction*. St. Leonards, NSW: Allen & Unwin
- Phillips, J. 1995. Poland: 10 years old, in *Children in the Holocaust and World War II: their secret diaries*, edited by L. Holliday. New York: Pocket Books:1–19.
- Pretorius, EJ. 2005a. ESL learner differences in anaphoric resolution: reading to learn in the academic context. *Applied Psycholinguistics* 26:521–539.
- Pretorius, EJ. 2005b. What do students do when they read to learn? Lessons from five case studies. *South African Journal of Higher Education* 19(4):790–812.
- Pretorius, EJ & Machet, MP. 2004. Socio-educational context of literacy accomplishment in disadvantaged schools: Lessons for reading in the early primary school years. *South African Journal of Language Teaching* 38:45–62.
- READ Educational Trust. 2007. Annual report. Johannesburg: READ Organisation.
- Snow, CE. 1993. Families as social contexts for literacy development. In *The development of literacy through interaction*, edited by C. Daiute. San Francisco: Jossey Bass:11–24.
- Stilwell, C, Leach A & Burton, S. 1999. *Knowledge, information and development: an African perspective*. Pietermaritzburg: School of Human and Social Studies, University of Natal.

### ACTIVITY 12.3

Put the following sources in correct order:

American Library Association. 1989. American Library Association Presidential Committee on Information Literacy: Final report. Chicago.

De Jager, K & Nassimbeni, M. 2002. Institutionalizing information literacy in tertiary education: lessons learned from South African programs. *Library Trends* 51 (2):167–179.

Paulson, FL, Paulson, PR & Meyer, CA. 1991. What makes a portfolio a portfolio? *Educational Leadership* 48:60–63.

Dick, A. 2002. South Africa's information industry and Mbeki's African Renaissance. *Mousaion* XX(1):23–42.

South Africa. Ministry of Education. 2001. *National plan for higher education in South Africa*. Pretoria. Ministry of Education.

Fourie, I & Van Niekerk, D. 2001. Follow-up on the use of portfolio assessment for a module in research information skills: An analysis of its value. *Education for Information* 19:107–126.

Fourie, I & Van Niekerk, D. 1999. Using portfolio assessment in a module in research information skills. *Education for Information* 17:333–352.

Leach, A. 1999. Introducing undergraduates to information retrieval at the University of Pietermaritzburg. *Innovation* 18:58–60.

Machet, MP. 2000b. What stories teach children. *The Sunday Times* 28 May:14.

Machet, MP. 2000a. Addressing problems of literacy in disadvantaged communities. *Language Matters* 33:1–24.

Callagher, L & Mitchell, L. 2004. Let me learn – time, place, and pace: Information literacy in a flexible learning environment. Unpublished paper presented at Lifelong learning: whose responsibility and what is your contribution? 3rd International Lifelong Learning Conference, Yeppoon, Central Queensland, Australia, 13–16 June 2004.

Sayed, Y & De Jager, K. 1997. Towards an investigation of information literacy in South African students. *South African Journal of Library and Information Science* 65(1):5–12.

Sayed, Y. 1998. *The segregated information highway: information literacy in higher education*. Cape Town: University of Cape Town Press.

Salisbury, F & Ellis, J. 2003. Online and face-to-face: evaluating methods for teaching information literacy skills to undergraduate arts students. *Library Review* 52(5):209–217.

## 12.10 Review

In this chapter we have discussed how to compile references and include these in a list of references at the end of an information task such as an assignment. Such references are referred to as citations, and the list is called a list of sources cited. Compiling correct citations and a list of sources cited is a very important aspect of writing at tertiary level. This can be a complicated and difficult task, but if you practise and work carefully, you will soon master the skills required for reference techniques.

It is important to remember that different departments in colleges or universities may have slightly different reference styles which they require their students to use. This is because different professional journals have different styles which they require from the authors who have their articles published in the journals. For this reason, the various subject departments want their students to know the style for their particular subject journals.

We use and discuss the Harvard method in this book because of its popularity but students of Psychology, for example, may use a different style for their courses (for example the American Psychological Association's style). Therefore it is very important for you to learn the particular style for your own courses. Check with the lecturers of your courses at your college or university.

## Answers to activities

### ACTIVITY 12.1

1. Clouse, BF. 1992. *The student writer: editor and critic*. 3rd ed. New York: MacGraw-Hill Inc.
2. Mitha, SB & Leach, A. 2006. Aids in South Africa: A bibliometric study on HIV/AIDS literature in South Africa from 1982 to 2002. *Mousaion* 24(2): 185–10.

### ACTIVITY 12.2

Primedia Broadcasting 2007. Talk Radio 702 presenter to fill up blood stocks. <http://www.702.co.za/press/brain.asp>. Accessed 10 September 2010.

### ACTIVITY 12.3

American Library Association. 1989. American Library Association Presidential Committee on Information Literacy: Final report. Chicago.

Callagher, L & Mitchell, L. 2004. Let me learn – time, place, and pace: Information literacy in a flexible learning environment. Unpublished paper presented at Lifelong learning: whose responsibility and what is your contribution? 3rd International Lifelong Learning Conference, Yeppoon, Central Queensland, Australia, 13–16 June 2004.

De Jager, K & Nassimbeni, M. 2002. Institutionalizing information literacy in tertiary education: lessons learned from South African programs. *Library Trends* 51(2):167–179.

Dick, A. 2002. South Africa's information industry and Mbeki's African Renaissance. *Mousaion* XX(1):23–42.

Fourie, I & Van Niekerk, D. 1999. Using portfolio assessment in a module in research information skills. *Education for Information* 17:333–352.

Fourie, I & Van Niekerk, D. 2001. Follow-up on the use of portfolio assessment for a module in research information skills: An analysis of its value. *Education for Information* 19:107–126.

Leach, A. 1999. Introducing undergraduates to information retrieval at the University of Pietermaritzburg. *Innovation* 18:58–60.

Machet, MP. 2000a. Addressing problems of literacy in disadvantaged communities. *Language Matters* 33:1–24.

Machet, MP. 2000b. What stories teach children. *The Sunday Times* 28 May:14.

Paulson, FL, Paulson, PR & Meyer, CA. 1991. What makes a portfolio a portfolio? *Educational Leadership* 48:60–63.

Salisbury, F & Ellis, J. 2003. Online and face-to-face: evaluating methods for teaching information literacy skills to undergraduate arts students. *Library Review* 52(5):209–217.

Sayed, Y. 1998. *The segregated information highway: information literacy in higher education*. Cape Town: University of Cape Town Press.

Sayed, Y & De Jager, K. 1997. Towards an investigation of information literacy in South African students. *South African Journal of Library and Information Science* 65(1):5–12.

South Africa. Ministry of Education. 2001. *National plan for higher education in South Africa*. Pretoria. Ministry of Education.

# 13

## The writing process: From notes to paragraphs

### Contents

- 13.1 Introduction
- 13.2 Prewriting
  - 13.2.1 Lecturer as an audience
  - 13.2.2 Re-read the question
- 13.3 Writer's block
  - 13.3.1 Brainstorming
  - 13.3.2 Mind mapping
  - 13.3.3 Explaining
  - 13.3.4 Different approaches to the topic
  - 13.3.5 Simmer in the subconscious
  - 13.3.6 Nutshell ideas
- 13.4 Organising your notes
- 13.5 Using an outline to help you plan
- 13.6 Writing the first draft
- 13.7 Review

Sources consulted

Answer to activity

### Outcomes

After studying this chapter you should be able to:

- use some prewriting techniques to overcome writer's block
- use various methods to organise your information in order to write it up
- write an outline
- write a first draft

## Key concepts

<b>classify</b>	to sort information, ideas, etc to put together those ideas that are similar or related
<b>outline</b>	a basic framework or plan
<b>prewriting techniques</b>	activities carried out before writing to help you to get ideas
<b>writer's block</b>	an inability to start writing

### 13.1 Introduction

In the previous chapters we have already focused on many of the prewriting activities necessary for writing an essay assignment. We have discussed the work plan and taking notes; evaluation of your information and ensuring your information is relevant to the topic. In this chapter and the next chapter we are going to focus on the main activities involved in the actual writing process including the prewriting activities, drafting, rewriting, organisation and structure, final editing and proofreading. We hope by giving you some pointers and showing the various techniques you will be better equipped to face this task and feel less anxious about writing an essay assignment.

