Safari

Section 5: Evaluating information

The Safari website has now been updated to provide links to more up-to-date information and activities on digital and information literacy.

This document contains the original content of the website. Please note that this is several years old and only provided here as a reference. Some of the material may be out-of-date.

This document will not be updated. At the time of publication, all links were checked and working.

For more up-to-date material, please refer to the OU Library Being digital website.

Being digital is a collection of short, easy to follow activities. They cover the skills we all need to be effective online, whether it’s searching efficiently, critically evaluating information, communicating and sharing online, or selecting the right online tool for your needs.

Being digital can help you develop essential skills for study, work and lifelong learning.
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Topic 1: Introduction

This section should help you to:

- understand what is meant by ‘quality’ in relation to information;
- appreciate the importance of quality information and the possible consequences of poor quality information;
- practise use of a structured approach to evaluate information.

Some activities will require you to use paper and pen to make notes or record your thoughts.

If you do all the activities in this section, you might need to allow between two and three hours to complete it.
Suppose you have been carrying out a thorough and systematic search for information on your topic of interest. You have found quite a lot of material – more than you can include in your work. How will you decide what to include and what to discard? Even if you don't have more than you need, is all that you have ‘good enough’?

**Activity: Thinking about good and bad information**

Think about what might be ‘good’ or ‘bad’ information. Below are some words which have been used to describe information. Try and see if you can divide them into two groups, one for ‘good’ information and one for ‘bad’ information.

- readable
- subjective
- up-to-date
- confused
- badly written
- current
- honest
- unreliable
- inappropriate
- dishonest
- balanced
- unreadable
- relevant
- out of date
- old
- clear
• incomplete
• objective
• accurate
• comprehensive
• reliable
• dated
• appropriate
• well written
• irrelevant
• biased
• inaccurate
• cursory
• complicated
• entertaining

Are there any words that are difficult to classify this way? Why do you think this is?
Are there any other words you can add to either group?

There are some suggestions in the discussion on the next page.
Discussion

It is probably obvious from your lists that the concept of information quality is anything but straightforward. To suggest that information is either ‘good’ or ‘bad’ is to simplify some very complex issues and arguments.

For example, how did you classify ‘complicated’? Depending on what you need the information for this may be good or bad – the context of use is the most important deciding factor.

Similarly, something that is ‘subjective’ or ‘dated’ may be useless to a scientist but very good for an historian.

What this activity demonstrates is that there are certain aspects of information which we need to consider when deciding whether a specific piece of information is ‘good enough’ for our particular purpose; there is a need for ‘critical appraisal’ of potential resources. To help do this we suggest you use the following mnemonic, PROMPT for short:

**PROMPT**

**Presentation** – is the information presented in a clear and readable way?

**Relevance** – is the information appropriate and relevant to the purpose in hand?

**Objectivity** – is the content balanced or is there some bias?

**Method** – how was the information gathered together?

**Provenance** – who or what originated the information and are they reliable sources?

**Timeliness** – is the information up to date and does this matter in our context?

Over the next few pages, we will look at each of these topics in turn.
Topic 3: Presentation

The way in which information is presented can have a profound effect on the way we receive and perceive it. The old saying ‘you can’t judge a book by its cover’ has some good lessons for us when we are trying to judge the value of a new source of information.

This is not to say that something that looks good, isn’t good. It may equally be that something which looks insignificant is actually the most important piece of information available. You need to develop the skill of looking beyond the obvious and what seems to be. This is true of all kinds of information. One of the most famous hoax TV documentaries was broadcast by the BBC in 1957. Viewers assumed that because it was broadcast by a reputable company like the BBC it must be true but they had failed to notice that it was being broadcast on the 1st April and was an April Fool joke.

Seeing what you need to see

Sometimes what you see may make it hard to judge whether what you have is what you want, or even if it is information worth having. This can be particularly difficult if you are looking at Internet information.

When you are looking for information online, it can sometimes be difficult to establish who produced the page and when it was published. The presentation of information has an effect on how easy it is see the answers to other parts of PROMPT.

