



Referencing Styles, Research Design and Sampling

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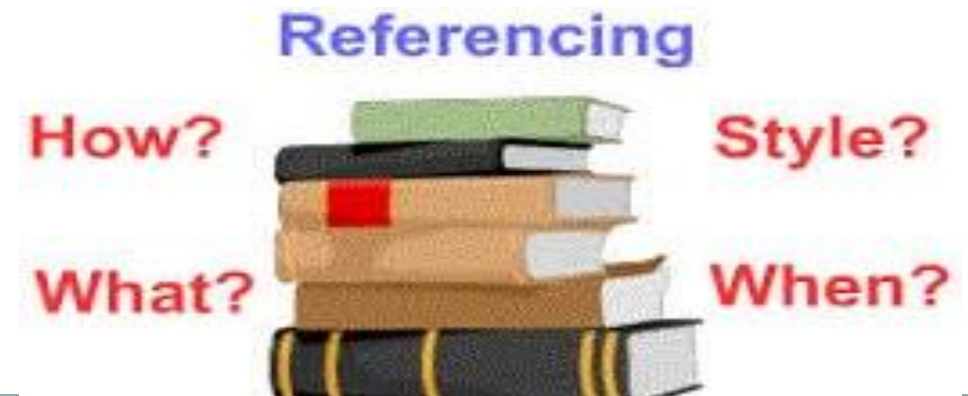
Outline



- What is Referencing
- Why is Referencing Important.
- Types of Referencing Styles
- What is Research Design
- Types of Research Design
- What is Sampling
- Types of Sampling

❑ What is Referencing?

- Is the process of **acknowledging** and **citing the sources of information** (such as **books, journals, or websites**) that you use in your **academic** or **research work**.
- It means showing where your **information comes from** so that others can **verify it** and **give credit to the original authors**.



❑ Why is Referencing Important?



- Referencing is essential in academic and research work because it ensures **honesty**, **credibility**, and **clarity**.
 - i. Avoids plagiarism.
 - ii. Gives credit to original authors.
 - iii. Helps readers find the original source.
 - iv. Increases credibility and reliability of your work.

❏ Example:



➤ If you write a statement in your article:

- **Ascariasis is a common parasitic infection worldwide.**

➤ You should add a reference at **End of the statement** and at the **End of the document**, known as **In-text Citation** and **Bibliography (Reference list)**.

❏ In-text Citation



- Is a short reference within the body of your writing that shows where specific information or ideas come from.
- It appears inside the text (sentence or paragraph).
- It briefly identifies the source.

❖ Example:

- ✓ **Numeric style:** Intestinal parasites are common worldwide (1).
- ✓ **Author-year style:** Intestinal parasites are common worldwide (Smith, 2020).

❏ Bibliography (Reference List)



- A bibliography (or reference list) is a complete list of all sources used in your work.

- Placed at the **end of the document**.

- Contains **full details of each source**.

- ❖ Example:

- ✓ Smith J. Intestinal parasites in children. J Clin Med. 2020;15(2):100–105.

❑ Types of Referencing Styles:



- Are standardized methods used to cite sources in academic writing.
- Different disciplines use different styles depending on their conventions.

1. Vancouver Style.

5. Chicago style

2. Harvard Style.

3. APA Style.

4. MLA Style.

❏ What is Vancouver Referencing Style?



➤ **Definition:** The Vancouver referencing style is a **numbered citation** system used mainly in **medical** and **scientific writing**.

➤ **Vancouver style is a referencing method where:**

1. Sources are cited using numbers in the text.
2. Each number corresponds to a **full reference** in a list at the end.
3. References are arranged in the order they appear in the text

❏ How it Works



➤ In-text citation:

- Use numbers like: (1), (2), (3) or superscript¹
- The same number is reused, if the same source is cited again.

➤ Reference list: Listed at the end of the document.

- Arranged numerically, not alphabetically
- Example: **In-text:** Intestinal parasites are common worldwide¹ (1).
- **Reference list:** 1. Ali K. Intestinal parasites in children. J Med Sci. 2020;12(3):45–50.

