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School of Humanities and Languages

Department of Sanskrit

Class – M.Phil. / Ph.D.

Topic - Research and Publication Ethics

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Research and Publication Ethics

- Research is a careful investigation or inquiry especially through search for new facts in any branch of Knowledge.
- Systematic and logical search for new and useful information on a particular topic.
- It ìs a discovery of hidden facts and truths.
- Research can lead to contributions to existing knowledge.
- Research determines the economic, social and Political development of a Nation.
- Research Ethics is a set of guidelines that help researchers to conduct research successfully. The major Principles revolve around the research process, data collection, Interpretation of data, report publication, thesis confidentiality, to avoid obfuscation and plagiarism.

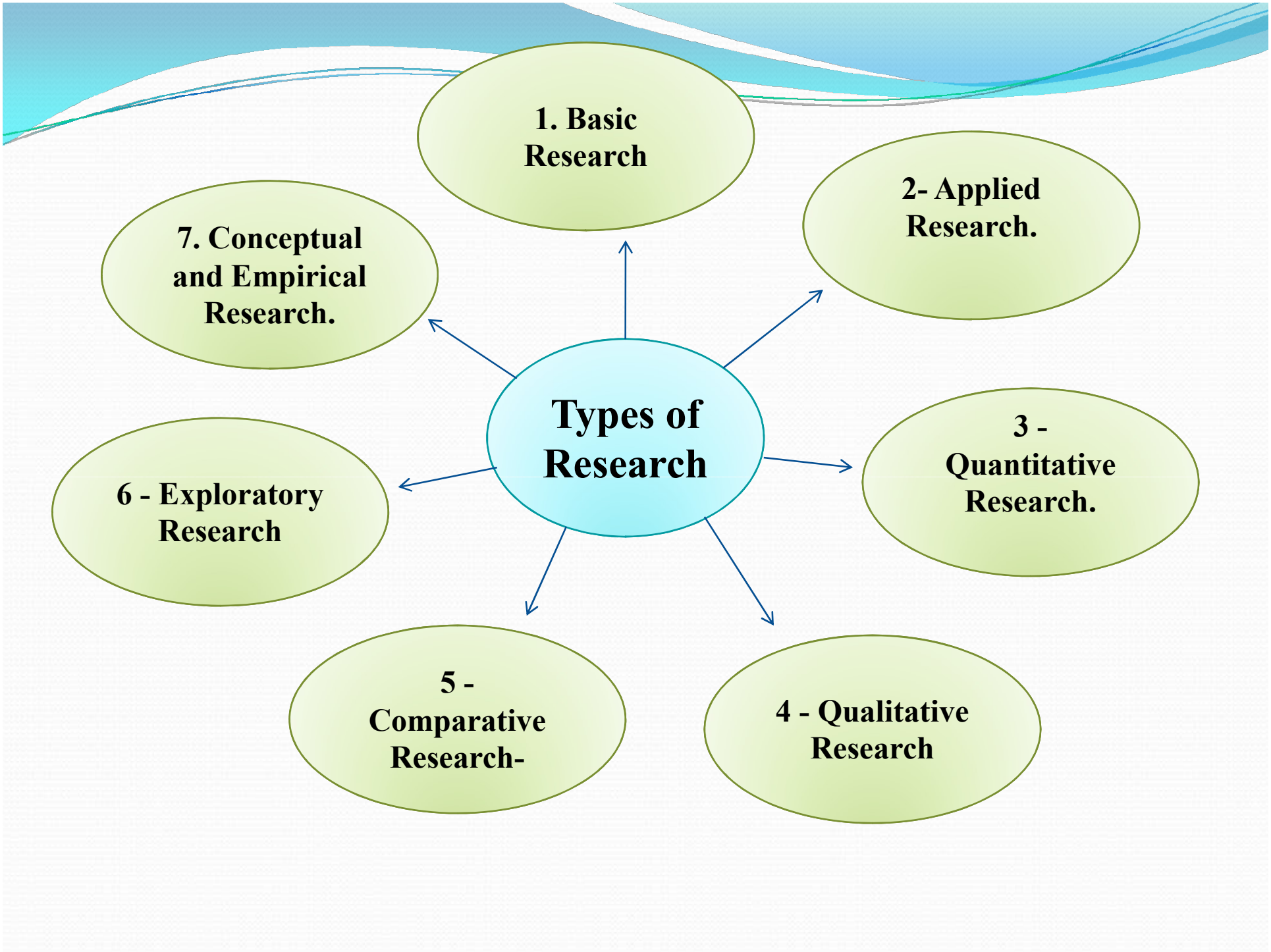
- The Ethics are closely related to the moral and values of a research conducted, it explains norms that distinguishes between right and wrong.
- It fosters a research culture that adheres to relevant legislation governing the protection of the dignity, safety and privacy of those involved in Research.
- Provide clear and easily accessible information on best ethical practices and regulatory requirements, it offers support and training to the people connected.

