Chapter 6: Evaluation of Information

In this Chapter, you will learn:

1. The criteria in evaluating information found
2. The analysis of Information
Introduction

Up to this point you have learned the following within these few weeks:

i. The various processes needed in conducting a research study for your academic paper
ii. How to define your topic and determine the required information in your academic research
iii. The various kinds of information sources for searching
iv. How to use the various kinds of tools for information access.

Assuming that you have defined the topic and identified the needed information for your problem, you are now in the stage of information evaluation. However, before starting on this activity, you need to know how to determine appropriate information sources in your searching.

1. Criteria in Evaluating Information Found

Identifying appropriate information from information sources is one of the very important activities in your academic study. Useful information is very important in academic study as well as other investigation, since it definitely affects your findings as well as outcomes of your study. Therefore, critical evaluation of the information found is essential to conducting quality investigation. Listed below is a collection of suggested criteria which you may consider as you sort through your sources for useful information. However, the relevance of these criteria will depend on your investigation topic and the focus selected.

- **Authority/Credibility**
  To help you identify the authority or credibility of the source of the information, you may need to consider the following questions:-
  - Can you clearly identify the author of the information? Who is the author of the information?
  - What are the author’s credentials and background? (You may look up the author’s biography to see his occupation, position, and level of expertise, etc.)
  - Has the author published any other related work? (You may check up the author’s bibliographies if he has published any other works, including books and periodicals.)

- **Reliability**
  Information is said to be reliable if it is trustworthy. The following questions can help you determine the trustworthiness of the source:-
  - Who is in charge for publishing the information?
  - Is the source sponsored or published by an institution, an organization or association? (The source may be a well-known trade publisher, a university press, an organization, or an individual, etc.)
  - How stable is the information? (Some source provides information that remains more accessible and valid (i.e. legitimate) over time than other information. For example, The New Encyclopedia Britannica (consisting of fifteen editions) gives us information more accessible and valid over time. In contrast, information printed on the Web frequently changes and may disappear in certain cases.)
• **Accuracy**¹
To identify the accuracy of information, first you need to determine whether the information is fact, opinion or propaganda, and then follow the guidelines listed as below:-

- If the information is presented as fact, how can you verify the accuracy of the information?
  (First, you should look up the documents to determine if footnotes or citations have been used within the information to confirm data or factual statements. Second, you may check up if the information has obvious errors (e.g. inaccurate information in citation), omissions, or any facts misquoted (i.e. quote some words out of context from another source) or misrepresented.)

- If the information is presented as opinion or propaganda, is there any evidence of bias?
  (You may check for bias by looking at the author or publishing source. Is there a particular point of view advocated in the source? What kind of language is used in the information: an objective and impartial language or an emotionally charged language?)

- Others
  Does the information provide sufficient evidence to support its claims or conclusion? Were conclusions appropriate, based upon the information presented?

• **Relevance/Appropriateness**
To determine the relevance of information found for your specific assignment/topic, you may need to consider the following questions:-

- Is the format (i.e. printed format, video, audio, or electronic format, etc.) of the information appropriate for your assignment?

- Does the information provide primary information (facts or original work) or secondary information appropriate for your needs?

- What is the purpose of the information?
  (The author or creator may make an argument for personal benefit, express a personal view, promote and/or sell products or services, or provide a factual report, etc.)
  (Note: You may check up who would make use of the information, and how it would be used.)

- Who will be the target readers of the source of information?
  (Some sources (e.g. popular magazines) are directed toward a general public; while scholarly/professional/trade sources are directed toward an audience with expertise or special interests)

- What is the level of the presented information?
  (Depending on the intended target readers, the information may be written at an elementary level using simple language, or it may contain highly technical vocabulary for sophisticated readers.)

• **Completeness/Comprehensiveness**²
The completeness of information is expressed in terms of coverage of the topic in question. A good way to get a general idea of the coverage of information can be done by browsing the material. Furthermore, table of contents, index, or abstract/summary of the information source, if available, may provide additional information to your selected topic. In general, you can check up the completeness of an information source by considering how extensively the source covers the topic in terms of:-

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¹ Please check up the website <http://multiweb.lib.calpoly.edu/infocomp/modules/05_evaluate/index_e.html> for more details.
² Please check up the website <http://multiweb.lib.calpoly.edu/infocomp/modules/05_evaluate/index_d.html> for more details.
Time—determine if the source provides historical information, current information, or both.

Geography—determine if the source provides you information that is local, regional, national, or international.

Specificity—determine if the source provides detailed information or general information.

Point of View—Determine if the source presents a single point of view, opposing points of view, or a range of viewpoints.

Full version or abridged version

• Timeliness
To identify the timeliness of information, check whether the information found is current or out-of-date for your selected topic. As a general rule, areas with constant and rapid changes, like sciences, medicines, etc., require more current information; and for topics in other areas, like the humanities, older information may still be valid. Check up the following questions to determine whether the information is timely:
  ➢ When was the material published/created/compiled?
  ➢ If the information is from a web site, can you determine how often the web site is updated?
    (The source may be updated continuously (daily), regularly, or irregularly.)
  ➢ Is the information still valid for the selected topic?