❏ Comparison of Referencing Styles:



Style	In-text Citation	Reference List Order	Common Use
Vancouver	Numbers (1, 2, 3)	Order of appearance	Medical sciences
Harvard	Author-Year	Alphabetical	General sciences
APA	Author-Year	Alphabetical	Psychology
MLA	Author surname-page	Alphabetical	Literature
Chicago	Footnote ¹ or (Smith 2020)	Varies	History

❏ General Format of References

- The general format of references depends on the **referencing style used**, but all references include key elements.

➤ Common Elements in a Reference.

- Most references include: **Author(s)**, **Title of the work**, **Year of publication**, **Source** (journal, book, website), **Publisher or journal name**, **Page numbers** (if applicable).

❑ General Formats (Vancouver Style)

➤ Using Vancouver referencing style:

1. Journal Article:

- **Format:** Author(s). Title of article. Journal Name. Year; Volume(Issue): Page numbers.
- **Example:** Ali K, Hassan M. Parasitic infections in children. J Med Sci. 2021;10(2):50–55.

❑ Book:

- **Format:** **Author(s).** **Book title.** **Edition.** **Place of publication:** **Publisher;** **Year.**
- **Example:** Brown L. Medical Parasitology. 2nd ed. London: Academic Press; 2019.

❖ Website:

- **Format:** **Author/Organization.** **Title of page.** **Available from: URL.**
- **Example:** World Health Organization. Soil-transmitted helminths. Available from: <https://www.who.int>

❑ Common Mistakes in Referencing:



• Making **errors in referencing** can **reduce the quality** and **credibility of academic work**. Below are the most common mistakes students should avoid:

- i. Missing References.
- ii. Incorrect In-text Citation.
- iii. Mismatch Between In-text citations and Reference List.
- iv. Wrong Order of References.
- v. Incomplete Reference Details
- vi. Incorrect Author Formatting
- vii. Inconsistent Formatting

❑ What is Research Design?



- Research design is the **overall plan** or **blueprint** that guides **how a research study is conducted**.
- It is the **structured approach used to collect, measure, and analyze data** in order to answer a research question.



❑ **Research design tells you:**

1. What to study (research problem or question).
2. Who to study (population or sample).
3. When and where to conduct the study.
4. How to collect data (methods and tools)
5. How to analyze the data
6. How to interpret and present the results

❑ Types of Research Design:



- Research designs are classified based on the purpose of the study.

- i. Descriptive Research Design.

- ii. Analytical Research Design.

- iii. Experimental Research Design.

- iv. Cross-Sectional Study.

- vi. Qualitative Research Design

- v. Longitudinal Study

- vii. Quantitative Research Design

❑ **Descriptive Research Design:**

- Describes characteristics of a population or phenomenon
- **Does not test relationships or causes**

➤ **Example:**

- Measuring the **prevalence of intestinal parasites** in a community.

❑ **Analytical Research Design:**

- Examines relationships between variables.

i. **Case-Control Study:** Compares **diseased (cases)** vs **non-diseased (controls)**.

- **Example:** Comparing infected and non-infected individuals to identify risk factors.

ii. **Cohort Study:** Follows a group over time to observe outcomes.

- **Example:** Tracking people exposed to **contaminated water** to see if they **develop infection**.

❑ **Experimental Research Design:**

- Researcher manipulates variables.
- Used to test cause-and-effect relationships

➤ **Randomized Controlled Trial (RCT):** Participants randomly assigned to groups.

- **Example:** Testing a **new drug** against a **standard treatment**.

❑ **Qualitative Research Design:**

- Focuses on opinions, experiences, and behaviors.
- Uses interviews, observations.

➤ **Example:**

- Studying people's awareness of hygiene practices.

❑ **Quantitative Research Design:**

- Uses numerical data and statistical analysis.

➤ **Example:**

- Measuring infection rates and analyzing data statistically.

❑ Cross-Sectional Study

- Data collected at **one point in time**

➤ Example:

- Surveying patients to determine current infection rates.

❑ Longitudinal Study: Data collected over a long period.

- **Example:** Following children for several years to study disease progression.