Writing is not an easy process even for experienced writers. To write well you constantly need to reshape, refine, and rewrite. Inexperienced writers often write poorly because they do not realise that writing is not a linear process but requires constant reworking and revision of their initial ideas. In other words it is an iterative process.

### 13.2 Prewriting

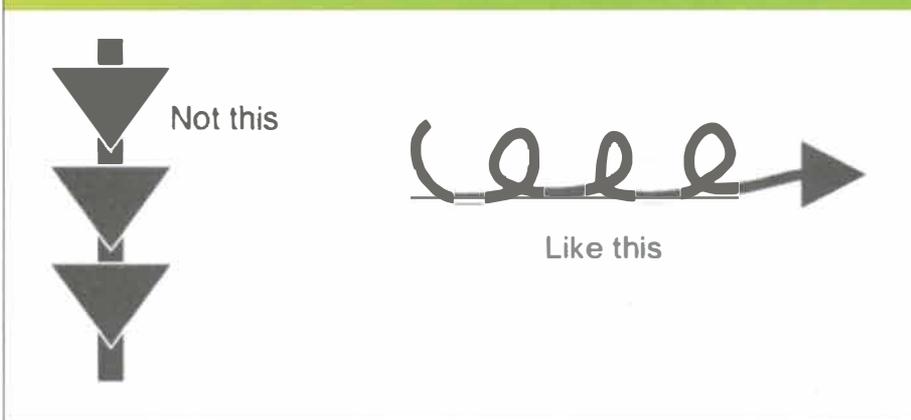
Prewriting activities are the processes you go through before you even begin writing. Prewriting activities give us a better idea of what we want to communicate, how we are going to say it and why we want to communicate it to a reader. In writing you need to first identify your audience and your purpose. These are both important prewriting activities that you need to do before you can begin writing.

Some of the important questions you need to ask yourself before beginning are:

- Who are your readers?
- What do they expect?
- What do they know about the subject?
- What special terms or concepts might you use that will have to be explained to your readers?
- What is the purpose of your writing?

Time spent in prewriting activities will not be wasted because these help you to make sure that you answer the assignment question, and are aware of your purpose and audience.

**FIGURE 13.1: THE WRITING PROCESS**



### 13.2.1 Lecturer as an audience

When you write an academic assignment it is a particular situation with particular requirements that have to be met. Although you know that the lecturer reading and evaluating your assignments is knowledgeable about the topic, you have to write as if he or she knows nothing about the topic.

Also your style must be suited to an academic audience. This means that you should write formally and use a formal tone. Academic arguments are based on logic rather than emotion and your tone should reflect this.

Lecturers see the purpose of written assignments as testing the extent to which you have understood the contents of the course or a particular section of the course. They are looking for clarity, conciseness and relevance. This is more important to them than correct spelling and grammar although these will obviously contribute to the final product. If you understand what lecturers are expecting you will be able to write more effectively for your audience. A successful assignment will be more than informative; it will show the reader you know what you are talking about.

### FIGURE 13.2: EXAMPLE OF ACADEMIC WRITING

Organising sources promotes both the retrieval and the utilisation of the information. The way in which sources are organised should be determined by the users – their information needs, interests, applications, searching habits, as well as their thinking. The first step in organising sources in an information service such as a library is description, that is, cataloguing. When cataloguing a book one is concerned mainly with identifying details that appear on the title page: title, author, edition, place of publication, publisher, date of publication.

#### ACTIVITY 13.1

Rewrite the following paragraph in a style suitable for an academic audience.

I don't believe that censorship is a good thing. Why should someone else decide what I should or should not be allowed to read or watch? Some people say that books and films that deal with violence or pornography can have a bad effect on people but I've never seen any proof of this. People who read porn may commit crimes but they usually come from broken families or have other problems, so who can say that it's from their reading? Who is to say that the censors are better judges than I am? Anyway libraries are supposed to promote access to information not to prevent people from reading books or magazines just because they don't agree with the author.

### 13.2.2 Reread the question

One of the most important prewriting activities is interpreting the question or essay topic. You will already have done this when you wrote your work

plan but it is a good idea to read the question carefully again before you begin writing. An important part of determining your purpose is ensuring that you understand the topic and what you are being asked to do.

- Read the assignment question carefully. After your reading on the topic and taking notes you will have a much better idea of what the topic is about.
- Look at your interpretation of the topic in your work plan again. After your reading you may wish to rework this.
- Look at the keywords and concepts in the assignment question again. These will help you to focus on the central core of the question.
- Take note of the verbs that indicate what you are required to do.

Although you did this when you wrote your work plan it is important that you keep these requirements in mind when you begin your actual writing of the assignment.

Once you have done this then you need to ask yourself the following question: Do I know enough about this subject, or do I need to know more about it? You may find that you are not yet ready to write on the subject and need to read and think more about it.

## 13.3 Writer's block

Writing is a creative task and we all approach the writing task differently. This is because each person is unique and has his or her own way of thinking. Many of us when faced with a blank piece of paper suffer from something called writer's block. We simply do not know how to get started and will do anything to avoid facing that paper. We are going to suggest some prewriting exercises and techniques which will help you to develop ideas and get going. After you have tried a few, you will find one that suits your method of writing best.

### 13.3.1 Brainstorming

One way to get started is to brainstorm. You direct your thoughts towards the topic and let your mind go off at tangents. You try to think laterally rather than linearly. You can start in the middle, at the end or at the beginning of the topic. Write down keywords, phrases, ideas as they come to you. You can write your ideas down in the form of a list or a mind map. Do not try to structure them or worry whether they are good or bad ideas at this point. It does not matter how stupid an idea seems, you still write it down. You only read through your ideas, evaluate them and sort them after you have finished

the brainstorming session. Brainstorming often helps to give us direction and releases our creative ability.

### FIGURE 13.3: EXAMPLE OF BRAINSTORMING LIST

Topic: Write an essay on Mandela as President  
 Release from prison  
 Negotiations with Pres de Klerk  
 Mandela's inauguration  
 World Cup (rugby) impact – Did it make a difference  
 TRC – what was Tutu's role? – Did it achieve what  
 was hoped?  
 HIV / AIDS  
 Troops to Lesotho  
 Role in Lockerbie  
 Achievements

As you can see from this example, one idea often follows from another. This is more likely to happen if we let our minds run freely over the topic.

### 13.3.2 Mind mapping

Mind mapping is also a good way of getting started. Write the main topic in the centre, circle it and then draw lines radiating from this topic for the main subdivisions of the topic. Repeat the process again with the subtopics and details until you have exhausted each of them.

### 13.3.3 Explaining

Try to explain to someone the main ideas of what you will be covering in your assignment. Explain the important points. If there is no-one whom you can do this with, have an imaginary conversation with yourself. Try to write it down. If you get stuck then you know you need to read some more on the topic.

### 13.3.4 Different approaches to the topic

You can attempt a different approach to the topic than the one required in the assignment to help get you going. Try any or all of the following:

- describe it
- compare it to something
- associate it with something
- tell how it is made
- apply it
- argue for or against it
- look at the subject from a different point of view
- use a different vocabulary

### 13.3.5 Simmer in the subconscious

You can rest and let your unfinished thinking simmer at the back of your mind for a while. We all need time to think about and understand new material. Sometimes it is a good idea to give yourself a chance to assimilate (absorb, digest) what you have learned before writing about it.

### 13.3.6 Nutshell ideas

Compress or condense your ideas. Reduce them to a few sentences in which the whole substance of the assignment is laid out.

## 13.4 Organising your notes

Once you have collected your information and made notes it is easy to think that the job of discovering the content is over. But it isn't. You must now begin to explore and organise your material, try to understand what the facts and ideas really involve, how they relate to each other and in particular how they relate to the topic. In other words, your notes have to be organised.