Objectives of Research

- To discover new facts.
- To verify and test important facts.
- To analyse the phenomenon to identify the cause and effect relationship to develop new scientific tools, concepts and theories to solve and understand scientific and non scientific problems.
- To overcome and solve the problems occuring in everyday life.

■ Essential elements of Research.

- Empirical- Research is based on direct experience and observations.
- Logical- Based on valid procedures and Principles.
- Cyclical- Research starts with the problem and ends at the problem. The result of the research can be positive, negative or nil.
- Analytical- Research utilizes analytical procedures in gathering the data whether historical, descriptive, experimental or case study.
- Critical- Research exhibits careful and precise conclusions.
- Methodical- Research is conducted in a methodical manner without any biased judgements, using systematic method and procedures.
- Reliability-The Research design and procedures are replicated or repeated to enable the researcher to arrive at valid and conclusive results.


Types of Research
1. Basic Research
2- Applied Research.
3 - Quantitative Research.
4 - Qualitative Research
5 - Comparative Research-
6 - Exploratory Research
7. Conceptual and Empirical Research.

1. Basic Research/Pure Research/Fundamental Research- different names of same concept.

- Answer to how , when and what of a certain idea.
- Advancement of a theory.
- Expands the knowledge of processes of business and management.
- Results in Universal Principles.
- Pure Research serves as the foundation for Applied Research.

2- Applied Research.

- Used to solve a specific problem.
- Improves the understanding of a particular problem.
- In Applied Research , Fundamentals that are found in Pure Research are applied to produce some end products.
- Application of concepts.
- Practical concepts.. Ex - Application of x-rays in medicines.

3 - Quantitative Research.

- Systematic investigation of the observation through statistical, mathematical or computational techniques.
- It is a Research which can be represented or described according to some numerical data.
- Experimental and Descriptive Research are the major classification of this Research.
- It's aim is to classify, count features, construct statistical models to explain the concept.
- Data in this form of Research is in numbers or statistics.
- Researcher uses tools such as questionnaire or equipment to collect numerical data.
- Sample size is small.
- It is used to develop hypothesis.

4 - Qualitative Research

- This type of Research is found common in social sciences where researchers intend to study social and cultural phenomena.
- It uses in depth analysis approach by taking case studies or events to study the situations.
- It is not involved in investigating and developing hypothesis.
- Common perception of this Research is emphasis on discovery rather than proof.
- Action Research and Historic Research are major examples.
- This Research is the understanding of social structure within their natural set up.
- Methods of data collection includes observation and interview.
- Sample size is large to allow generalizations.

5 - Comparative Research-

- This deals with comparison of similarities or differences under same or varying conditions. Ex - comparative health conditions of near by villages.

6 - Exploratory Research

- Conducted for a problem that has not been studied more clearly.
- Helps to determine best Research Designs and Data collection methods.
- Techniques of Exploratory Research is Review of available Literature/Data, Discussion , Interview, focus group Case Studies or Pilot Studies.
- Purposes is to define terms, gain background information, to clarify the problem, develop hypothesis and to develop problems to be answered.

7. Conceptual and Empirical Research.

- Conceptual Research is a Methodology wherein Research is conducted by analyzing and observing already present information on a given topic.
- It is related to abstract concepts or ideas.
- Philosophers have used Conceptual Research to develop new theories or interpret existing theories in a different light.
- It is related to some abstract theory of idea , generally used by thinkers and philosophers to develop new concepts or to re-intepret existing ones.
- Whereas Empirical Research relies on experience or involves in Observations alone often rejecting any system or theory.

Qualities of Researcher

- Must be of the temperament that vibrates in the vision with the theme which is to be investigated.
- Having knowledge of the Research Methodology and possess an alertness regarding the narratives.
- Should cultivate the habit of reserving the judgements when the data is not sufficient.

Research Design.

- It refers to the overall strategy that one chooses to integrate the different components of the study in a coherent and a logical way, thereby ensuring and effectively address the Research problems.
- Research Design constitutes the blueprint for the collection, measurement and analysis of data.

