MODULE 2

INFORMATION GATHERING AND EVALUATION

Introduction

Information gathering activities play an important role in projects and assignments. Projects often start out with a problem statement, which you will use to search for necessary information to develop an effective argument. There are many sources of information that need to be interrogated in developing an effective argument.

In responding to a problem statement or research question, you are expected to navigate, make sense of and collect specific information from relevant sources. Hence, it is important for you to have the necessary skills of information gathering and the sub-skill of accessing accurate and reliable information.

What is information gathering?

Information gathering is the process of collecting information in response to a research question/problem statement. Information can be gathered in different ways using several methods, tools and techniques.

What is the purpose of information gathering and evaluation?

The purpose of information gathering and evaluation is to determine the availability of needed information and to make calculated decisions based on its qualities (currency, context, authorship, audience, format, source, credibility, etc).

Why is information gathering important?

- It will help you avoid reinventing the wheel.
- It will help you gain a deeper understanding of the issue so that you can address the research question/problem statement.

What are the objectives of information gathering and evaluation?

- Create a culture of thinking critically about information sources
  - ✓ think critically about the reliability, validity, accuracy, authority and timelines.
  - ✓ think critically of points of view or bias of information source.
- Helps identify relevant research on which to build one's own research and findings.

Target activities

- Understand the value and differences of potential resources in a variety of formats (e.g. multimedia, database, website, data set, audio/ visual, book).
- Understand the purpose and audience of potential resources (e.g. popular vs. scholarly, current vs. historical).
- Differentiate between primary and secondary sources; recognise how their use and importance vary with each discipline.
- Determine probable accuracy by questioning the source of the data, the limitations of the information gathering tools or strategies, and the reasonableness of the conclusions.
- Understand that different sources need different search strategies.

Learning outcomes

- You will be empowered to seek and evaluate information resources to respond to a research question.
- You will develop foundational understanding of information gathering and will improve your research competencies.
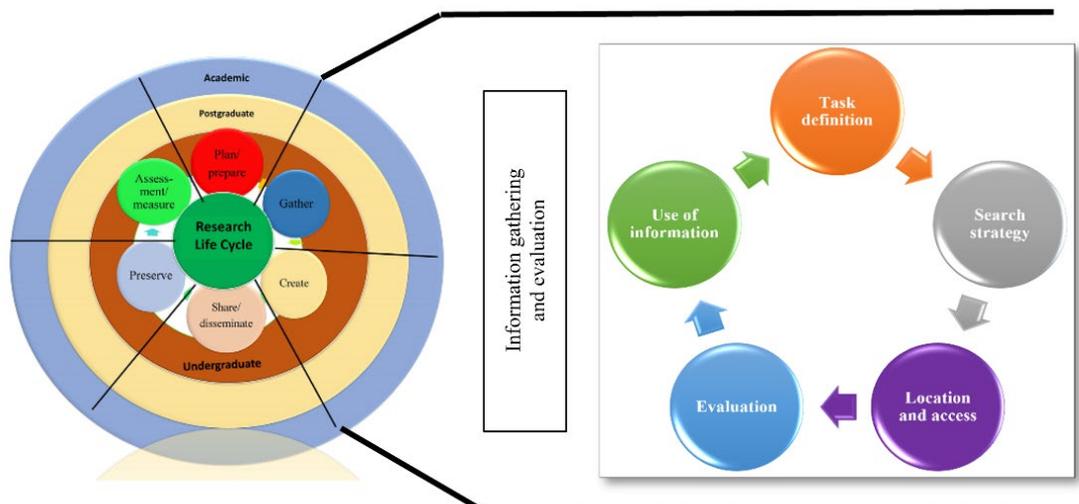
Figure 2.1: Information gathering within the Research Life Cycle

Steps in information gathering and evaluation

The information gathering and evaluation process can be deconstructed into five steps: (1) task definition, (2) search strategy, (3) location and access (searching), (4) evaluation and (5) use of information (including fair use).