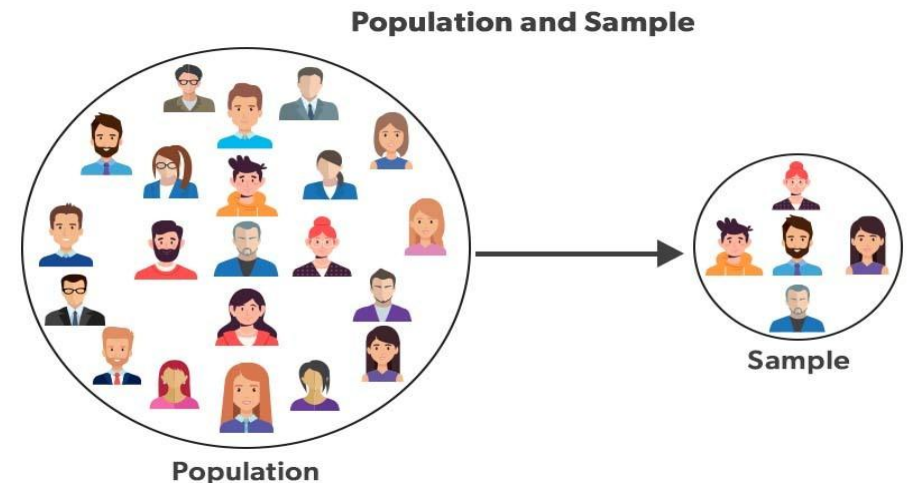
❑ Importance of Research Design:

- Research design is essential because it provides a clear and organized plan for conducting a study.
- 1. Ensures Valid and Reliable Result.
- 2. Minimizes Bias.
- 3. Provides Clear Direction.
- 4. Saves Time and Resources.
- 5. Facilitates Data collection and Analysis

❑ What is Sampling?



- Is the process of **selecting a small group** (sample) from a **larger population** to **represent the whole** in a research study.
- Sampling is a **method used to choose participants or data** so that conclusions can be made about the **entire population**.
- Example:
 - ✓ Study intestinal parasites in a city.
 - Total population = all people in the city
 - Sample = 200 selected individuals



❏ Types of Sampling:

- Sampling methods are divided into two main categories:
 - i. **Probability** Sampling (Random Sampling).
 - ii. **Non-Probability** Sampling.

➤ Probability Sampling:

- Every member of the population has a known and equal chance of being selected.
- Produces more accurate and unbiased results.

❑ **Types of Probability Sampling:**



- a) Simple Random Sampling (Choosing students using a random number table).
- b) Systematic Sampling (Select every 10th patient (10th, 20th, 30th, etc.).)
- c) Stratified Sampling (Dividing people by age or gender and sampling from each group).
- d) Cluster Sampling (Selecting specific schools and studying all students in them).

❑ **Types of Non-Probability Sampling:**



a) Convenience Sampling (Patients visiting a clinic).

b) Purposive Sampling (Selecting individuals based on specific criteria [Only infected patients]).

c) Quota Sampling (50 males and 50 females).

d) Snowball Sampling (One participant leads to another).

❑ Sampling Errors and Bias:

- **Definition:** A **sampling error** is the difference between the results obtained from a sample and the true value in the whole population.

➤ Why it occurs:

- Sample size is too small
- Natural variation in the population
- Random chance

❏ Example:



- If the true infection rate in a population is 20%, but your sample shows 15%, the difference is a sampling error.

➤ How to reduce sampling error:

- Increase sample size.
- Use proper random sampling methods

➤ **Bias (Systematic Error):**

- **Definition:** Bias is a systematic error that causes results to be consistently incorrect or misleading.

➤ **Types of Bias:**

- a) Selection Bias.
- b) Measurement Bias
- c) Observer Bias
- d) Recall Bias

❑ **Advantages of Proper Sampling:**



1. Saves Time.
2. Reduces Cost
3. Makes Research Feasible
4. Provides Reliable Results
5. Allows Generalization
6. Improves Efficiency
7. Enables Detailed Study
8. Reduces Data Handling Problems

References



1. National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research. (1979). The Belmont Report.
2. World Medical Association. (2013). Declaration of Helsinki.
3. Council for International Organizations of Medical Sciences (CIOMS). (2016). International Ethical Guidelines for Health-related Research Involving Humans.



Thanks