

# Review of Literature & Formulation and Testing of Hypothesis

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## REVIEW OF LITERATURE

- 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.

## DEFINITION

According to university of wincosin writing centre –

- A literature is a **"critical analysis of a segment of a published body of knowledge through summary, classification, and comparison of prior research studies, reviews of literature, and theoretical articles"**
- A literature review is an evaluative report of information found in the literature related to selected area of study. The review 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 an account of what has been already established or published on a particular research topic by accredited scholars & researchers. (University of Toronto, 2001)

## IMPORTANCE OF REVIEW OF LITERATURE

- 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 in different study settings or different samples or size or different study populations.
- Identification of relevant theoretical or conceptual framework for research problems.
- Identification or development of new or refined clinical interventions to test through empirical research.
- Description of the strengths & weaknesses of design/methods of inquiry & instruments used in earlier research work.
- Development of hypothesis to be tested in a research study.
- Helps in planning the methodology of the present research study.
- It also helps in development of research instruments.
- Identification of suitable design & data collection methods for a research study.

## SOURCES OF LITERATURE REVIEW

- Literature can be reviewed from two sources :
  1. Primary sources
  2. Secondary sources (including ELECTRONIC SOURCES & PRINTED SOURCES)

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## **STEPS OF LITERATURE REVIEW**

- **STAGE I** - ANNOTATION BIBLIOGRAPHY
- **STAGE II** - THEMATIC ORGANIZATION
- **STAGE III** -MORE READING
- **STAGE IV** – WRITE INDIVIDUAL SECTIONS
- **STAGE V** - INTEGRATE SECTIONS

## **PRECAUTIONS WHILE WRITING LITERATURE REVIEW**

- Be specific & succinct
- Be selective
- Focus of current topics
- Ensure evidence for claims
- Focus on sources of evidences
- Account of contrary evidences.
- Reference citation
- Avoid technical terms, jargons
- Simple & accurate sentence structure
- Organization of literature review
- Referring original source

## **FOMULATION AND TESTING OF HYPOTHESIS**

### **DEFINATION OF HYPOTHESIS**

- "Hypotheses are single tentative guesses, good hunches- assumed for use in devising theory or planning experiments intended to be given a direct experimental test when possible (Eric Rogers, 1966)
- "A hypothesis is a conjectural statement of the relation between two or more variables" (Kerlinger, 1956)
- Hypothesis is a formal statement that presents the expected relationship between an independent and dependent variable." (Creswell, 1994)
- Hypothesis is a pre-test assumptions.

### **NATURE OF HYPOTHESIS**

#### **TYPES OF HYPOTHESIS**

- NULL HYPOTHESIS
- ALTERNATIVE HYPOTHESIS

### **FORMULATING HYPOTHESIS**

- QUALITATIVE
- QUANTITATIVE

#### **QUALITATIVE APPROACH**

- The use of Research Questions as opposed to objectives or hypothesis, is more frequent.
- Characteristics :
  - Use of words- what or how. Specify whether the study; discovers, seeks to understand, explores or describes the experiences.
  - Use of non-directional wording in the question. These questions describe, rather than relate variables or compare groups.
  - The questions are under continual review and reformulation-will evolve and change during study.
  - The questions are usually open-ended, without reference.
  - Use of a single focus.

## **QUANTATIVE APPROACH**

- In survey projects the use of research questions and objectives is more frequent
- In experiments the use of hypotheses are more frequent
- Represent – comparison between variables  
relationship between variables

## **GENERATION OF RESEARCH HYPOTHESIS**

- Initial Ideas
- Initial Observation
- Search of existing research literature
- Statement of problem
- Operational definitions of constructs.
- Research hypothesis

## **HYPOTHESIS TESTING**

- A set of logical and statistical guidelines used to make decisions from sample statistics to population characteristics.
- The intent of hypothesis testing is to formally examine two opposing conjectures (hypotheses),  $H_0$  and  $H_a$ .

## **BASIC CONCEPTS IN HYPOTHESES TESTING**

- Null Hypotheses & Alternate Hypotheses
- Level of Significance
- Critical Region
- Type I and Type II Errors
- Power of Test
- Two Tailed & One Tailed Tests
- One Sample & Two Sample Tests
- Parametric & Non Parametric Tests

## **STEPS IN HYPOTHESES TESTING**

- 1. Formulation of the null and alternate hypothesis
- 2. Definition of a test statistic
- 3. Determination of the distribution of the test statistic
- 4. Definition of critical region of the test statistic
- 5. Testing whether the calculated value of the test statistic falls within the acceptance region.