One of the primary purposes of information gathering is to locate the most relevant documents in a collection to respond to the research question. You know a search is successful when you receive results that are relevant and relate to your information need.

Figure 2.2: Information gathering cycle

You need to keep in mind that the order of this cycle is not set in stone, and you may need to go back to refine or redo previous steps, but the further along in the cycle you get, the harder it is to go back and do earlier steps. This is why it is important that you do steps one and two as well as possible before moving on.

Step 1: Task definition

The first step to completing a task is to understand what you are going to do. Therefore, define the task by breaking it down into smaller sections and describing it in your own words.

For example, if your assignment requires you to prepare a presentation, you will need to search for more than just text and look for images, graphics or videos to include in your presentation.

A good process to follow in understanding your task is to do the following:
1. Read the instructions. Does the task require you to create an essay, report or presentation? Use this to identify the information needed to complete it.
2. Rewrite the task question in your own words. This will help you understand what exactly you need to do and may help you save time from looking for the wrong information.
3. Gather basic information about your topic by doing a brief Google search.

.

Note: think of Google like a starting point to get a general idea about your assignment. But when you really want the good stuff, like trusted articles, you should use Google Scholar or resources from your libraries catalogue

Step 2: Search strategy

Once you have defined your task, you can move onto the second step which is to find background information. You can do this by having a look at general and/or specialised dictionaries and encyclopaedias to better understand your topic. To do this we would recommend using the library's resources (including the electronic ones).

Tips:
- For more information on this refer to the literature review module.

What you can use - search engines, databases, online libraries, e-books and similar information resources. The second phase of this step is to identify search terms. While gathering information, creating keywords is an ongoing process and after producing new keywords, all other steps in the cycle continue.

Tips:
- Convert ideas to keywords.
- Choose unique terms.
- Use Boolean operators such as AND to narrow down your search; use OR to broaden your search.

Let's look at an example:

Topic: The impact of Covid-19 in higher education in South Africa.

The table below shows the keywords and synonyms extracted from the topic:

| Key words	Synonyms
Impact	Effect
Covid-19	Coronavirus
Higher education	Tertiary institutions
South Africa	RSA

To conduct an effective search on databases we use Boolean operators to build a search string:

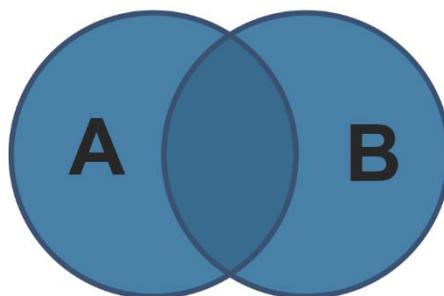**AND** – Narrows the search.

OR - Broadens the search.

NOT - excludes words that are not relevant to the search.

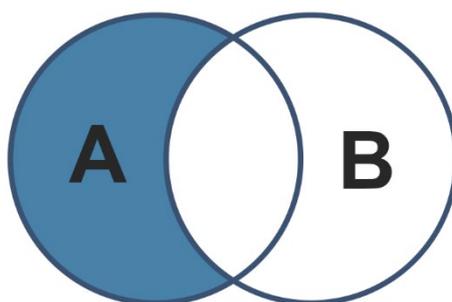Note: The quotation marks help us to keep a phrase together as a conceptual unit such as "South Africa".
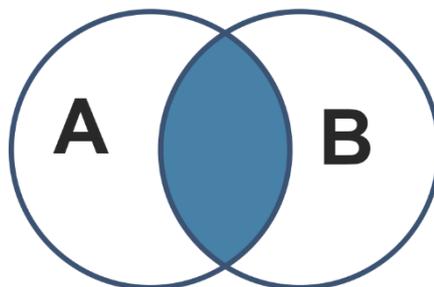
Impact AND Covid-19 AND higher education AND "South Africa"

Figure 2.3: A AND B Venn Diagram

(Impact OR effect) AND (Covid-19 OR Coronavirus) AND (South Africa OR RSA)

Figure 2.4: A OR B Venn Diagram

Java NOT Coffee

Figure 2.5: A NOT B Venn Diagram

Final search string:

impact AND Covid-19 AND higher education AND South Africa

Step 3: Location and access

Once you have defined your task and developed your search string, the third step is to locate sources and access the relevant information within them.