We have already spoken about organisation when we discussed note-taking and text-mapping. Now we are going to discuss organising your notes for the purpose of answering an assignment question. In organising your notes, you need to classify and sort them.

You already do a great deal of this type of organisation in your everyday life, for example, making out a shopping list. You will make a list of groceries and try to group things together to make it easier to find items on the list. You will list all the cleaning materials you need, then fruit and vegetables, then toiletries. You will perhaps add other errands that you need to do so you don't forget.

Organising notes by sorting and classifying is a logical thinking process. It is based on our ability to see relationships among things, people, places, ideas and events. To group together enables us to organise information. In your work plan you will have interpreted your assignment topic and already identified relevant headings and subheadings. It is now important that the information that is similar or related is now brought together on your work plan. Each aspect will then form a paragraph or subsection of your assignment.

As discussed there are various ways of taking notes: for example, in a work plan, on cards, in a notebook, or on a computer. However, irrespective of which method you have used the first two steps in organising your notes are the same:

- Read through the notes and try to get an idea of the main points keeping our topic in mind.
- Read through your mind map, brainstorming or other techniques you used to help you identify main aspects of the topic.

You are then able to work on your outline and to identify subheadings that you can list under our main headings. Once you have organised your notes you will also have a good idea of whether or not you have enough information to write an assignment of the required length and depth. You may find that you do not have enough information on certain points and need to go back to find more. Perhaps there are terms you need to define. You also may find there are some aspects that you do not clearly understand and you need to do more reading on them.

## 13.5 Using an outline to help you plan

An outline is a general plan or framework for the assignment listing all the main sections in the order that you will discuss them. You should have worked out the main aspects or headings on your work plan. However, you need to look at this outline critically and add subheadings where required before you begin your first draft or change the order in which you will discuss various aspects. An outline helps you to organise your information because you are now listing the main aspects of the topic in the order in which you will discuss them. An outline can also be a way of breaking writer's block. It is always easier to start if you have a plan and know where you will begin.

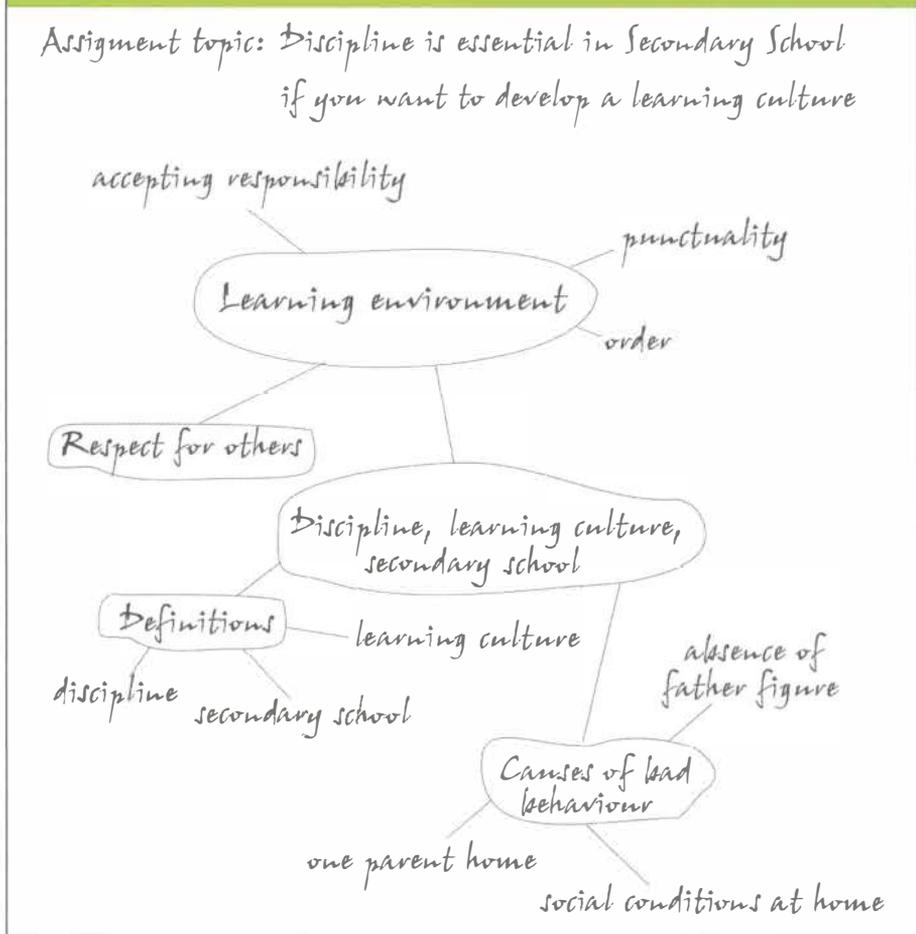
**FIGURE 13.4: EXAMPLE OF AN OUTLINE**

Topic: Discuss the advantages and disadvantages of banning smoking in restaurants in an essay of approximately 2 000 words.

1. Introduction
2. Reasons why restaurants are reluctant to ban smoking
  - 2.1 Smokers may decide not to come to restaurants in which smoking is banned
  - 2.2 Few people complain about smokers in restaurants
  - 2.3 It may be difficult to enforce
  - 2.4 Smoking is a social activity enjoyed by many people
  - 2.5 Smokers drink more alcohol
3. Reasons why restaurants support banning smoking
  - 3.1 Smoke interferes with the aromas of the food
  - 3.2 Smoking can spoil the meal for non-smokers
  - 3.3 Secondary smoking is harmful to people's health
  - 3.4 Ash and nicotine stains dirties tables, floors and furnishings
  - 3.5 Waiters have to constantly empty ashtrays which can slow down service
4. Evaluation of the advantages and disadvantages
5. Conclusion

When determining whether an idea is a main topic or a supporting point for a topic (that is, a subtopic), you need to identify whether or not it adds a new idea of equal value to the other main topics or if it instead supports or explains an idea already stated. If it supports or explains an existing idea, then it should be a subtopic of that topic.

An outline can be done in the form of a text map, mind map, organisation diagram, table, flow chart or any other form of outline that will help you organise your ideas and material.

**FIGURE 13.5: EXAMPLE OF AN OUTLINE AS A MINDMAP**

When you wrote your work plan you developed an outline and have been adding to it and rearranging it as you go along. But keep in mind that this outline is still only a tentative framework. When you begin to write, you may find you want to move certain things around or add some aspects you had not originally thought of. An outline can be changed at any time during the writing process. You do not need to stick to your outline if you find more points you wish to include, or if you want to rearrange the order in which you discuss topics.

You can use your outline as a draft table of contents which you may need to include as part of our assignment.

## 13.6 Writing the first draft

You are ready to begin with your first draft once you:

- have decided on the purpose of writing
- have identified your audience
- are sure you have enough information and
- have written your outline

To make sure you have gone through all the necessary prewriting steps answer the following questions:

- Who is my audience?
- What is the subject?
- What do I want them to know about the subject?
- What main point will my writing make about the subject?
- What facts, details, can I use to illustrate or defend my point of view?
- What will my general approach be?
- What topics will my assignment cover and in what order?
- How much do I want to say – am I writing a paragraph, essay or report?
- What order do I want to present my ideas in?

In your first draft you should not worry about spelling or grammar. The point of the draft is to get your ideas on paper. You can then reorganise and polish what you have written in later drafts. The most important thing is to write, because once you have something down on paper, it is easier to organise it, work on it and polish it.

You do not have to start at the beginning and write an introduction or begin with the first point on your outline. You may find it easier to start in the middle with a part of the assignment that you know the most about or which you think is the simplest section and then work up to the more difficult areas.

Writing does not normally progress in an orderly manner. Your initial outline may change as you work through it and you develop new ideas or perspectives on the topic. The process of writing should enable you to discover new ideas and new ways of expressing what you really want to say. As you write you will find that your ideas clarify, that you find a new way to look at the topic. You should always give yourself sufficient time for this.

