RESEARCH METHODS

Literature Reviews
Referencing using Mendeley

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FAITH · INTEGRITY · EXCELLENCE

Literature Review – Introduction

❑ Review of literature is one of the most important steps in the research process.

❑ It is an account of what is already known about a particular phenomenon.

❑ The main purpose of literature review is to convey to the readers about the work already done & the knowledge & ideas that have been already established on a particular topic of research.

❑ Literature review is a laborious task, but it is essential if the research process is to be successful.

MEANING OF LITERATURE REVIEW

☐ A literature review is an evaluative report of information found in the literature related to selected area of study. There view describes, summarizes, evaluates & clarifies this literature. It gives a theoretical base for the research & helps to determine the nature of research….(Queensland University, 1999)

☐ A literature review is a body of text that aims to review the critical points of knowledge on a particular topic of research….(ANM, 2000)

☐ A literature review is an account of what has been already established or published on a particular research topic by accredited scholars & researchers….(University of Toronto, 2001)

Literature Review – Importance

- It describes how the proposed research is related to prior research in statistics.
- It shows the originality and relevance of your research problem. Specifically, your research is different from other statisticians.
- It justifies your proposed methodology.
- It demonstrates your preparedness to complete the research.
- Identification of a research problem & development or refinement of research questions.
- Generation of useful research questions or projects/activities for the discipline.
- Orientation to what is known & not known about an area of inquiry to ascertain what research can best contribute to knowledge.
- Determination of any gaps or inconsistencies in a body of knowledge.
- Discovery of unanswered questions about subjects, concepts or problems. Determination of a need to replicate a prior study indifferent study settings or different samples or size or different study populations

Literature Review – Necessity

❑ Every statement in a literature review must be supported either by a reference to published statistical literature.

❑ In a literature review, you do not present all of the details found in the references. For example, you can state a theorem, but you do not have to present a proof of the theorem.

❑ It demonstrates to the review committee that the student has read a large amount of the topic literature to prove that the student is aware of the wide range of research in theory and methodology related to the proposed research topic.

❑ It provides proof to the review committee that the student has a deep understanding of the published research related to the topic of the dissertation.

❑ It should convince the review committee that the student can communicate this understanding of the statistical literature and its relationship to the proposed research.

Literature Review – Conducting & Writing

1. Choose a topic. Define your research question.
2. Decide on the scope of your review.

Step 1. Develop a topic – (Choose a topic)

Choose a topic. Define your research question.

- Your literature review should be guided by a central research question.
  - *Remember, it is not a collection of loosely related studies in a field but instead represents background and research developments related to a specific research question, interpreted and analyzed by you in a synthesized way.*
- Tips:
  - *Make sure your research question is not too broad or too narrow. Is it manageable?*
  - *Begin writing down terms that are related to your question. These will be useful for searches later.*
  - *If you have the opportunity, discuss your topic with your professor.*

2. Decide on the scope of your review.

Developing a research question?

- How many studies do you need to look at? How comprehensive should it be? How many years should it cover?

- Tip: This may depend on your assignment. How many sources does the assignment require?

- **Select the databases you will use to conduct your searches.**

- Make a list of the databases you will search. Remember to include comprehensive databases such as World Cat and Dissertations & Theses, if you need to.

- Where to find databases:

- [Find Databases by Subject](#) UWF Databases categorized by discipline

- [Find Databases via Research Guides](#) Librarians create research guides for all of the disciplines on campus! Take advantage of their expertise and see what discipline-specific search strategies they recommend!

Develop a Topic

What I know/don't about the Endangered Species Act (ESA)?