We recommend following the process below:

1. ## Determine the type of source.

The following are scholarly sources that might be consulted to address a research question:

- Academic journals
- Books written for the academic market
- Theses and Dissertations (Interlibrary loans)
- Papers and reports delivered at academic and professional conferences
- Newspaper archives
- Online resources such as found in Google Scholar, books and journals made available by your library.

2. ## Consult your library catalogue, library reference section and online search engines

You can access these sources of information via your institution's library catalogue. This provides users with access to the library's physical and electronic holdings.

- *Library holdings refers to what a library has both physical (books, magazines, DVDs or journals) and what you can access digitally (eBooks, databases, digital magazines, streaming videos etc).*

When searching for physical materials, the library catalogue will provide the bibliographic details of the item and its shelf number which indicates where in the library it is held.

- *Bibliographic details are key pieces of information about a book or article, like the author's name, title, publication date, and publisher. They help you find and understand the item, like a roadmap for locating it in a library or citing it in a research paper.*

For electronic resources, it provides a direct link to the database or website from which it can be downloaded. Alternatives to your library catalogue can be using WorldCat or Google Scholar to search for resources.
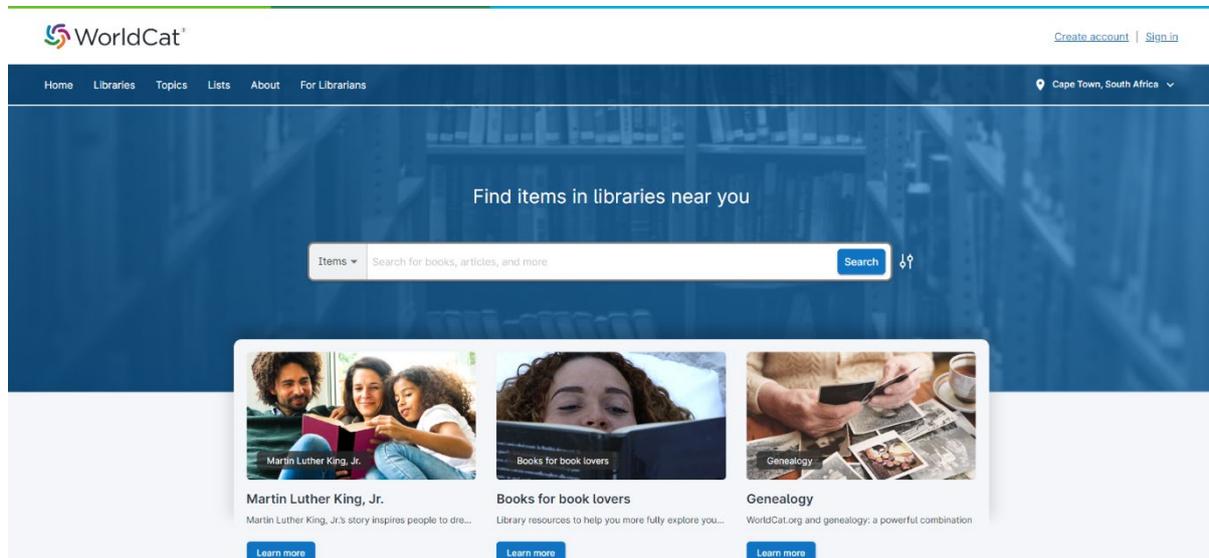

Figure 2.6: WorldCat Website

WorldCat is a global online catalogue that combines the collections of many libraries worldwide, allowing users to search for and locate books, articles, and other materials. It provides a convenient way to access resources from various libraries in one centralized platform.

Figure 2.7: Google Scholar

Google Scholar is a freely accessible web search engine that helps you find academic sources like research papers, articles, and books written by experts. It's handy for finding reliable information for your university assignments.

