

## 2 BECOMING A SEARCHER

### 2.1 TOPIC ANALYSIS & MAPPING

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#### GOAL

Participants will develop more effective search habits through recognising the need to understand and set out the concepts and associated terms that comprise a topic, before proceeding to search.

#### OBJECTIVES

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Participants will:

- Recognise the importance of analysing the topic and the context of the information need before commencing a search
- Develop basic skills in mapping concepts and their related terms
- Improve their search skills by understanding the relationship between words and strategies used and subsequent results
- Appreciate the need to modify their search terms in a structured way to increase the success rate of their searches.

#### NEEDS ASSESSMENT

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Trainers will ask potential participants PRIOR to attendance:

- How do you decide what words to use in an online search?
- How often do you find that the terms you choose for online searches are useful first up?
- How do you modify your search terms when they don't provide relevant results?

If the trainer is confident in the potential participants' demonstrated ability and understanding of these questions, then they could proceed directly to *Exercise 2.1E* as a refresher before moving on to s.2.2.

## 2.1 TRAINING CONTENT: TOPIC ANALYSIS & MAPPING

**DURATION OF SESSION:** 25+ MINUTES [EXCLUDING OPTIONAL SECTION]

| Content                               | Duration | Key Points  | Practical  |
|---------------------------------------|----------|---|--|
| Session Objectives                    | 3 min    | Context (relation to earlier sessions) + intended coverage  |  |
| <b>Importance of topic analysis</b>   | 10 min   | <p>Scenario for a search for Y12 student. (see s.2.1 Handout p.3-4)<br/>           Note largely poor results from initial attempt using words supplied.<br/>           Need:</p> <ul style="list-style-type: none"> <li>▪ to step back and think about concepts behind the search</li> <li>▪ generate alternative terms</li> <li>▪ think about how they might relate or be used in context</li> </ul> <p>Rushing into a search without thought may result in unsatisfactory results; time spent in analysis often saves search trial and error.</p> | <p>Participants asked to do <b>Google</b> search on "the treatment and rights of experimental animals in NZ" using the search terms:<br/> <i>treatment rights experimental animals + pages from NZ</i> button.<br/>           Participants asked likely reasons for weak results?</p> <p>Key concepts then elicited from participants and charted ('mapped') on whiteboard; alternative words and phrases generated [as modelled in Handout 2.1]</p> <p>Search progressively rerun using new terms as per s.2.1; participants asked to briefly evaluate results.</p> |
| <b>Concept analysis &amp; mapping</b> | 12+ min  | Reinforcement and practice on real life examples  | <p>Handout Exercise <b>2.1E</b> on analysis and mapping of assigned topics. Suggest complete (on paper only) in pairs.<br/>           Ask each pair to read out their terms for one of the queries; ask the group if any others were thought of?</p> <p><b>[Recommended optional exercise to reinforce concepts:]</b><br/>           Ask participants to search <b>Google</b> on their 'preferred' terms from the paper exercise, assess their merits and try varying terms to improve results.</p>  |
| <b>Recap</b>                          | 2 min    | Reinforce potential for time savings by prior analysis. Relate it to need for quality results rather than quantity.   |  |

## EXERCISE 2.1E

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Think about what might be the core concepts for the following queries. List these in the top row and then generate as many alternative terms as you think would be useful to search on. Spend no more than 2 minutes per topic.

### 1. Find studies on the impacts of passive smoking on kids

| CONCEPT 1 | CONCEPT 2 | CONCEPT 3 | CONCEPT 4 |
|-----------|-----------|-----------|-----------|
|           |           |           |           |
|           |           |           |           |
|           |           |           |           |
|           |           |           |           |

### 2. Provide information on how to grow peppermint and its health benefits

| CONCEPT 1 | CONCEPT 2 | CONCEPT 3 | CONCEPT 4 |
|-----------|-----------|-----------|-----------|
|           |           |           |           |
|           |           |           |           |
|           |           |           |           |
|           |           |           |           |

### 3. Find reports on the impact of violent video/computer games on young people

| CONCEPT 1 | CONCEPT 2 | CONCEPT 3 | CONCEPT 4 |
|-----------|-----------|-----------|-----------|
|           |           |           |           |
|           |           |           |           |
|           |           |           |           |
|           |           |           |           |

### 4. Find articles on bullying in NZ schools and how to combat it

| CONCEPT 1 | CONCEPT 2 | CONCEPT 3 | CONCEPT 4 |
|-----------|-----------|-----------|-----------|
|           |           |           |           |
|           |           |           |           |
|           |           |           |           |
|           |           |           |           |

**5. What is the NZ fishing industry’s position on fur seals caught in trawl nets?**

| CONCEPT 1 | CONCEPT 2 | CONCEPT 3 | CONCEPT 4 |
|-----------|-----------|-----------|-----------|
|           |           |           |           |
|           |           |           |           |
|           |           |           |           |
|           |           |           |           |

**6. Find articles on the risks and benefits of DNA profiling**

| CONCEPT 1 | CONCEPT 2 | CONCEPT 3 | CONCEPT 4 |
|-----------|-----------|-----------|-----------|
|           |           |           |           |
|           |           |           |           |
|           |           |           |           |
|           |           |           |           |

## 2.1 TOPIC ANALYSIS & MAPPING

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Ask an experienced online searcher to describe where they would start with a challenging topic and the answer will pretty much always be not that they would try such and such a search tool, but rather that they would give some initial thought as to what it comprises: its core categories or 'concepts' (the things of substance that make up a query) and how these might be variously expressed in different information resources.