❑ **I know:**
- *it's a law that protects animals and habitats that are in danger of extinction.*
- *at one point bald eagles and grizzly bears were on the list.*
- *there has been a lot of controversy about adding polar bears to the list.*

❑ **I don't know:**
- *what it takes for an animal to be removed from the list.*
- *what the penalties are for violating this act.*
- *if it protects only habitats within the U.S.*

❑ **Research Questions**
- *What was the ESA designed to protect -animals only or ecosystems too?*
- *What animals/habitats outside of the United States are covered by the act?*
- *What other countries have legislation to protect animals/habitats?*
- *What animals are currently on the endangered species list?*
- *How does an animal get added/removed from the list?*
- *What penalties are imposed on those who violate the act?*

Develop a Topic

- **Identifying Keywords**

- The keywords you use can have a profound impact on the results of your research. Using the "right" words will speed up the research process, while the "wrong" words can bring to it to a halt.

- Before you can begin searching for information, you need to identify keywords related to your topic. Key terminology can be easily be found by scanning:

  - *Your [research questions](#)*

  - *Articles found from [background research](#)*

  - *Bibliographies found at the end of [books and articles](#)*

- Choose 3–5 keywords and focus on them intently. Sure, you may end up needing using more keywords.

Develop a Topic

- **Sources of Background Information**
- Background information can be found in:
  - *textbooks*
  - *dictionaries*
  - *general encyclopedias*
  - *subject-specific encyclopedias*
  - *article databases*
- Once you have identified some keywords, the next step is to find background information on your topic. Background research:
  - *Provides a good overview of the topic if you are unfamiliar with it.*
  - *Helps identify important facts -- terminology, dates, events, history, organizations, etc.*
  - *Can help refine your topic.*
  - *Leads to bibliographies which provide additional sources of information.*

Develop a Topic

Is Your Topic Too Narrow?

Time	Civil War, Iron Age, 1920's, 18th Century
Location	Europe, U.S., New York state, urban, eastern
Population	age, race, gender, nationality, ethnic group, occupation
Event or Aspect	*government regulations* related to cloning, *Battle of the Bulge* in WWII
Person or Group	college students, Democrats, Republicans
Time	Civil War, Iron Age, 1920's, 18th Century

If you are *finding too much information*, your research topic may be too **BROAD**.
Consider narrowing it to a more specific

Is Your Topic Too Broad?

Generalize	Generalize your topic. If your topic is the economic effects of fracking on Troy, PA, broaden your topic to all Pennsylvania communities or the United States**.**
Currency	If your topic is very current, there may not be books or journal articles available yet. Choose an alternative topic that is not so recent.
Database Choice	Use other databases in your subject area or consider databases in a related subject area which might cover the topic from a different perspective.
Synonyms	Use a thesaurus to find synonyms for your topic. When reading background information, note the terminology that is used.
Related	Explore related issues.
Expand / Remove	Expand or remove: location, time period, aspect, event, population, person/group

If you are *finding too little information*, your topic may be too **NARROW**, specialized, or current. Use these strategies to broaden your topic.

Step 2. Information Search and Location

☐ **Search Strings**

➢ *Are you finding too much or not enough information? Try using boolean operators and truncation symbols, or use alternative, narrower, or broader [keywords](#) to vary your results.*

- **AND** – Accra AND Tema (Results contain ALL of the search terms).
- **OR** – Results contain ANY of the search terms, but not necessarily all of them
- **NOT** – Java NOT C++ (Excludes results containing the 2nd search term).

➢ *To retrieve the most relevant search results, you will need to construct a **search string**.*

- A search string is a combination of keywords, truncation symbols, and boolean operators you enter into the search box of a library database or search engine.
- Example: **educat* AND student*** gives results that include "education, educator, educating" and "student, students".

Information Search and Location

❑ **Books**

❑ **eBooks**

❑ **Articles**

❑ **Videos & Images**

❑ **Databases**

❑ **Websites**

❑ **Grey Literatures**

❑ **Open Access Materials**

Everything   Articles   Books   Videos   Reserves

Search Everything

Advanced Search

Find books, articles, videos, and more...

Elmira College ▾   🔍

Google

google   ✕   🎤   🔍

🔍 All   ▶ Videos   🖼 Images   📰 News   📍 Maps   ⋮ More   Settings   Tools

About 11,620,000,000 results (0.69 seconds)

📖 Books

📊 Finance

www.google.com ▾

Information Search - Grey Literatures

What is "Grey Literature"?