Of course, a lot of what is good or bad in any similar context will depend on the viewer, what they are used to, what they are seeking, and how much time and patience they have to check out details.
Topic 4: Relevance

Relevance is an important aspect of information quality. However, it is not a property of the information itself. Rather its importance is in its relationship to the need you have identified and for which you are searching for information. The information in front of you may be of high quality but not actually relevant to the question you are asking, nor to the scope of your search. There are a number of ways in which it may or may not be relevant to your needs. Some important ones are, for example:

- **Level** – it may be too detailed/specialised or too general/simple for the level at which you are working,
- **Emphasis** – it may not contain the kind of information you are seeking – this is often a question of emphasis, and one which, in the case of a journal article for example, may not easily be identifiable from an abstract,
- **Geographic** – it may relate to countries or areas you are not interested in at this time.

You can probably think of others that relate to your own subject field. Go to the next page to see how one student's searching caused him some problems with relevance.
Relevance – a case study

William is an undergraduate student who wants to find information on the background to Shakespeare's play *Coriolanus* for an essay he is writing. Here are some of the resources he finds.

- A copy of *Coriolanus* with notes aimed at secondary school pupils: Oxford School Shakespeare:
  
  *Coriolanus, by William Shakespeare. Edited by Roma Gill. ISBN: 019832006X*

- An article in the scholarly electronic journal 'Early Modern Literary Studies' entitled:
  
  "The price of one fair word": negotiating names in Coriolanus, by David Lucking, 1996, Vol. 2, No. 1

- An entry in Wikipedia about *Coriolanus (the play)*

- A website that includes the text of the play and links to essays other students have written
Activity

Have a look at the materials listed above and make some notes about how relevant they might be for William. What are the factors he should consider when deciding which information to use? (Clue – it may not just be a matter of relevance).

Discussion: William's information

- The secondary school textbook

  This is a useful textbook complete with annotations to explain unfamiliar words (use the 'look inside' feature to see an example) but perhaps not really relevant for William as it is designed for school level readers.

- The journal article

  This is from a respected journal but, again, is probably at the wrong level – this time because it is very detailed and specific to a single possible interpretation of the play.

- The Wikipedia article

  This seems to be exactly what William is looking for. It offers information about the play, the historical setting and links to events and people of the period. However, William needs to be careful to check the information he finds there because although it is relevant and seems well presented there is little clue as to the objectivity or the provenance of the information beyond that it comes from Wikipedia.
• The website

This also looks very interesting. It has links to other plays by Shakespeare and allows the text of all of his works to be searched. This might be useful if William wants to explore how the same themes occur across plays, for example. However, William also needs to be careful of the links offered on the site which go to other sites containing pre-written essays and projects about Coriolanus. Using any of these works in his own essay could be plagiarism which could also breach copyright and would almost certainly get him dismissed from his class, if not from his whole study programme.

Relevance – a summary

All of the sources of information about Coriolanus that William found were good in themselves but for various reasons only one was really relevant to his present needs. The context in which he is working and the level of the studies he is doing etc., will determine the relevance of much of what he finds when he looks for materials.

Looking for relevant materials will require you to:

• Be clear about what your information needs are for each specific search
• Be clear about your search strategy – what you want and don't want to find, and therefore what you need to look for.
Topic 5: Objectivity

One of the characteristics of ‘good’ information identified earlier was that it should be ‘balanced’. In an ideal world, ‘objective’ or ‘balanced’ information would present all the evidence for and against, and leave you to weigh this up and draw conclusions. In the real world, however, we recognise that all information presents a position of interest, although this may not necessarily be intentional. Objectivity may therefore be an unachievable ideal.

This means that the onus is on you as the reader and user of the information to develop a critical awareness of the positions represented in what you read, and to take account of this when you interpret the information. In some cases, authors may explicitly express a particular viewpoint – this is perfectly valid as long as they are open about the perspective they represent. Hidden bias, whether or not it is deliberate, can be misleading. This could be particularly important in a subject area where there is controversy (e.g. genetically modified food, abortion).
Activity: Objective information

Have a look at these websites and makes some notes for each about whether you think the site is likely to provide objective information.

American Life League

Planned Parenthood

Discussion

With a controversial topic like abortion, it is not too difficult to identify the viewpoints represented and therefore be aware of potential bias. In other cases it may be less obvious. We do of course need to be conscious that our own judgement can be influenced by our beliefs.