## 13.7 Review

In this chapter we have discussed the importance of being sure that you understand what is required in the question. We have also discussed prewriting techniques such as brainstorming that can help you with writer's block. We then discussed the importance of organisation. This involves sorting and classifying your notes so that you can identify paragraphs, sections and subsections in the essay. In addition, writing an outline was discussed as part of organisation as this not only helps you to plan what you will include in the essay but is also an important means of organising the content. Finally we discussed the first draft in which you need to focus on getting your ideas down rather than writing correctly.

In the next chapter we will discuss the form of an academic essay, logical organisation of content, editing and proofreading.

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## Answer to activity

In order to rewrite the given paragraph so that it is more academic you need to use a formal style and omit emotional statements. For example:

Librarians should not practise censorship. A library's role is to make information accessible and censorship is the restriction of access to information, often on the basis of personal judgement that the book or video is harmful. Yet there is no conclusive evidence of a causal relationship between watching certain videos or reading certain books and acts of violence or sexual assault. Censorship is paternalistic as it assumes that certain individuals are better able to judge what is harmful to society than the average person.

# 14

## Finalising your writing task

### Contents

- 14.1 Introduction
  - 14.2 Rewriting
  - 14.3 Form of the essay
    - 14.3.1 Table of contents
    - 14.3.2 Introduction
    - 14.3.3 Body
    - 14.3.4 Conclusion
    - 14.3.5 List of sources cited
  - 14.4 Organisation and structure
    - 14.4.1 Paragraph structure
      - 14.4.1.1 Topic sentence
      - 14.4.1.2 Supporting evidence
      - 14.4.1.3 Important points about paragraphs
      - 14.4.1.4 Unity and coherence
    - 14.4.2 Logical order
      - 14.4.2.1 Cause and effect
      - 14.4.2.2 Comparisons and contrasts (similarities and differences)
      - 14.4.2.3 Chronological order (time sequence)
      - 14.4.2.4 General to particular or particular to general
  - 14.5 Acknowledging your source
  - 14.6 Editing checklist
  - 14.7 Proofreading
  - 14.8 Review
- Reference  
Answers to activities

### Outcomes

After studying this chapter you should be able to:

- structure a typical academic essay
- write a good introduction
- write a good conclusion
- construct a cohesive paragraph
- choose from the various types of logical order that you can use in an essay
- avoid some of the common mistakes that students make in writing assignments and correct these mistakes if you find them in your own writing
- edit and proofread your own writing

## Key concepts

<b>coherence</b>	organising your text so that the audience is able to follow the line of reasoning easily
<b>cohesion</b>	the joining of sentences using linking words or phrases
<b>editing</b>	reading your draft carefully and making required alterations to ensure that the structure is logical and coherent, and that grammar, spelling and punctuation are correct
<b>focus statement</b>	a statement in the introduction that contains the central idea that will be developed in the essay
<b>logical order</b>	information organised in such a way that the one idea connects to the next idea so that it forms a chain of reasoning
<b>paragraph</b>	a set of sentences all dealing with the same general idea and linked together in a smooth sequence
<b>proofreading</b>	reading your final work as a reader, not as a writer, for spelling and grammar mistakes
<b>unity</b>	consistency of tone and theme

### 14.1 Introduction

In the last chapter we discussed the first part of the writing process. We covered prewriting activities, organisation of notes and writing the first draft. For many students the first draft is the last draft – it is the copy of their assignment that they submit which is why they often receive poor marks. In this chapter we continue discussing the writing process. We discuss rewriting the first draft so that it is in the required form for an academic essay. We also look at the structure of a coherent paragraph, logical order and finally editing and proofreading. These are all the different processes we need to go through if we want to write well.

Many of us think that writing should come easily and naturally. This is not correct. Even the most experienced writers often struggle to put their thoughts down on paper and organise them logically. In order to achieve the final product, they will write and rewrite a number of times. The first draft is never the last draft. The first draft is the one we write for ourselves – the

one that helps us find out what it is we want to say, to get our ideas on paper so that we can react to them. This draft will be written without thoughts of grammar, spelling or even logical organisation. It is almost a form of talking to ourselves. The final draft, the one we submit, is one in which we have written for the reader. We will have taken into account how to organise it the best possible way so that our readers will understand what we are trying to communicate, and we will have checked layout, spelling and grammar so that the text flows smoothly.

## 14.2 Rewriting

All good writers revise what they have written. Rewriting involves cutting, sifting, rearranging and polishing in order to make our writing more effective. As part of the process of rewriting we need to analyse our draft by looking at broad features such as the standard form of the academic essay, paragraph structure and logical order. We are going to examine each of these features with the aim of helping you to rewrite effectively.

## 14.3 Form of the essay

When we rewrite our first draft we need to write it in the correct essay form. Academic essay writing has a typical pattern consisting of the parts indicated in Figure 14.1.

### FIGURE 14.1: FORM OF THE ESSAY

Table of contents
Introduction
Body
Conclusion
List of sources cited

### 14.3.1 Table of contents

The table of contents includes all the headings and subheadings we have used in the essay. Usually the headings are numbered using Roman numerals (1, 2, 3 ...). Subheadings are indicated by using the main number plus a decimal

point (1.1, 1.2, 1.3 ...). Look at Figure 14.2 for an example of what a table of contents should look like.

### FIGURE 14.2: EXAMPLE OF A TABLE OF CONTENTS

#### History of Numbers

1. Introduction
2. Symbolisation
3. Origin of numerals
  - 3.1 Middle East
    - 3.1.1 Mesopotamia
    - 3.1.2 Egypt
  - 3.2 China
  - 3.3 Greece
4. Numerical systems
  - 4.1 Egyptian numerical system
  - 4.2 Mesopotamian numerical system
  - 4.3 Greek numerical system
  - 4.4 Indo-Arabic numeral system
5. Conclusion
6. List of sources cited

### 14.3.2 Introduction

The introduction leads readers into the subject and points them in a specific direction. The introduction should contain a focus statement. This statement should contain the central idea that will be developed in the essay.

The introduction can be divided into two sections:

- An outline of the topic being discussed: this briefly introduces the reader to the topic and identifies the main issues and problematic aspects of the topic.
- An indication of the direction the discussion will take.

Here are some hints that may be helpful:

- In an opening sentence, introduce the general subject of the essay or assignment.
- Give the reader an indication of what is intended by briefly writing what the line of argument will be, or the perspective from which the problem will be examined.
- Indicate the order in which the discussion will be presented to enable the reader to anticipate what you plan to show or argue or discuss. For example, 'I shall first look at ....'
- Try to create interest, for example, begin with a controversial statement.
- Give any background information the reader needs to understand what you are talking about. Sometimes the background information is only a recap of information already known by the reader. It will still establish a common ground of understanding between you and your reader.
- Keep the introduction short and to the point.
- The introduction should also include a focus or purpose statement that tells the reader quickly and concisely what your ideas are. For example: The purpose of this study is to establish the relationship between the distance a person is from a library and their usage of the library.

### FIGURE 14.3: EXAMPLE OF AN INTRODUCTION

Topic: Evaluation of information from the Internet

**Background information:** With the advent of the Internet large amounts of information have become available at the push of a button. However, there is no controlling body that evaluates information before placing it on the Internet. Many people, companies and associations place information on the Internet for a variety of reasons: some to inform but others to misinform or to sell products. Therefore one has to be wary when obtaining information from the Internet.

**Focus statement:** Information obtained from the Internet using a search engine such as Google needs to be evaluated for accuracy.

**What the essay will cover:** In this essay I will be discussing the various ways in which information can be evaluated so as to ensure the information is reliable. I will also give examples to illustrate my discussion.