Note they do not go near a keyboard at this point. Experience has taught them that a bit of time put into sorting the words or phrases associated with a topic and how they relate to each other, will result not only in a higher chance of success, but generally more than compensate in time saved from having to play around with poor strategies or mismatched words. The old computer acronym 'GIGO' remains a good principle to bear in mind – "garbage in, garbage out". If you don't put the 'right' terms into the search box you'll get rubbishy results.

### LOOKING AT THE BONES OF A SEARCH

Consider a student researching "the treatment and rights of experimental animals in NZ" – her words as she has conceived the topic. The less expert searcher will leap without reflection onto Google or whatever they think is a likely online resource, typing in a string of words like: **treatment rights experimental animals** and flicking on the **pages from New Zealand** button. Younger students will often use 'natural language' type question statements eg. **How are experimental animals treated...?**

Some of the time they will strike it lucky and a relevant document matches their terms. More often they are sufficiently impressed by the fact that something vaguely related comes up to assume a successful result, but don't spend time analyzing the relevance and quality. Try the above in Google and you will certainly find a lot of material (one of the benefits but also 'dangers' of the sheer size of the Web) but only a few really useful hits upon close examination. If a search is seen as unsuccessful, research tells us many searchers commonly just move to another source. When searching databases we have a much smaller range of sources (though higher quality) to draw on so failures are more frequently encountered. More than a general hit and miss approach is therefore required for these sort of resources in particular, but it can also pay off in Web searches.

A sounder approach (than just jumping sources) would be to stick with a likely source and to work on refining our search - to think more closely on what a better search strategy might be. To do this it helps to sort the topic into its core concepts and then generate all the likely (not every possibility) alternative words or phrases we can immediately think of for each of these concepts eg.

| CONCEPT 1          | CONCEPT 2            | CONCEPT 3 | CONCEPT 4   |
|--------------------|----------------------|-----------|-------------|
| rights             | experimental animals | treatment | New Zealand |
| ethics/ethical     | lab/oratory animals  | testing   | NZ          |
| code (of practice) |                      | welfare   |             |

For each concept we have quickly brainstormed a few other words that are a possible alternative expression of the same thing, or a related broader or narrower term that might be used in association with the concept. Specific concepts may also be associated with place (eg. New Zealand) or time (a particular period) and these can help limit the scope of the

search. Be cautious of using words like 'impact, influence, outcome, role, result, report on...' if these form part of the query as, while they may relate the various concepts, they are not a concept themselves so better to omit unless we really need to limit the number of hits. We might even want to exclude a likely concept from the search to make it more precise (eg. we may want to exclude 'recreational' fisheries from a search on 'NZ catch trends in snapper fishing').

'Experimental' and 'laboratory' are pretty equivalent in the above though may be used in different contexts. We don't know if there are codes or legal rights for animals but if there are, these words will be useful. 'Treatment, testing, welfare' are all weaker possibilities so may be best to leave off until we see if we need words to narrow or refine. And while we want to find out the position in NZ, using the radio button for NZ in Google maybe too restrictive – it may be preferable to add 'zealand' to an open search and pick up on NZ stuff. Its also possible the Australian or UK material may be useful comparative sources or provide with us further clues as to good keywords. So we could try initially:

***rights "experimental animals" zealand***

And while useful in part, then try the variation:

***rights "laboratory animals" zealand***

...which gives a few more relevant hits but still not much that's really useful. So we return to our concept map and try a few more specific terms around codes or ethics:

***ethics "laboratory animals" zealand***

...which brings up a relevant page from Biosecurity NZ and more.

We could also think about how words are commonly combined – ethics and code could be often combined as an "ethical code". Trying:

***ethical code "laboratory animals" zealand***

...brings up a bit more precision. At this point we could also try removing the '**zealand**' and using the **pages from NZ** radio button instead. This gives a somewhat different cut and few new references.

So, the key strategy here is that if your first considered stab at a search fails, don't get too hasty in rewriting the search statement or going off to another source. Think carefully as to which words are most likely to be there in the sort of sources you're looking for and hold these fixed while you try one possibility at a time for the words that are more likely to vary. What we don't do is completely rewrite the search statement because only one word may have failed.

## CONCLUSIONS

Such analysis is not a difficult skill to acquire if you consciously attempt it for all your searches for a bit - you will soon find yourself doing it instinctively while listening to or thinking about an information need. If doing the search for someone else draw on their understanding of the topic to together generate possible search terms. Scribbling down the analysis in rough chart or 'mind map' form helps provide a more structured approach and a resource to refer to as you search, but use whatever you find personally effective.

And remember that, as noted in s. 1.3 *Plus*, the success of any search should be judged only on how well it matches the information need, not an ideal strategy.