Activity: Vested interests

A friend of yours is a heavy smoker and you have been trying to persuade her to give up. You read in the newspaper that the NHS is going to make Nicotine Replacement Therapy (NRT) available on prescription and you suggest this to your friend. She says that she would like some evidence that it really works. You offer to collect some information for her. This is what you find:

a) NHS Direct
b) WhyQuit.com
c) Nicorette
d) Cochrane Summaries article

Are they all giving similar messages? If not, why not? For each example make notes about whether you suspect any particular vested interest. If you do, specify what these might be and where they might be coming from then go to the next page to see what we concluded.
Discussion

Our review of the resources leads us to identify four main sources of vested interest. These can be summarised as:

- financial vested interests (protecting or selling a product or service)
- media manipulation (a ‘good story’, either for selling papers or in order to push up ratings)
- political propaganda (influencing public opinion)
- government ‘propaganda’ (influencing public behaviour).

Reflection: Is objectivity important?

What do you think? Write down some thoughts based on what you have read so far and any other experience you may have.

Summary: Is objectivity important?

We recognise that the concept of objectivity is problematic. We think it is important to develop a critical awareness of the positions or interests represented in what you read. We are suspicious of information which purports to be ‘balanced’ as there are often hidden vested interests.
What to look for in choosing resources

- **Perspectives**: do the authors state clearly the viewpoint they are taking?
- **Opinions**: academic articles will often present unsubstantiated theories for debate. Look out for opinion presented as if it were fact.
- **Language**: can be a useful danger sign. Look out for language which is either emotionally charged or vague.
- **Sponsorship**: academic research may be sponsored by industry (e.g. pharmaceutical companies). This does not necessarily make the research less objective but it may make its interpretation selective. Make sure that all potential vested interests are clearly identified and that the sponsors are happy to give access to the actual research data.
Topic 6: Method

Unless you have specialist knowledge of the subject content of any piece of information you are looking at, you may find it difficult to assess the reliability of that information. Nonetheless, there are indicators that may help you. For example, knowing something of the methods used to produce the information may be a useful indicator. However, this is quite complex as different kinds of information will have been produced in many different ways. What follows are some examples of the kinds of information where method is a key indicator of reliability.

Scientific research papers

For these you may want to look at the methodology used and the way in which the research was carried out. We cannot provide a full guide to research appraisal here but this list can help you locate more information. And, there are some general questions you can ask about research methods, whatever kind of research report, book, article or website you are looking at.
Activity: Research methods

Headline – NEW WONDER CURE FOR HANGOVERS

A scientist in Salisbury claims to have found a natural cure for hangovers, using a mixture of vinegar, raw eggs, sugar and soya beans. He has carried out extensive research over a number of years with students at the local agricultural college. Four out of five students were free of symptoms within 30 minutes, he says…

Are you convinced by this? If not, what questions would you like to ask about the way the research was carried out? Make a list of questions you would like answered. When you have finished go to the next page to compare your list with ours.

Discussion

Our questions were:

- How many students was the cure tested on?
- How were they selected? (e.g. How drunk did they have to be?)
- Did the research compare their recovery with similar students who didn’t take the cure?
- How did the researcher define and measure recovery?

How does this list compare with yours? Why might there be differences? Think about why we identified these particular four areas of interest and then go to the next page to find some further explanation of our thinking.
Our thinking was:

- How many students was it tested on?

  If he only used two or three students, for example, they might have recovered by chance or because they had particularly strong constitutions.

  *In general, questions need to be asked about the sample size.*

- How were they selected? (e.g. how drunk did they have to be?)

  If the sample students weren't selected as a representative of a large population of people with hangovers, then the results wouldn't be transferable.

  *In general, questions need to be asked about the representativeness of the sample.*

- Did the research compare their recovery with similar students who didn't take the cure?

  If he didn't do this, there is no way of knowing whether the students would have recovered just as quickly without the cure.

  *In general, questions need to be asked about the control group.*

- How did he define and measure recovery?

  If it was 'self-reported' – i.e. students were asked whether they felt better, their reports would have been very subjective.

  *In general, questions need to be asked about outcome measures.*
Activity: More research methods

Headline – 75% OF CHILDREN WOULD PREFER NOT TO GO TO SCHOOL

A survey by a teaching organisation of primary school age children in South Wales showed that two out of three dislike school and would rather not attend. A spokesman for the organisation said that this showed that teachers now face an impossible task...