### ACTIVITY 14.1

Look at the following introductions and decide which ones have good focus statements and why:

1. Although a large amount of research has been done abroad on the effect of free voluntary reading on language acquisition and development of English Second Language learners (ESL), very little research in this field has been done in South Africa. The researchers thought it was important to do a research project of this nature now as education systems and curricula are being changed and new effective teaching methods are being sought. The aim of this research project was to establish the effect of free voluntary reading of English books by black pupils in primary school on their English second language acquisition and comprehension (Olën & Machet 1997:85).
2. Libraries are social institutions. As such they are influenced by what happens in society and also have an influence on society. Library history cannot therefore be studied in isolation. It is an aspect of general history which needs to be studied within the context of general history. Thus I will discuss the development of the public library in Britain against the background of industrialisation, increasing literacy and urbanisation.

### 14.3.3 Body

The middle section of the essay is usually called the body. You do not use the word 'body' as a heading in the essay. In the body of the essay you explain, illustrate or discuss the topic. You will give supporting evidence for what you have asserted in the introduction. The body can be divided into as many parts or sections as are necessary. In an academic essay you use headings and subheadings to indicate different divisions or aspects of the topic. This helps you to structure your arguments systematically.

### 14.3.4 Conclusion

A conclusion is written at the end of the essay. It is relatively short and states the implications of the discussion, links the discussion to broader issues and summarises the most important points in the text. You should use words to indicate you are ending, such as 'finally', 'thus', 'to summarise'. A good conclusion leaves the reader feeling that everything promised in the introduction has been said.

A conclusion may:

- summarise the main ideas or points made in the essay
- interpret the discussion or explain why the discussion is important and what it suggests
- take the reader from the particular to the general
- A conclusion should never contain any new material that has not already been mentioned in the essay.

### **14.3.5 List of sources cited**

Academic essays in which you are writing up information usually require textual references and a list of sources cited or a bibliography. You must include all the sources that you have referred to in your essay in this list.

There are various methods of listing these sources which we discussed in Chapter 11 so we will not discuss them here again. It is important to use the same method consistently throughout your essay. Your list of sources cited should be in alphabetical order.

## **14.4 Organisation and structure**

When you rewrite your first draft, you need to look at the organisation and structure of your text. This is important because you will not have paid attention to this in the first draft. The main reason you need to organise and structure your writing is so that it is coherent. Coherence means organising your text so that your readers are able to follow your line of reasoning. The reader needs to be able to anticipate what is coming. In order for this to happen the structure of the text must follow a logical pattern that fulfils the reader's expectations.

For a text to be coherent it must have the following:

- the linking of sentences
- unity or sticking to the point
- direction markers for readers to help them follow the discussion
- paragraphs constructed with a topic sentence and then giving supporting evidence

## 14.4.1 Paragraph structure

As we mention above an important part of coherence is constructing the paragraphs in a certain way. The basic unit of writing after the sentence is the paragraph. It is the building block of any form of writing. A paragraph is a set of sentences all dealing with the same general idea and linked together in a smooth sequence. Each paragraph should deal with a single subject and the sentences need to be relevant to the subject and connected in a logical manner. When a new point is going to be discussed you indicate this to the reader by starting a new paragraph. This is because a paragraph represents a unit of thought.

In order to build paragraphs that stick to one subject each paragraph should have a topic sentence which tells the reader what the subject of the paragraph is. The other sentences in the paragraph give evidence to support this statement or expand the topic and may include facts, examples, illustrations, definitions or explanations.

It is also important that there are links between one paragraph and another.

### 14.4.1.1 Topic sentence

A topic sentence contains the main idea of that particular paragraph; it presents the point the paragraph will deal with. The topic sentence should be a general statement which is usually offered as a truth. This statement will be supported with evidence in the paragraph. The topic sentence usually appears at the beginning of the paragraph but this is not a hard and fast rule and it may appear anywhere in the paragraph.

Explicitly stating your main idea is useful because:

- it helps you as a writer to focus on what you want to say
- it helps the reader know the direction you are taking and makes it easier to follow your line of thought
- each topic sentence must be relevant to the essay topic or theme

### 14.4.1.2 Supporting evidence

If you wish to inform or persuade your reader then you cannot simply make a general statement and expect the reader to accept it. You must support your topic sentences with detail, argument and/or expert opinion. This support or substantiation is called evidence. Supporting evidence for your topic sentence can take a number of forms depending on what you are discussing. You can use facts, reasons, details, examples or expert testimony. Specific rather than general ideas or facts should be used as supporting evidence. As well as being adequate, your supporting evidence must also be relevant. This means that

every piece of supporting evidence that you put in a paragraph must clearly relate to the topic sentence of that paragraph.

When you decide which information to include as support of your main idea in a paragraph, you need to ask yourself the following questions:

- What details best fit the main idea?
- Which details are the most interesting?
- Can I present or interpret each of these details so that it clearly helps to explain or prove or develop my main idea?
- Is the supporting evidence adequate to convince the audience of the point I wish to make?
- Is my supporting evidence relevant?

### 14.4.1.3 Important points about paragraphs

- Paragraphs have two parts: the topic sentence and supporting detail.
- The topic sentence tells us what the paragraph is about. It can appear anywhere in the paragraph but is usually placed first.
- Supporting evidence in the paragraph develops the point made by the topic sentence.
- There must be sufficient supporting evidence. The supporting evidence must be relevant to the topic sentence.

#### FIGURE 14.4: EXAMPLE OF A TOPIC SENTENCE AND SUPPORTING EVIDENCE

Topic sentence: Durban is a good place to go on holiday

Supporting evidence:

- The weather is warm most of the year
- There are many hotels to stay in
- There is a safe beach with life guards
- There are shark nets to ensure safe bathing
- There are numerous facilities in Durban such as an amusement park, movie houses and shops

Irrelevant detail: Durban has a conference centre.

### 14.4.1.4 Unity and coherence

As well as having the required structure of a topic sentence and supporting evidence, a paragraph needs to have coherence and unity. Unity means oneness. You need to have one subject, one attitude and one tone. The key to unity is to focus on the subject and not jump from one idea to another. You unify a paragraph or essay by giving it logical focus and direction. A unified paragraph will have a topic sentence and related, relevant supporting evidence.

Coherence requires you to connect sentences and give directional signals to guide the audience in the direction that you want them to go. There are a number of methods of making your writing coherent. The following are some of the more important ways:

- Use a consistent point of view.
- Use pronouns rather than repeating the same noun a number of times. For example: ‘The Smiths locked the door. They then went to their car.’ The paragraph has more coherence because we used the pronoun ‘they’ instead of ‘The Smiths’ in the second sentence.
- Try to repeat keywords.
- Use chronological order when describing time-related events.
- Use transition words and phrases such as but, consequently, however, although, therefore to link sentences and ideas. The progress from one sentence to the next is clearer to the audience if we include transitions or links.

#### FIGURE 14.5: EXAMPLE OF A COHERENT PARAGRAPH

- (1) Recently, scientists proved that our ‘present’ universe started fifteen billion years ago with a big bang.
- (2) This big bang started with a ball of matter millions of times smaller than a marble and grew to be a ball of matter billions and billions times bigger than that same marble – which we all appreciate because we now have enough room to move around in.
- (3) A little while after this explosion, some matter cooled and before you could blink your eyes we had a solar system.
- (4) The conditions on earth were right so life evolved.
- (5) After another short space of time intelligent life evolved – homo sapiens or ‘wise man’ who immediately went about trying to destroy his environment.

Have a look how this paragraph is connected to give it unity and coherence. In sentence (1) the topic of the big bang is introduced. Sentence (2) is connected to and expands on (1) by using a concept already introduced in (1), namely, the big bang. Sentence (3) also is connected to (1) and (2) by the concept of explosion which relates back to big bang. You are also given direction by the connecting phrase 'A little while after'. This is a logical progression of time. The progression of time is carried further in sentence (4). The word 'so' also gives a logical connection. In sentence (5) the connection to (4) is made through time progression again 'After another short space of time'. It also refers back to evolution mentioned in the previous sentence.

As you can see in this example, in order for a paragraph to be coherent, there should be links to previous sentences through subject matter and connecting words, such as 'a little while after', 'so', 'after'. There also needs to be a logical progression. This can be a time progression as in the example but it can also be explanations, examples, definitions, illustrations and so on. A paragraph also needs a consistent focus, tone and style.