If you are looking for theses and dissertations, these are accessible through your university library or via some internet sources.

> *For example: OpenUCT is the University of Cape Town's [UCT] open access institutional repository that provides access to scholarly outputs produced at UCT, like theses and dissertations, journal articles, book chapters, technical and research reports.*

If you find scholarly resources that best suit your information needs but are not available at your institutional library or encounter paywalls, you may use the library's Interlibrary loans (ILL) service to obtain access.

3. Use a graphic organiser to map out your topic and subtopics.

A graphic organiser is a visual tool that is used to help organise and represent information in a structured way. It is a way to visually display ideas and concepts, and to make connections between them. Graphic organisers can take many different forms, such as diagrams, flowcharts, mind maps, tables and timelines.

A Lotus diagram is a very useful tool for outlining your topics and subtopics. To create your own Lotus diagram, you need to follow these steps:

1. Draw a 3x3 grid of squares.
2. Write down the main topic in the centre square.
3. Write down the subtopics in the other surrounding squares. These would be related topics that feed back into the main topic.
4. Draw 8 additional 3x3 square grids around the initial, centre grid.
5. Write down a subtopic in each of the eight centre squares and fill the surrounding squares with information and ideas about each subtopic.
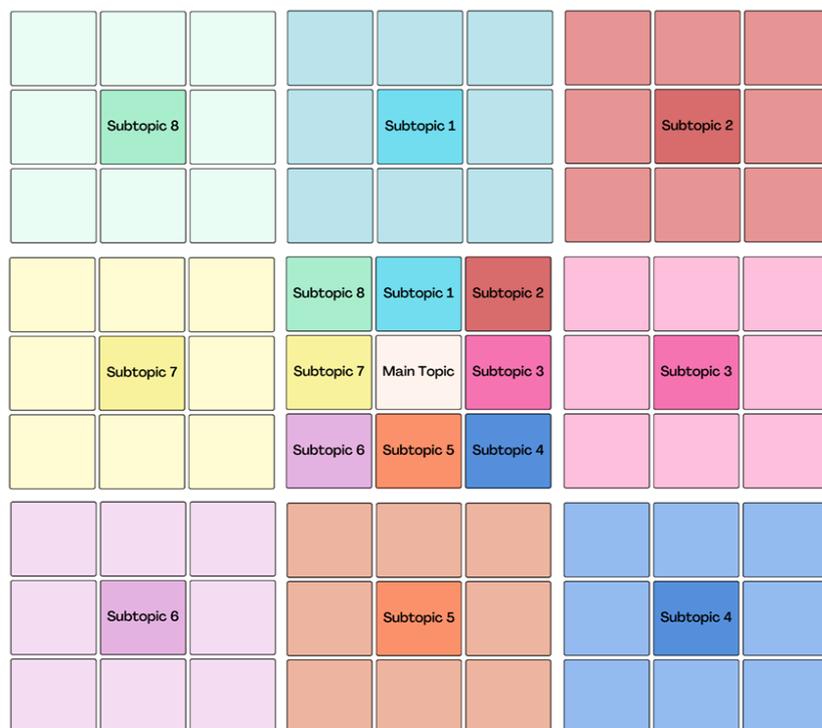

Figure 2.8: Lotus Diagram

Step 4: Evaluation

The next step is evaluation which is the exit point of the information gathering process.

It is important to evaluate your information sources as there are degrees of validity in terms of bias, quality, or accuracy of information. You need to assess the importance of determining the quality of resources found—especially online resources.

Things to keep in mind:
The CRAAP Test is a useful guide to evaluate online resources. CRAAP is an acronym for the general categories of criteria that can be used to evaluate information you find online. The following table outlines the CRAAP criteria:

Currency	When was the page written or site last updated? Are the findings still relevant?
Relevancy	How important is the information to your need? Is the information focused on your research questions? Who is the intended audience?
Accuracy	How reliable is the information? Are sources for any information so they can be verified? Is there quality control – check for grammatical or spelling mistakes
Authority	Can you identify organisation/company/person responsible? Is the author qualified to write on the topic?
Purpose	Who supports or funds the site? Does the funder have financial interest in the outcome of the study? Is the information objective, impartial and unbiased?