What questions would you like to ask about this research? Would you ask any of the same questions we asked about the hangover cure research? Make a few notes about questions that would suit this case and then scroll down this page to see our thoughts.

Discussion

We thought:

- Question 1: How many children were asked?
  
  In general, questions need to be asked about the sample size.

- Question 2: Were they all at the same school/did they know each other?
  
  This is important because if they were at the same school, the results may reflect the school OR the children might have influenced one another.

  In general, questions need to be asked about the representativeness of the sample.
• Question 3: How was the question phrased?

This is important, for example were they asked ‘would you prefer to go to school or watch TV?’

In general, questions need to be asked about questionnaire design.

• Question 4: How was the questionnaire administered?

This is important because if the children were not asked in private, their answers might have been influenced by peer pressure.

In general, questions need to be asked about sources of bias.

Other sources of assistance for evaluating research

As we have seen you don't have to be an expert in research methods to ask a few basic questions. Sometimes it may seem unnecessary to ask many questions because it seems that others have already done so. For example, you might assume that research reports which have been accepted for publication will meet the appropriate standards. This is not fool proof. There have been cases of fraudulent research which has successfully fooled the research establishment and been published:

At least 37 publications by two biomedical researchers in Germany have been found by a panel of scientists and legal experts to ‘appear to include falsifications or indications of possible ‘data manipulation’ according to an article in the journal 'Science’

(Science Vol. 277 15 August 1997 p.894)
Reviews

Many articles and books are reviews of research. Reviews can be used as a shortcut to looking for all the primary research ourselves. But, reviews vary: some reviews merely bring together the reviewer's selection of research on a topic without asking any critical questions of the research and how it was done. Others, sometimes called 'systematic reviews' or 'overviews', try to collect and review all the research on the topic in question. It may be important to your work to ascertain which kind of review you are looking at and the implication for you of how the material has been reviewed.

Historical and biographical research

This is another area where you may need to check whether the methods used have been sufficiently rigorous. For example, has the author adopted a storytelling approach which may be somewhat creative and readable but not entirely historically accurate.

So, is method important?

We think that in many cases method will be an important indicator of the reliability of information.
Method – a summary of what to look for

If some kind of research or data collection has been involved in the information you are considering using:

- Is it clear how the research was carried out?
- Were the methods appropriate?
- Ask some basic questions about sample size and nature, use of control groups, questionnaire design etc.
Topic 7: Provenance

The provenance of a piece of information – that is, where it comes from and who produced it – may provide more useful clues to help you decide about its reliability. Provenance provides ‘credentials’ for a piece of information and supports its status and perceived value. Being able to identify the author, sponsoring body or source of your information is therefore very important.

Reflection activity: Is provenance a good way to judge quality?

Some people might argue that it is unfair to judge information just by who produced it or where it was produced. They would argue that information should be judged on its own merit.

Before we look further at this topic, what do you think? Can you think of reasons why it would be good to know the author and origins of an article or a website?
Who produced it?

Authors

Knowing who the author is lets you:

- find out whether they are an acknowledged expert in the subject area
- find out what other papers or books they have published
- perhaps trace unpublished material like their PhD thesis
- carry out a citation search to see if their work has been useful to others and cited in the literature produced by others in the field
- find out if they are known to have a particular perspective on the topic and whether their views are controversial
- perhaps contact them in person.
Organisations

Knowing about the sponsoring organisation can tell you a great deal – we have already looked at ‘vested interests’ and it is important to be able to identify and take account of these. Here are some of the questions you might wish to ask:

- What is the ‘business’ of the organisation? Is it:
  - a commercial company?
  - a voluntary organisation?
  - a statutory body?
  - a research organisation?
- How well established is it?
  - Does it have a ‘history’?
  - Is it ephemeral/short-lived?
- Can you identify the people involved in the organisation?
  - Could you contact them if you wanted to verify the information or find out more?
  - Do the people have ‘other interests’ or links which might have a bearing on the way you regard the information?
Publications

Knowing how something has been published helps identify how reliable it is. Here are some issues to consider:

- Any individual can publish anything on the World Wide Web, or post to a discussion list – this has to be judged on its own merit and with reference to the author's credentials – quality is not guaranteed.
- Journals and newspapers, whether in print or electronic, will in almost all cases have an editor and/or an editorial board that decides editorial policy which influences what will be published.
- Most academic print journals are peer reviewed – this means that articles submitted will be evaluated by at least two experts in the field before being recommended for publication.
- Many electronic journals do not have a peer review process – so extra questions need to be asked in order to know the value of information found there.
Is provenance important?