The following activity gives you a chance to practise some of the skills you need to write a good paragraph.

### **ACTIVITY 14.2**

1. Identify the connecting words in the paragraph below:

Vitamin D has long been known to be critical to bone and muscle health. The skin makes vitamin D when exposed to sunlight, but not everyone spends the necessary five minutes a day in the sun. This problem is very serious in children because school hours have become longer and fewer children are playing outdoor games or sport.

2. Identify the focus sentence in the paragraph below:

The movie 'Jaws' did irreparable damage to the great white shark's image. In this movie the shark was represented as a ferocious man-eating monster. While these sharks are vicious carnivores, they do not usually have a taste for human flesh. People are more likely to get bitten by a dog than be attacked by a shark while swimming.

3. Write a paragraph where you give supporting evidence for the following topic sentence, paying special attention to aspects that will give your paragraph unity and coherence:

Schooling should be provided free for all children as a human right.

**Cont.**

4. Write a topic sentence for the following supporting evidence:  
It is important to be aware of the human causes of global warming in order to prevent making it worse. There are natural conditions that contribute to global warming but people are unable to control those. However, we have the opportunity to change the way we do things or invent new ways to do things that increase global warming.
5. Join the sentences below and put in connecting words and phrases so that they make a coherent paragraph:

Yvonne Chaka Chaka was born in Dobsonville.  
Dobsonville is a suburb in Soweto.  
Yvonne Chaka Chaka was born in 1965.  
Yvonne Chaka Chaka is one of South Africa's best loved singers.  
Yvonne Chaka Chaka is called the 'Princess of Africa'.  
Her father was a musician.  
Her mother was a domestic worker.  
Yvonne Chaka Chaka began her recording career at the age of 19 in 1985.  
Yvonne Chaka Chaka was discovered in Johannesburg by Phil Hollis.

## 14.4.2 Logical order

When you wrote your first draft, you did not need to decide on how you were going to organise your content. Often it is only possible to find the best order for what you want to say as you are writing it. However, when you rewrite, you need to pay attention to logical order. This means that you need to check that your paragraphs are organised logically in an essay. This is an important aspect of rewriting. Logical order requires you to organise information in such a way that the one idea connects to the next so that it forms a chain of reasoning. A good way to check an essay for logical order is to take the topic sentence of each paragraph and see if they follow a logical progression. If not, they need to be re-organised.

Different types of content need different types of organisation. The form you choose will depend on your content and preference. There are a large number of ways that you can order information logically. We will only discuss the most common used in writing up information.

### 14.4.2.1 Cause and effect

In a cause and effect type essay you can begin with the causes (reasons) and then discuss the effect (result) or you can begin with the effect(s) and

then discuss the reasons. For example, if you have an essay requiring you to discuss the high crime level in South Africa, you can begin by discussing the high crime level and then discuss the reasons for this (poverty, unemployment, etc.). Alternatively, you can discuss the social conditions that have caused it first and then show why this has resulted in a high crime level in South Africa.

### **14.4.2.2 Comparisons and contrasts (similarities and differences)**

When you compare you will be looking for similarities and differences whereas when you contrast you only discuss the differences. There are two ways in which you can structure this kind of essay. You can deal entirely with the one thing and then entirely with the second. Then write one or two paragraphs dealing with the similarities and differences. Alternatively, you can discuss each characteristic and then point out how it is similar or different.

For example, in an assignment that requires a discussion of whether cats or dogs will make better pets you can use one of two methods. According to the first method you will discuss cats and then discuss dogs. Finally, you will indicate their similarities and differences as a pet and then conclude which will make the better pet according to the criteria you have used. If you use the second method, you will begin by identifying a set of criteria that make an animal a good pet, discuss each criterion and then state whether a cat or dog meets the criteria best.

### **14.4.2.3 Chronological order (time sequence)**

Chronological order is a good way of organising your text if you are discussing something that took place within a particular period of time. For example, if you wanted to describe the election and inauguration of President Obama you can start by describing the build up to the primaries, the election and then the inauguration. By describing each event as it took place chronologically you provide an easy to follow structure for your readers. It also helps you as it is easy to see gaps of time in the structure and if anything important has been left out. If you use chronological order you do not have to start at the beginning. You may choose to start at the end and explain the events that led up to the final conclusion. For example, you could start with President Obama's inauguration and then discuss the various events that preceded it such as his career as a senator, the elections and so on. This type of organisation is good for the following types of writing:

- descriptions of the structure of something or how it works
- descriptions of changes or actions over a period of time
- descriptive texts (what something looks like, feels like, etc.)

### 14.4.2.4 General to particular or particular to general

In this arrangement you start with a general statement and then move to the particular or vice versa. For example, you can start with the statement: 'Cats make very good house pets'. Then you can move to the particular indicating why you make the statement, for example, they are clean etc. Alternatively you can start by discussing the particular characteristics of cats and then generalise that based on these particulars they make very good house pets.

## 14.5 Acknowledging your source

When you write up information in the form of an academic essay it is essential to acknowledge your source of information. There are various methods of acknowledging a source. We use and describe the Harvard reference technique in this book (refer to Chapter 11) but any method is usually acceptable so long as it includes all the essential elements and you apply it consistently. The full bibliographical details of the source will be given in your list of sources cited at the end of the assignment.

## 14.6 Editing checklist

After putting your essay in the correct format, checking your paragraphs for coherence and unity, and structuring your essay in a logical order you need to edit your draft. When we edit we try to read our work as a reader rather than a writer. It is a good idea to put your work on one side for a while before you edit it as this time and distance will make it easier to read as a reader. Keep in mind your audience and purpose when you edit.

- **Focus:** Every essay must have a strong distinct focus. Check that each paragraph adds to the theme.
- **Be concise:** Search for everything you can eliminate. Are you adding unnecessary additional information that will only confuse your audience and distract them from the central focus of your essay?
- **Structure:** Look at the order in which you present information and the amount of space you devote to a particular aspect in relation to the whole essay. Does your essay have a clear pattern of development?
- **Coherence:** Have you used guide words or phrases to link sections and indicate direction? Are your paragraphs linked? Have you used transitional sentences? Check each paragraph for unity and coherence. Do the points you make support your topic sentence?

- **Clarity:** Look at passages your reader may not understand. Have you overloaded sentences – put too much into them? Is your phrasing confused?
- **Grammar:** Have you checked grammar, spelling, vocabulary, sentence structure and punctuation?
- **Table of contents:** Are all headings that you used in your essay also included in the table of contents? Is the wording of the headings the same as the wording you have used in the essay?
- **Introduction:** Is the topic sufficiently narrowed and is the introduction appropriate for your subject matter, audience and purpose?
- **Conclusion:** Is your conclusion interesting? Does the ending follow? Have you included any new material in your conclusion?
- **List of sources:** Check the list of sources cited. Is every source you cited included in the list? Are your sources listed in alphabetical order? Are the textual references correctly formatted?

## 14.7 Proofreading

Proofreading is the final stage in writing. After you have completed writing your final draft and then appraised your completed task, you need to read through it carefully for any final spelling, grammar or punctuation mistakes. It is a good idea to read the essay aloud as very often we see what we think ought to be there. When we read aloud we listen to what we are saying and it is often easier to pick up mistakes.

When you have finished proofreading, made the necessary changes and your essay is neatly copied or typed, it is ready to be submitted.

## 14.8 Review

Writing an essay is a lot of hard work and the processes that you need to go through may seem intimidating. However, if you want to achieve high marks for your essay assignments you need to make the effort. It may be difficult at the beginning but with practice it becomes easier.

## Reference

Olën, SII & Machet, MP. 1997. Research project to determine the effect of free voluntary reading on comprehension. *South African Journal of Library and Information Science* 65(2):85–92.

## Answers to activities

### ACTIVITY 14.1

Both these introductions have good focus statements. In the first one the focus statement is 'The aim of this research project was to establish the effect of free voluntary reading of English books by black pupils in primary school on their English second language acquisition and comprehension'. This is a good focus statement because it tells

the reader precisely what the aim of the research is. In the second one the focus statement is 'Library history cannot therefore be studied in isolation. It is an aspect of general history which needs to be studied within the context of general history'. This focus statement is a good one because it gives a clear indication of what will be discussed and why.