Step 5: Use of information

You must engage with the resources, read, view and extract the most valuable information. You are encouraged to skim and scan resources to find information that addresses your essay/assignment topics.

For example: Journal Articles

The Abstract of a journal article usually summarises the article's content. It introduces the topic, explains the focal point(s), contains the research methods and approach, as well as the findings and conclusion of the article. It is important that students read the Abstract first to see if the article is useful for their own topic.

The Introduction and Findings/Conclusion sections of a Journal Article are important sections to read after the Abstract. The introduction can be described as the outline of what is to follow in the rest of the article – the who, what, why and how. The Introduction typically serves to provide context for the research being presented and to help readers understand the significance of the study. It includes the research problem or question that the study aims to address, as well as any specific objectives or hypotheses that the research aims to test.

The Conclusion of a journal article is the final section that summarizes the main findings of the study and provides insights into the implications and significance of the results. It can also include the next steps for future research.

The next important section to read is the Research Methods/Methodology used in the study. Research methods or methodology refer to the techniques and procedures used by researchers to gather, analyse, and interpret data. After this, you may go ahead and browse through the References section, to find additional sources that may be useful for your assignment.

When using information extracted from resources, students must cite/reference the resource. Students can refer to the UCT Libraries website for a variety of referencing style guides used across courses and their relevant faculties.

Tips:
- Clearly identify the sources used.
- Cite both published and unpublished sources.
- Avoid plagiarism.
- List all cited sources in their Reference list or Bibliographies.

Conclusion

Information gathering is a crucial process in projects and assignments. It involves navigating and collecting specific information from various sources to develop an effective argument. Remember to start by making sense of your research question and understanding what is required from you. This will help you develop a search strategy to find the necessary resources to complete your task. Using credible sources, such as Google Scholar, WorldCat or your library catalogue will help with finding current, relevant and accurate information.

References

New Jersey Institute of Technology. (2024, March). How to Evaluate Information Sources. https://researchguides.njit.edu/evaluate/CRAAP

Quiz questions:

1. Why is it important to critically evaluate information sources?

A. To determine the purpose and audience of potential resources

B. To gain a deeper understanding of the issue being researched

C. To avoid reinventing the wheel

D. To ensure reliability, validity, and accuracy of information

Answer: D

2. What is the purpose of rewriting the task question in your own words as part of the task definition process?

A. To confuse yourself with the task requirements

B. To save time from looking for the wrong information

C. To increase the complexity of the task

D. To avoid understanding the task requirements

Answer: B

3. True or False:

After defining your task, the next step is to find background information by consulting general and/or specialized dictionaries and encyclopedias to better understand your topic

Answer: True

4. What type of sources might be consulted to address a research question according to the text?

A. Novels and fiction books

B. Academic articles and journals

C. Social media posts and blogs

D. Video games and movies

Answer: B

5. True or False:

Google Scholar is a freely accessible web search engine specifically designed to help users find academic sources like research papers, articles, and books written by experts.

Answer: True

6. Which of the following criteria is NOT part of the CRAAP Test for evaluating online resources?

A. Currency

B. Reliability

C. Authority

D. Purpose

Answer: B

7. True or False:

Evaluation is the initial step in the information gathering process.

Answer: False

8. True or False

The Abstract of a journal article usually summarizes the article's content, including the research methods and approach used.

Answer: True

9. What is the purpose of reading the Introduction section of a journal article?

A. To summarize the main findings of the study

B. To provide context for the research being presented

C. To list all cited sources in the Reference list

D. To identify additional sources in the References section

Answer: B

10. True or False:

The information gathering and evaluation process can be deconstructed into five steps, including task definition, search strategy, location and access, evaluation, and use of information.

Answer: True