

IV. Evaluate Research Materials

- ***Criteria to Evaluate Research Materials in Engineering-***

After you have located various materials on your topic, you should evaluate them to determine their usefulness, quality and authority. Keep in mind that evaluating the information you have located is one of the major skills of library research process. In evaluating information in the field of Engineering, you should apply the ten criteria below:

1. ***Author's qualifications or credentials-***

Is the author practicing in the field? Is he an authority in the field? How many articles or books he has written on the topic?

2. ***The Timeliness of the Publication-***

Is the information timely or out-of-date for your topic? When was the information created?

Check the publication dates. Is the information updated regularly, if so, how often is it updated? Some information are updated daily, some weekly and monthly.

Is the information still valid for your topic? If you need the very current information then timeliness is a must for you. But, if you are looking for the historical perspective of your topic, then timeliness may not be crucial.

3. ***Accurate and Factual Information Supported by Evidence-***

Does the information you have located come from authoritative sources? If the information came from a journal in a database, is the journal refereed? Refereed journals or publications are the ones that contain information reviewed by several experts in the field. Is there a review about the book you will use as a source? How thoroughly the information is edited and reviewed? If you obtained the information from a web site, how stable or permanent is the information? Some information will remain accessible and valid over time than the others. Is the *coverage* of your topic complete? To find about this question, you may check the

table of contents, index, or abstract or summary of the source. Are the factual statements well documented or footnoted so you can verify them for accuracy?

4. ***Primary vs. Secondary Sources-***

You can locate your information from two types of materials:

Primary Sources: These are the firsthand or eye-witness accounts of an event. They include, newspaper stories, reports of experiments, statistics, government documents, autobiographies and letters. For example, AT&T Technical Reports, NASA Reports, and others.

Secondary Sources: These are the sources that analyze, relate, evaluate or criticize based on information on information gathered from Primary Sources.

5. ***Reputation of the Publisher-***

Check out the publisher of the source. If the publisher is a university press then it is likely to be scholarly. Even though you cannot always guarantee quality based on the publisher's reputation, it may be a sign that the publisher has a regard for the type of sources it publishes. For example, University of Texas Press, Cambridge University Press, Elsevier Press, John Wiley and Sons and Blackwell Science are scholarly publishers in Science and Engineering and other areas.

6. ***Type of Publication-***

Is the source scholarly, popular, trade or government publication? Is the journal scholarly or popular? You need to make a distinction because it indicates different levels of complexity in introducing ideas.

Scholarly Journals-

The Webster's Third International Dictionary definition of a scholarly journal is a publication that is concerned with academic study, especially research;

exhibiting the methods and attitudes of a scholar; and having a manner and appearance of a scholar. These journals usually have a serious look and contain various graphs, charts and other statistical information. The articles in these journals always cite their resources in the form of footnotes or bibliographies. The authors of the articles are scholars in the field or someone who has done research in the field. The language used is discipline related. Scholarly journals aim to report on original research or experimentation and disseminate it for scholarly use. Examples of *Scholarly Journals* include, Advanced Engineering Materials, International Journal of Network Management, Journal of Robotic Systems, Advanced Engineering Informatics, Engineering Fracture Mechanics and others.

General Interest and News Publications-

These publications are attractive in appearance, their format can be a journal or a newspaper. The articles contained in these sources may be written by editorial staff, scholars or free lance writers. The language used is for the general public. They are published by commercial entities, individuals and/or professional organizations. The aim of these sources is to provide information to a broad audience of concerned citizens.

Some examples are *Popular Mechanics*, *Scientific American*, *New York Times*, *National Geographic* and others.

Popular Journals- these sources are attractive in appearance. They contain many photographs, drawings. They very rarely cite sources and information they contain

are usually second or third hand. The articles are in general with very little depth. The popular journals are for entertaining the reader, selling products or promoting a viewpoint. Some examples are People Weekly, Traditional Homes, Vogue, Good Housekeeping, Southern Living, Essence and others.

Sensational, Tabloid Publications- use elementary language that is often sensational. They aim to arouse curiosity with flashy headlines. Some examples are National Inquirer, Globe, Weekly World News, Star, and others.

- *Criteria to Evaluate the Web Resources*

You can find a vast amount of information on the Internet, however, not all resources are equally valuable or even reliable. Your challenge is to sift through the vast amount of information and pinpoint those sources that are reliable and relevant for your topic. As a rule the, informational web pages present factual information. For example, the web pages with URL addresses that end with .eu or .gov provide reliable information since they are sponsored by educational institutions or government agencies. You may consider the following points in evaluating web sources:

1. **Scope-** How **complete** is the information covered? Is the information given in detail?
2. **Content-** Is the information **accurate** or **factual** and reflects the opinion of the author? Does the author list his/her sources for **verification**? Is the information **biased**? Does the information clearly provide the name(s) of person(s) or organizations **responsible** for the content of the information? Is the author **qualified** to provide the information? How **current** is the information? Do you see dates as to when it was written

and when it was last **revised** or
or **updated**? Are there **links** to
other related resources? If so,
are they up-to-date? Is the text
well written and **communicated** clearly?

3. **Graphics and Multimedia Design**- Is the
Page **attractive** and **Interesting** to look at?

4. **Navigation**- is the web resource **easy** to
use? Is it user **friendly**? Can you access
the resource via **standard** computer
equipment and software?