### ACTIVITY 14.2

1. Vitamin D has long been known to be critical to bone and muscle health. The skin makes vitamin D when exposed to sunlight, *but* not everyone spends the five minutes a day in the sun. *This problem* is very serious in children *because* school hours have become longer *and* fewer children are playing outdoor games or sport. (The connecting words are in italics.)
2. The focus sentence is: The movie 'Jaws' did irreparable damage to the great white shark's image.
3. All people deserve the opportunity to make the most of themselves and their opportunities. Unless education is made freely available we exclude children whose parents do not have sufficient money to pay for their children's schooling.
4. Global warming is a serious problem that is increasingly affecting our planet.
5. Yvonne Chaka Chaka was born in Dobsonville, a suburb in Soweto in 1965. She is one of South Africa's best loved singers and has been given the name the 'Princess of Africa'. Her father was a musician and her mother was a domestic worker. She began her recording career at the age of 19 in 1985 when she was discovered in Johannesburg by Phil Hollis.

# Index

- 3G technology cell phones 70
  - meaning of 66
- abstract journals 90–93
- abstracting databases 145–147
- academic essays 238
- academic essays, structure
  - body 241
  - conclusion 241–242
  - introduction 239–241
  - list of sources cited 242
  - table of contents 238–239
- academic essays, aspects of 238
  - citations 249
  - coherence 242, 245–246
  - paragraphs 243–247
  - supporting evidence 243–244
  - topic sentences 243
  - unity 245–246
- academic writing 226–227
- access points, meaning of 20
- acknowledging sources *see* citations
- action words
  - identification of 126
  - information tasks 126, 127
- Advanced Research Projects Agency *see* ARPANET
- ARPANET
- agricultural era 5–6
- almanacs 47
  - meaning of 36
- alternative presses 57
- ARPANET 69
- assumptions 190–192
  - meaning of 183
- atlases 47
  - meaning of 36
- audio recordings 60–61
  - CDs 60
  - CD-ROMs 61
- audiovisual media
  - collections 23
  - citations for 215
- authors
  - corporate 205
  - single 203–204
  - three or more 206
  - two 205
- bias 115–116
- bibliographic citations
  - interpretation of 32–33
- bibliographic control
  - meaning of 137
- bibliographic databases 89
- bibliographic descriptions
  - elements of 28–29
  - example of 28
  - meaning of 20
- bibliographic records 29
  - ISBD 27–28
  - meaning of 20
- bibliographies
  - national 89
  - subject 89
- bibliography, meaning of 81
- bilingual dictionaries 39
- biographical dictionaries 40
- blogs 72, 73
- Blu-ray discs 62
- body 241

- books 51, 52–54
  - citations for 203–208
  - digitisation 53
  - meaning of 51
  - types of 52
- Boolean logic 88, 101–105, 112–113
- Boolean operators 99, 101–105
  - meaning of 99
  - search engines 111–113
  - Venn diagram 101–104
- brain storming 228–229
- broadband Internet access
  - meaning of 66
- browsers 69
  - meaning of 66
- call numbers 25
  - meaning of 20
- cause and effect 247–248
- CD-ROMs 61, 64
  - meaning of 51
- CDs 60
  - meaning of 51
- chat rooms 72
  - checklists 249–250
- checklists *see* editing
- chronological order 248
- citations 163, 202, 249
  - compiling 203
  - purpose of 202–203
- citations for
  - audiovisual media 215
  - books, corporate author 205
  - books, editor 207
  - books, single author 203–204
  - books, three or more authors 206
  - books, two authors 205
  - chapter, collected work 206–207
  - electronic sources 211–214
  - government publications 216–217
  - more than one source 208
  - newspaper articles 208–210
  - citations for contd*
    - periodical articles 208–210
    - unpublished information sources 215–216
- classification system, meaning of 20
- classify 230–231
- coherence 237, 242, 245–246
  - meaning of 237
- cohesion, meaning of 237
- collected works 33
  - meaning of 201
- collections
  - audiovisual media 23
  - government publications 23
  - libraries 23
  - periodicals 23
  - reference sources 23
  - study 23
- compact disc, read-only-memory *see* CD-ROMs
- compact discs *see* CDs
- comparisons and contrasts 248
- compilers, meaning of 201
- computer network, meaning of 66
- computers
  - invention of 6
  - role of 8
- conclusion 241–242
- conference proceedings, meaning of 51
- copying 164
- copyright 175–176
- critical reading 162–163, 195
- critical writing 195
- databases 81, 89–94
  - abstracting 145–147
  - bibliographies 89
  - full text 94
  - indexing 145–147
  - meaning of 81
- DDC 24–25
- definitions 185–186
  - compiling 187–188

- Dewey Decimal Classification System  
  *see* DDC
- dial-up Internet access, meaning of 66
- dictionaries 37
- bilingual 39
  - biographical 40
  - language 38
  - online 38
  - subject 40
- digitisation 53
- digitise, meaning of 66
- directories 45–46
- meaning of 36
  - telephone 45
- discussion groups 66, 71–72
- see also* newsgroups
  - meaning of 66
- dissertations, meaning of 51
- Dogpile 109
- downloads, meaning of 66
- DVDs 51, 61
- Blu-ray discs 62
  - meaning of 51
- e-books 52, 53–54
- editing 237, 249–250
- checklist 249–250
  - meaning of 237
- editions, meaning of 201
- editors, meaning of 201
- e-journals 88
- electronic books *see* e-books
- electronic catalogues *see* library catalogues
- electronic journals *see* e-journals
- electronic newspapers *see* e-newspapers
- electronic sources 21–22, 81, 95
- see also* databases, e-journals, library portals, portals
  - citations for 211–214
- e-mails 71
- meaning of 66
- encyclopaedias
- general 40–42
  - encyclopaedias contd*
  - index, use of 42
  - meaning of 36
  - online 41–42
  - subject 44–45
- e-newspapers 56, 95
- essays *see* academic essays
- ethics, meaning of 157
- evaluation criteria
- Internet 114–116
- evaluation process 197
- expository writing 185–190
- definitions 185–186
  - facts 186, 189
  - inferences 189
- e-zines 55
- Facebook 74
- facts 186, 189
- meaning of 183
- federated search, meaning of 81
- fields, database searches 31, 105, 106
- file sharing 73
- File Transfer Protocol *see* FTP
- first draft *see* writing, first draft
- flow charts 172–173
- focus statement, meaning of 237
- format, meaning of 36
- FTP 69
- full text databases 94
- gateways *see* portals
- general encyclopaedias 40–42
- general to particular 249
- g-mail 71
- Google 107, 126, 131, 138, 141, 146, 147
- directory 108
  - g-mail 71
  - search features 113
- Google Scholar 109, 110
- government documents, meaning of 51
- government publications
- citations for 216–217
  - collections 23

- grey literature 56–57
  - alternative presses 57
  - conference proceedings 59
  - dissertations 59
  - government documents 58
  - indexes 57
  - Internet 57
  - meaning of 51
  - reports 59
  - theses 59
- guide words, meaning of 36
- handbooks 46
  - meaning of 36
- highlighting 166–167
- holdings, meaning of 20
- home page, meaning of 66
- HTML, meaning of 66
- HTTP protocol 69
- hyperlinks, meaning of 67
- hypermedia, meaning of 67
- hypertext, meaning of 67
- HyperText Markup Language *see* HTML
  