Types of Research Design. - Exploratory or Formative Research Design.

- The main objectives of using such a Research Design is to formulate a research problem for an in depth or more precise investigation or for developing a working hypothesis from an operational aspect. The major purpose of such studies is the discovery of ideas and insights.
- Therefore such a Research Design should be flexible to provide the opportunity for considering different dimensions of the problem under study.
- 3 methods are considered in the context of Research Design. - A survey of related literature. -Experimental Survey - Analysis of insight stimulating instances.

2 - Descriptive and Diagnostic Research Design.

- Concerned with describing the characteristics of a particular individual or a group.
- A Diagnostic Research Design determines the frequency with which a variable occurs or it's relationship with another variable, concerned with specific predictions or with the narration of facts and characteristics related to an individual, group or situation.

3- Hypothesis Testing Research Design.

- Here the researcher tests the hypothesis of the causal relationship between two or more variables.
- These studies require procedures that would not only decrease biased judgements but also enhances reliability and facilitate deriving inferences about the causality.

Stages of Research

1 - Formulating the Research Problem (Including Extensive Literature Review)

2 - Developing the Objectives/ Conceptualization of a Research Design.

3 - Preparing the Research Design/ Constructing an instrument for data collection.

4 - Selecting a Sampling Design.

5 - Writing a Research Proposal.

6 - Collecting the Data.

7 - Analysis of Data / Processing and displaying data/ Including generalizations and Interpretations.

8 - Preparation of the Report or Presentation of Results- Formal write ups of conclusions reached.

Important Terminology in Research

❑1 - Dependent and Independent Variables

- A magnitude that varies is called a variable , may assume different quantitative values.
- The phenomenon that assume different values quantitatively even in decimal points are known as continuous variables.
- Values that can be expressed only in integer values are called non continuous variables known as dependent or endogenous variable and the variables that cause the changes in the dependent variable are known as the independent or explanatory or exogenous variables.
- The independent variables which are not directly related to the purpose of the study but affect the dependent variables are known as extraneous variables.

❑2 - Control

- One of the most important features of a good Research Design is to minimize the effect of the extraneous variables. Technically the term control is used when a researcher designs the study in such a manner that reduces extraneous variables.

❑3 - Research Hypothesis

- When a prediction or a hypothetical statement is tested by adopting scientific methods.
- Research Hypothesis is a predictive statement which relates to dependent and independent variable.

❑4 - Experimental and Control Groups

- When a group is exposed to usual conditions in Experimental Hypothesis Testing Research, it is known as Control Group.
- On the other hand when the group is exposed to a certain new or special condition, it is known as Experimental Group.

❑5 - Treatments

- This refers to the different conditions to which the Experimental and Control groups are subject to.

❑6 - Experiment

- This refers to the process of verifying the truth of a statistical hypothesis relating to a given research problem.

7 - Hypothesis

- It may be defined as a proposition or a set of propositions set forth as an explanation for the occurrence of some specified group of phenomena either asserted merely as a provisional conjecture to guide some investigation in the light of facts.

Features of Hypothesis

- Must be capable of being put to test.
- Must state the relationship between two variables, in the case of relational hypothesis.
- Must be specific and stated in the simplest language.
- Must be consistent and derived from the most known facts.
- Must be amenable to testing within a stipulated or reasonable period.
- Should state facts that give rise to the necessity of looking for an explanation.

- To make any Research informative and helpful Research Ethics should be completely endorsed and systematically analyzed.
- Main criteria is to ensure that the study participants are protected and safeguarded against any obfuscation and plagiarism.
- The importance of Research is to promote the aims of research such as knowledge, truth and avoidance of errors.
- Research should be worthwhile and provide value that outweighs any risk or harm . Moral and social values should be implemented with social responsibility and welfare in compliance with the law of the land

The following is a general summary of some research ethical guidelines and principles that various codes address:

1. Honesty in reporting data, results, methods and procedures and publication status.
2. Objectivity to avoid bias in experimental design, information analysis, interpretation and peer review.
3. Regard for licensed innovation rights, for example, licenses, copyrights and different types of protected innovation.
4. Responsible mentoring in terms of managing research students.
5. Non- Discrimination against associates or students based on sex, race or factors that are not identified to their logical competence and respectability.
6. Ensuring legality of the whole process by obeying relevant laws, i.e institutional and governmental policies

Thank you