Yes and no.

No

The provenance of a piece of information is not a direct clue to its quality. There is something called the ‘stable theory’ which suggests that academic work is often valued highly just because it emanates from a prestigious research group or is published in a prestigious journal. So we should judge information on its own merits.

Yes

Provenance can be an indirect clue to the reliability of information – a safety net which gives you the opportunity to check things out. Provenance is important to help other people have confidence in the sources you are citing.

Provenance – a summary of what to look for

- Details of authors – who do they work for? What else have they published?
- What is their status?
- Organisations involved – their work, their interests, their connections, who funds them?
- Publications – who is the editor? Who is on the editorial board? What is their editorial policy? Is it peer reviewed?
Topic 8: Timeliness

The date when information was produced or published can be an important aspect of quality. This is not quite as simple as saying that 'good' information has to be up to date.

Example of a news item from an online news source:

**Online news item**

Copyright 2000 Coventry Newspapers Limited

Coventry Evening Telegraph

May 4, 2000, Thursday

SECTION: NEWS; Pg. 5

LENGTH: 83 words HEADLINE: DECISION DAY IN MAYOR RACE

BODY:

VOTERS across England go to the polls today in a series of elections as Tony Blair faces his biggest test of public opinion ahead of the next General Election.

In the London mayor elections, independent candidate Ken Livingstone is seen as the runaway favourite with Tory Steve Norris and Labour's Frank Dobson widely seen as in a battle for second place ahead of Liberal Democrat Susan Kramer.

In the local council elections the Tories are likely to make between 200 and 400 gains.

LOAD-DATE: May 5, 2000
Out of date?

Well – it is and it isn’t. In other words – one person’s out of date newspaper cutting is another person’s historical document. Some documents (the Domesday Book for example) are indeed ‘timeless’ in that they will always be regarded as relevant. In other cases it will be very important for information to be up to date.

Which types of information need to be up to date?

Here are various types of information. Read the list and take some time to think about whether each type of information is timeless or whether it needs to be up-to-date.

A road map

A painting

A news item

A press release

A review of research

A book of poetry

A government circular

A scientific research article

A patent

Population statistics

A technical manual
A news website

**Discussion**

You may have found it quite difficult to decide about whether these items need to be up to date. You may well have found yourself thinking that it would depend on what you wanted it for. As with the newspaper cutting in the first activity, even an out of date road map could be highly valued by a historian or a biographer. You will have to consider this when you construct your search strategy.

Finding the relevant date may not be straightforward either. In some cases it is difficult to ascertain the true 'age' of the information:

- There may be no publication date.
- There may be no indication of when the information was last updated.
- The date of publication may not reflect the date the information was produced because it can take time for research to be reviewed before being published.
- Even if it is not very old, information may have been superseded e.g. a volume in a statistical series or a regularly produced report may not be very old but may still not be the latest edition. This means you have to be familiar with these sources, as well as how, and how often, they are produced.

**Timeliness – a summary of what to look for**

- Is it clear when the information was produced?
- Does the date of the information meet my requirements?
- Is it obsolete? (Has it been superseded?)
Topic 9: Summary

In order to see how PROMPT works in practice, and brings together all the details you need in order to make a judgement about the value of what you are looking at, you should now look at some items from your subject area using the questions we have identified in this topic.

Download the Being digital PROMPT checklist. This is a WORD document containing a table which you can use to make notes on resources against the PROMPT criteria we've discussed here.

Pick two of the three resources listed below. For each one, assess each of the PROMPT criteria in turn in order to make comparisons, using a scale of 1 (good), 2 (acceptable) and 3 (poor), and add any notes you feel necessary. This activity will take a while – perhaps a couple of hours – so make sure you allow enough time for this.

If you are not able to locate items from your own field of interest you might like to try to evaluate these potential resources for a project on GM foods:

- Article: Dangers of genetically engineered foods: are genetically engineered foods without DNA safe??? by Dr Michael Antoniou
- Monsanto website