- *"That which is produced on all levels of government, academics, business and industry in print and electronic formats, but which is not controlled by commercial publishers." (Fourth Int. Conf. on Grey Literature, Washington, DC, October, 1999)*

Grey literature includes:

- *Theses and dissertations*
- *Conference papers and proceedings*
  - can be very difficult to find because they:
  - Can be published in different ways - as books, journal articles, abstracts
  - Take several years to be published or may not be published at all
  - May be deposited in an author or institutional repository
- *Research reports*

  contain the results of research projects, investigations, and surveys, and are usually published by the funder or the body undertaking the research.
- *Government documents*
  - *Government documents are an important [primary source of information](#) on a wide range of issues. They can be found through a search of the library catalog and government websites.*

Step 3. Evaluate and analyse information

When doing research, it is important to find information that is ***reliable, accurate, and appropriate for your assignment***.

Some assignments may require you to use or limit certain sources such as:

- ❑*primary or secondary sources,*
- ❑*specific types of periodicals, and/or*
- ❑*Internet sources.*

In all cases, you should evaluate the information before you use it in your assignments.

Step 3. Evaluate and analyse information
Source Types

When evaluating information, it is useful to identify if it's a **Primary, Secondary, or Tertiary source**. By doing so, you will be able recognize if the author is reporting on his/her own first hand experiences, or relying on the views of others.

Source Type	Examples
Primary A first-person account by someone who experienced or witnessed an event. The original document has not been previously published or interpreted by anyone else.	•First-person account of an event •First publication of a scientific study •Speech or lecture / Original artwork •Handwritten manuscript •Letters between two people / A diary •Historical documents, e.g. Bill of Rights
Secondary One step removed from the primary original source. The author is reexamining, interpreting and forming conclusions based on the information conveyed in the primary source.	•Newspaper reporting on a scientific study •Review of a music CD or art show •Biography
Tertiary Further removed from a primary source. It leads the researcher to a secondary source, rather than to the	•Bibliography •Index to articles

Step 3. Evaluate and analyse information
Source Types

❑ *Specific types of periodicals, and/or*

- *Trade Magazines or* **Academic Journals**
- **General Interest Magazines / Newspapers**

Trade Magazines	Academic Journals
Appearance: Print versions are generally attractive and are often illustrated with color photographs.	In print format, these generally have a sober, serious look. May contain graphs and charts, but few glossy pages or photographs. Use scholarly language with vocabulary specific to their profession or field.
Audience: Written for industry professionals.	Written for academics and professionals.
Author/Authority: Articles written by staff writers, though the magazine may sometimes accept articles from industry professionals.	Articles written by researchers or scholars in the field who report the results of original research.
Citations: Occasionally list references at the end of the article or provide footnotes within the text.	Articles include footnotes and a list of citations at the end of the article.
Content: Includes current events and special features within a particular profession or industry.	Includes scholarly research for a particular profession or industry. Articles usually contain an abstract, methodology, discussion, charts or tables, results, conclusions, and references.
Frequency: Usually published biweekly or	Usually published bimonthly or quarterly

Step 3. Evaluate and analyse information

Why evaluate?

- Knowing how to evaluate information can help you with research assignments as well as bigger *life decisions*.

- Knowing how to find relevant and accurate information can help you make informed decisions about graduate school, a new car purchase, financial aid, jobs, your health, and more.

4. Write, organize, and communicate information

This steps involve the following:

- Taking Note

- Outline the research

- Incorporate source materials

☐Taking Note

- *Use one of these notetaking forms to capture information:*
- ***Summarize****: Capture the main ideas of the source succinctly by restating them in your own words.*
- ***Paraphrase****: Restate the author's ideas in your own words.*
- ***Quote****: Copy the quotation exactly as it appears in the original source. Put quotation marks around the text and note the name of the person you are quoting.*

4. Write, organize, and communicate information

❑Outline the research

    ❑***To create an outline:***

- *Place your thesis statement at the beginning.*

- *List the major points that support your thesis. Label them in Roman numerals (I, II, III, etc.).*