• Quality
You can identify the overall quality of information as indicated in the following questions:
  ➢ Are the ideas and thoughts clearly presented?
  ➢ Is the information well organized?
  ➢ Is the style of writing clear and understandable?
  ➢ Is the information valid, well-researched, and provided with good documentation?
  ➢ Is the quality control process of the publisher stringent?

The above criteria can be used in the following activities during extraction and summarization of the information found as presented below.

2. Analysis of Information

Upon what has accomplished in the previous session, we will take a much more detailed look at our information, attempting to gain a much deeper understanding of what it is all about. Content analysis and quantitative analysis are two normal approaches we would adopt in face of this need. As the information we gathered is used to appear as either textual or numerical information, we will use content analysis for textual information and quantitative analysis for numerical information.

Content Analysis

Content analysis [3] is a research tool used to determine the presence of certain words or concepts within texts or sets of texts. Researchers quantify and analyze the presence, meanings and relationships of such words and concepts, and then make inferences about the messages within the texts, the writer(s), the audience, and even the culture and time of which these are a part. Texts can be defined broadly as books, book chapters, essays, interviews, discussions, newspaper headlines and articles, historical documents, speeches, conversations, advertising, theatre, informal conversation, or really any occurrence of communicative language. Texts in a single study may also represent a variety of different types of occurrences. To conduct a content analysis on a
piece of text, the text is coded, or broken down, into manageable categories on a variety of levels – word, word sense, phrase, sentence, or theme – and then examined using one of content analysis’ basic methods: conceptual analysis or relational analysis. Conceptual analysis can be thought of as establishing the existence and frequency of concepts – most often represented by words or phrases – in a text. For instance, you have a hunch that your favorite poet often writes about hunger. With conceptual analysis you can determine how many times words such as “hunger,” “hungry,” “famished,” or “starving” appear in a volume of poems. In contrast, relational analysis goes one step further by examining the relationships among concepts in a text. Returning to the “hunger” example, with relational analysis, you could identify what other words or phrases “hunger” or “famished” appear next to and then determine what different meanings emerge as a result of these groupings.

Perhaps due to the fact that content analysis can be applied to examine any piece of writing or occurrence of recorded communication, content analysis is currently used in a dizzying array of fields, ranging from marketing and media studies, to literature and rhetoric, ethnography and cultural studies, gender and age issues, sociology and political science, psychology and cognitive science, and many other fields of inquiry. Additionally, content analysis reflects a close relationship with socio- and psycho-linguistics, playing an integral role in the development of artificial intelligence. The following list (adapted from Berelson, 1952) offers more possibilities for the uses of content analysis:

- Reveal international differences in communication content
- Detect the existence of propaganda
- Identify the intentions, focus or communication trends of an individual, group or institution
- Describe attitudinal and behavioral responses to communications
- Determine psychological or emotional state of persons or groups

Quantitative Analysis

Quantitative analysis is the scientific approach to decision making. Whims, emotions, and guesswork are not of the quantitative analysis approach. This approach starts with numerical information. Similar to raw material for a factory, the information are manipulated or processed into the results valuable for decision making. This processing and manipulating of raw data into meaningful information is the heart of quantitative analysis. Computers have been instrumental in the increasing use of quantitative analysis. [4]

After acquiring numerical information to solve a particular problem, one can always develop a model (usually mathematical model) in order to better understand the message which the numerical information is conveying. Within the range of the numerical information, prediction can also be made. If model is not to be constructed, one can still analyze the trend of the numerical information by grouping them into different categories.

Returning to the example of the Ancient Egypt project, the student may find some numerical information of life expectancy as follows (Table 1),

<table>
<thead>
<tr>
<th>age</th>
<th>female</th>
<th>male</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-4</td>
<td>193</td>
<td>193</td>
</tr>
<tr>
<td>5-9</td>
<td>45</td>
<td>53</td>
</tr>
<tr>
<td>10-14</td>
<td>22</td>
<td>29</td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>Age Group</th>
<th>Female</th>
<th>Male</th>
</tr>
</thead>
<tbody>
<tr>
<td>15-19</td>
<td>28</td>
<td>29</td>
</tr>
<tr>
<td>20-29</td>
<td>69</td>
<td>49</td>
</tr>
<tr>
<td>30-39</td>
<td>73</td>
<td>56</td>
</tr>
<tr>
<td>40-49</td>
<td>45</td>
<td>17</td>
</tr>
<tr>
<td>50-65</td>
<td>33</td>
<td>21</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>508</strong></td>
<td><strong>447</strong></td>
</tr>
</tbody>
</table>

Table 1: Age Distribution of Female and Male in Ancient Egypt [5]

By means of computer software such as SPSS or Excel, the following result will be obtained. (Fig. 2)

![Age-Gender Outlook](image-url)

Figure 2: Age-Gender Outlook

Although the above example is only a trivial example of the use of quantitative analysis, it demonstrated how quantitative analysis brought deeper understanding to our tasks if applied appropriately. Popular computer software application programs dedicated for quantitative analysis include SPSS, SAS, Microsoft Excel, Minitab, Maple, MathLab or Lisrel.

**Works Cited**


[3] Colorado State University. Writing@CSU: Writing Guide. http://writing.colostate.edu/references/research/content/index.cfm