- ICT 6, 70
  - meaning of 4
- indexes
  - filing methods in 44
  - meaning of 36
- indexing databases 145–147
- indexing journals 90–93
- industrial era 5, 7, 8
- industrial society, meaning of 4
- inferences 189
  - example of 190
  - meaning of 183
- information, main points of 7
- information awareness, meaning of 4
- information communication
  - technology *see* ICT
- information era 5–7, 15
- information grid 8
- information literacy 11–15
  - meaning of 4
- information needs 9–10
- information networks 8
- information overload 9
- information retrieval
  - meaning of 137
  - steps involved in 138
- information retrieval systems
  - library catalogues 140–141
- information skills 13–14
- information society 4, 5, 15
  - development of 5–7
  - meaning of 4
- information sources 21, 29
  - library portals 86
  - locating 139
  - previews 148–149
  - relevance 139, 150–151
- information tasks 14, 124
  - action words 126, 127
  - format of 126
  - interpretation 126, 128
  - keywords 124–125
- intellectual property 175
- International Standard bibliographic descriptions *see* ISBD
- International Standard Book Number *see* ISBN
- International Standard Serial Number *see* ISSN
- Internet 21, 67, 68–69, 100
  - development of 69–70
  - evaluation criteria 114–116
  - grey literature 57
  - meaning of 67
  - ownership of 75
  - search tools 107–110
  - service providers 70
- Internet Explorer 69, 70
- Internet Relay Chat 72
- interpretation
  - information tasks 126, 128
  - meaning of 122
- introduction 239–241

- inventions 6
- invisible web
  - meaning of 99
  - search tools 109–110
- ISBD, bibliographic records 27–28
- ISBN 28
- ISSN 28
  
- journals 54, 81, 90–93
  - e-journals 88
  
- key concepts 100, 160
- keyword searches 31
  - library catalogues 141–145
  - search engines 146–147
- keywords
  - identification of 100, 124
  - information tasks 124–125
  - search engines 110–111
- knowledge 14
- knowledge base 11, 163, 164
  
- language dictionaries 38
- libraries
  - collections 23, 148
  - layout 22–23, 148
  - rules and regulations 22
- library catalogues 20, 27, 87–88
  - information retrieval systems 140–141
  - keyword searches 141–145
  - meaning of 20
- library portals 81, 86–95
  - information sources 86, 95
  - meaning of 81
- lifelong learning, meaning of 4, 14–15
- list of sources cited 202
  - structure of 217–220
  - example of 220
  - academic essays 242
- list of sources consulted, meaning of 202
- list serv 71
  - meaning of 67
  
- locating 139
  - meaning of 137
- logical order
  - cause and effect 247–248
  - chronological order 248
  - comparisons and contrasts 248
  - general to particular 249
  - meaning of 237
  - rewriting 247
  
- magazines 54, 55
- mailing lists 71
  - meaning of 67
- main idea 149, 153, 161, 162, 163, 165, 166, 169, 171
- mass communication, meaning of 4
- meta-search engines
  - Dogpile 109
  - meaning of 99
  - search tools 109
- mind maps 132, 170–171, 229, 233
- Mozilla Firefox 69, 70
- MP3, meaning of 67
- national bibliographies 89
- newsgroups 72
  - see also* discussion groups
- newspaper articles (citations for) 208–210
- newspapers 55–56
  - electronic 56
- non-facts
  - assumptions 190–192
  - opinions 193
  - viewpoints 193–194
- note taking 163–164
  - see also* recording
  - classify 230–231
- nutshell ideas 230
  
- online dictionaries 38
- online encyclopaedias 40–42
- Online Public Access library catalogues
  - see* OPAC
- OPAC 27, 30, 31

- Open Directory Project 108
- opinions 193
- organisational diagrams 171–172
- outlines 169, 231–233  
    meaning of 225
- P2P 73
- paragraph structure 243–247
- paragraphs, meaning of 237
- peer-to-peer file sharing *see* P2P
- periodical articles 33  
    citations for 208–210
- periodicals 54  
    collections 23, 148  
    meaning of 51
- plagiarism 176–177  
    *see also* copying  
    meaning of 157
- plans, meaning of 122
- podcasts 74
- portals 82  
    *see also* library portals  
    enterprise 84–85  
    government 84  
    meaning of 81  
    regional 83
- prefaces 38, 160
- premises, meaning of 183
- previews, information sources 148–149
- prewriting techniques 225–228  
    meaning of 225
- professional directories 46
- proofreading 250  
    meaning of 237
- protocols, meaning of 67
- publication dates, meaning of 201
- publishers, meaning of 201
- quotations 164
- radio, invention of 6
- reading skills 157–158
- recording 151–153  
    *see also* note taking  
    meaning of 137
- reference list 202
- reference sources 20, 37, 139  
    *see also* abstract databases, abstract  
    journals, almanacs, atlases,  
    bibliographies, dictionaries,  
    directories, encyclopaedias,  
    handbooks, indexing databases,  
    indexing journals, yearbooks  
    collections 23  
    meaning of 20
- reference techniques, guidelines 203
- references *see* citations
- relevance 137  
    judging of 150–151  
    meaning of 137
- reports, meaning of 51
- reserve collections 23
- resource collections 21–22
- retrieval aids 140  
    *see also* bibliographies, abstracting  
    databases, indexing databases,  
    library catalogues, search engines
- rewriting 238  
    logical order 247
- scanning 159  
    meaning of 157
- scope, meaning of 36
- search engines 67, 99  
    Boolean operators 111–113  
    Google 107  
    keyword searches 146–147  
    keywords 110–111  
    meaning of 67, 99  
    search tools 107
- search tools 107–110  
    invisible web 109–110  
    meta-search engines 109  
    search engines 107  
    web directories 107–108
- '*see also*' references 30

- 'see' references 30
- selection, meaning of 137
- serials, meaning of 20
- service providers 70
- Simple Mail Transfer Protocol *see* SMTP
- skimming 158–159
  - meaning of 157
- SMTP 69
- software 68
  - meaning of 68
- speed reading 158
  - meaning of 157
- streaming media 73–74
  - podcasts 74
  - video chat rooms 74
  - video conferences 74
  - VoIP 74
  - webcams 74
  - YouTube 74
- study collections 23
- study reading 159–160
  - critical reading 162–163
  - key concepts 160
  - meaning of 157
  - topic sentences 161–162
- subject dictionaries 40
- subject encyclopaedias 44–45
- subject headings 30–31
  - meaning of 20
- subject searches 141–145
- summaries 165
  - meaning of 157
- supporting evidence 243–244
  
- table of contents 238–239
- tables 173–174
- telecommunications 8
  - meaning of 68
- telecommunications systems 6
- telephone
  - directories 45
  - invention of 6
  - television, invention of 6
- terms *see* subject headings
- text mapping 168–169
  - meaning of 157
  - mind maps 170–171
  - outlining 169
- textbook marking 167–168
- thesauruses 39
  - meaning of 99
- thesis, meaning of 51
- topic sentences 161–162, 243
  - meaning of 157
- topics, meaning of 122
  
- underlining 166–167
- Uniform Resource Locator *see* URL
- unity 245–246
  - meaning of 237
- unpublished information sources (citations for) 215–216
- URL 75–77
  - abbreviations 77
  - address, elements of 76
  - meaning of 68
  
- Venn diagrams 101–104
- verbs *see* action words
- verso, meaning of 201
- video chat rooms 74
- video conferences 74
- videos 61
  - meaning of 51
- viewpoints 193–194
- Voice over Internet Protocol *see* VoIP
- voice telephony *see* VoIP
- VoIP 74
- volumes 201
  - meaning of 201
  
- web directories
  - Google directory 108
  - meaning of 99

*web directories contd*

- Open Directory Project 108
  - search tools 107–108
  - Yahoo! Search 108
- web portals *see* portals
- web *see* WWW
- webcams 74
- weblogs *see* blogs
- websites, meaning of 68
- Wi-Fi 70
- meaning of 68
- Wikipedia 41–42
- work plans
- compiling 129–130
  - example of 130–131
  - meaning of 122
  - mind maps 132

World Wide Web *see* WWW

- writer's block 228
- exercises for 228–230
  - meaning of 225
- writing process 226
- writing, first draft 234, 237–238, 242
- WWW 69–70
- meaning of 68
- Yahoo 109, 126, 131, 138, 144, 147, 150, 171
- search features 113
- Yahoo! Search 108
- yearbooks 46–47
- meaning of 36
- yellow pages 45–46
- YouTube 74