- *List supporting ideas or arguments for each major point. Label them in capital letters (A, B, C, etc.).*

- *If applicable, continue to sub-divide each supporting idea until your outline is fully developed. Label them 1, 2, 3, etc., and then a, b, c, etc.*

4. Write, organize, and communicate information

❑ Incorporate source materials

❑ *Quote, Paraphrase or Summarize?*

- In **research papers,** you should **quote** from a source when you:
- want the reputation of the author to lend authority and credibility to your point.
- find memorable or historically significant language.
- don't want the author's meaning to be lost or changed if you paraphrased or summarized.
- find the author's language so clear and concise you wouldn't be able to effectively make the same point in your own words.
- You should **summarize or paraphrase** when you:
- can express in fewer words the main points of a source.
- want the **ideas** presented in the source, but **not the specific language** used to express it.

❑ *Avoid Plagiarism by Paraphrasing*

Step 5. Cite sources

Citing resources is common practice for writers engaged in any type of research. By providing citations, the writer is contributing to the ongoing scholarly discussion of the topic.

Properly cited resources:

❑ *Attribute credit where credit is due*

❑ *Provide credibility for your arguments*

❑ *Demonstrate evidence of your research*

❑ *Offer a path for your readers for ongoing scholarship*

❑ *Help avoid plagiarism*

- *Avoid Plagiarism*
- *Referencing MLA | APA | Chicago Style | Annotated   Bibliographies*

Step 5. Cite sources

Choosing a Citation Style

- Various disciplines have preferred citation styles, depending, usually, on which bits of information about sources is most relevant to researchers. Commonly used styles are:
- **APA (American Psychological Association) -** used in psychology, education, and other social sciences (See Basics of APA Style tutorial.)
- **MLA (Modern Language Association) -** used in literature, arts, and humanities
- **Chicago -** used in the humanities and social sciences
- **APSA (American Political Science Association) -** used in political science (APSA Style Manual)
- **ACS (American Chemical Society)** - used in chemistry
- **CSE (Council of Science Editors)** - used in biology
- The following style guide books are available on reserve at the Library Services Desk. They can be checked out for use in the Library only.
- APA (*Publication manual of the American Psychological Association*, 6th ed.)
- MLA (*MLA handbook for writers of research papers*, 7th ed.)
- Chicago style (*The Chicago Manual of Style*, 16th ed.)
- Turabian (*A Manual for Writers of Research Papers, Theses, and Dissertations,* 2013)

BASIC STEPS OF RESEARCH

Technical

1. *Identification and definition of the problem*
   - Analysis of needs
   - Review of literature
   - Determination of significance of the problem
   - Formulation of hypothesis and categorization of variables

2. *Planning the Research*
   - Statement of objectives
   - Selection of study population and subjects
   - Choosing research design
   - Method of data collection
   - Plan of data processing and analysis

BASIC STEPS OF RESEARCH

Technical

   3.   *Implementation of Plan*
- Data collection
- Data processing
- Data analysis

   4. *Interpretation and conclusion*

   5. *Reporting of the study results*

PROBLEM IDENTIFICATION

A. Research problem – question to be answered or resolved

B. Sources of Research Problems
- *Intellectual curiosity*
- *Serendipity*
- *Analysis of needs and practice*
- *Organized and systematic determination or research needs*

C. Criteria for a Good Research Problem

1. *Researchability*
   - Can be resolved through research
   - Does not require value judgment

2. *Significance*
   - Problem:
     - *Affects a large population*
     - *Has serious morbidity consequences*
     - *Is related to on-going projects*
   - Answer:
     - *Fills a gap in knowledge*
     - *Has practical application*
     - *Will improve the practice of profession*

3. *Interest*
   - *Within national or institutional mission*

PROBLEM IDENTIFICATION

- Dissection of broad problems into its facets of sub-problems

- Aided by literature review

- Each sub-problem should be researchable

- Answers to sub-problems should adequately answer the main problem.

Assignment 1 – group

Selecting a Topic:

Select a suitable topic for academic research concerning students and technology.