

**Programme Name:** M.Tech Geoinformatics

**Course Name:** Research Ethics, Project Management and IPR

**Unit: I**

**Key Topics: Philosophy and Ethics:** Introduction - definition, nature and scope, concept, branches, Ethics: definition, moral philosophy, nature of moral judgements and reactions - Ethics with respect to science and research, Intellectual honesty and research integrity, Scientific misconducts: Falsification, Fabrication, and Plagiarism (FFP), Redundant publications: duplicate and overlapping publications, salami slicing, Selective reporting and misrepresentation of data



**Dr. R. Jegankumar**

Professor & Head

Department of Geography,

Bharathidasan University, Tiruchirappalli 620024

# INTRODUCTION

- Research method pertains to all those methods, which a researcher employs to undertake research process, to solve the given problem.
- The techniques and procedure, that are applied during the course of studying research problem are known as the research method.
- It encompasses both qualitative and quantitative methods of performing research operations, such as surveys, case studies, interviews, questionnaires, observation, etc.
- These are the approaches, which help in collecting data and conducting research, in order to achieve specific objectives such as theory testing or development. All the instruments and behavior, are used at various levels of the research activity such as making observations, data collection, data processing, drawing inferences, decision making, etc.

## **Definition of Research Methodology**

Research Methodology, as its name suggest is the study of methods, so as to solve the research problem. It is the science of learning the way research should be performed systematically. It refers to the rigorous analysis of the methods applied in the stream of research, to ensure that the conclusions drawn are valid, reliable and credible too.

The researcher takes an overview of various steps that are chosen by him in understanding the problem at hand, along with the logic behind the methods employed by the researcher during the study. It also clarifies the reason for using a particular method or technique, and not others, so that the results obtained can be assessed either by the researcher himself or any other party

## INTRODUCTION TO PHILOSOPHY

- Philosophy is from Greek work philosophia, “Love of Wisdom”
- Philosophy is “the study of natural and meaning of the universe and of human life” (Oxford Advanced Learners Dictionary). “Philosophy aims at the knowledge of the eternal, of the essential nature of things”. (Plato) “Philosophy is the science which investigates the nature of being as it is in virtue of its own nature.
- Nature of Philosophy: The term Philosophy in a real sense implies love of shrewdness. Reasoning, as a general rule, is a movement where people endeavor to grasp crucial insights about themselves, their associations with everybody, and the world wherein they live.

- The way of thinking of each and every scholastic region is for the most part comparative. Reasoning can be isolated into three principal regions: mysticism, managing the idea of the world at the most dynamic level; epistemology, managing whether we can know about this world; and moral and political way of thinking, managing the inquiries of lead inside the world.
- Philosophy is the investigation of the idea of issue, time, space, causation, development, life, and cognizance, as well as their interrelationships. It is the art of reasoning legitimately, systematically, and reliably about everything. It is the art of considering reality as a whole in a rational and systematic manner.
- Plato was correct in his assessment of philosophy as a never-ending search for unmistakable truths. It examines, explains, and makes sense of famous and logical ideas like matter, space, time, causality, development, system, teleology, life, psyche or soul, God or the Absolute, good and bad, great and fiendishness, excellence and grotesqueness, and so forth, to show up at a reasonable origination of the real world. Philosophy is worried about the explanation of ideas

## SCOPE OF PHILOSOPHY

- Philosophy's scope encompasses everything of reality. Despite the fact that philosophy promises to consider everything in general and nothing in particular, there are several areas that are widely recognised as being characteristically philosophical.
- We will have clarified the scope of philosophy by taking a quick look at them. We'll start with metaphysics, which is the most fundamental branch of philosophy.
- It is an inquiry into the 'beyond' of physics that tries to explore and answer the most ultimate and fundamental questions regarding the whole of reality—the Divine, the human, and the cosmos. Everything is encompassed by metaphysical questions

- The issues that philosophy must address are those that are related to our way of thinking. First and foremost, there is 'logic,' which is the study of valid reasoning or argument.
- The 'latent structure of our actual thinking,' often known as epistemology or theory of knowing, is a related field. It is the study of what it means to know, rather than what we know or how we know.
- The study of good and evil is also a perplexing topic for philosophers. It is morality's domain. It does not list the good and terrible deeds, but rather examines what it means to be right or wrong on a fundamental level. It is a fundamental quest because it allows the human mind to discern between what is good and what is evil.

## **CHARACTERISTICS OF PHILOSOPHY**

1. Reasoning is connected with the information on the real world.
2. Reasoning serves to for tracking down reality.
3. Theory might be moderate, customary and adaptable in nature.
4. The thoughts of reasoning are important and significant.
5. Reasoning arrangements with the idea of the real world.
6. Reasoning is what figures out various sense fail to remember the method of information.



- **BRANCHES OF PHILOSOPHY**

- There are 7 parts of Philosophy, to be specific, Metaphysics, Axiology, Logic, Aesthetics, Epistemology, Ethics and Political Philosophy. Reasoning is the study of the quest for truth and similarly a work to know the secret real factors bits of insight about ourselves. As a scholarly discipline, Philosophy is not really any unique. Understudies who are in Philosophy programs are taken part in a quest for asking, replying, and settling issues. In a sense, Philosophy is a kind of Science, a repository of information that must be grasped through thorough examination and study. Peruse this blog to have a lot of familiarity with these parts of Philosophy, the idea of reasoning and that's only the tip of the iceberg.
- To unburden an understudy from the deterring errand of going through fat books and thick writing on each idea of Philosophy, specialists of this field concocted the possibility of making different parts of Philosophy. In this blog, we have grouped a rundown of major what's more, much-talked about parts of Philosophy, which have set off some popular banter in this field. Here are the 7 fundamental parts of Philosophy:

# **BRANCHES OF PHILOSOPHY**

1. Axiology
2. Metaphysics
3. Epistemology
4. Ethics
5. Aesthetics
6. Logic
7. Political Philosophy

## 1. Axiology (Theory of Value)

- Focus: Explores the nature of value and the concepts of goodness and worth.
- Key Questions: What is value? How do we determine what is valuable?
- Subfields: Often overlaps with ethics (moral value) and aesthetics (beauty).

## 2. Metaphysics

- Focus: Examines the nature of reality and existence.
- Subfields:
  - **Cosmology**: Studies the origin, structure, and ultimate fate of the universe.
  - **Ontology**: Investigates the nature of being, existence, and the relationships between entities.
- Questions: What is the nature of reality? Do entities like time, space, or God exist?

### **3. Epistemology (Theory of Knowledge)**

- Focus: Studies knowledge, its scope, and its limits.
- Key Questions:
  - What is knowledge?
  - Can we truly know anything with certainty?
  - What differentiates justified belief from opinion?

### **4. Ethics (Moral Philosophy)**

- Focus: Concerned with what is morally right and wrong, and how we should act.
- Applications: Personal behavior, organizational ethics, and moral dilemmas.
- Key Questions:
  - How should we live?
  - What is the basis for moral judgments?

## **5. Aesthetics (Philosophy of Beauty and Art)**

- Focus: Explores the nature of beauty, taste, and artistic value.
- Key Questions:
  - Is beauty subjective or objective?
  - What makes something beautiful or artistic?

## **6. Logic**

- Focus: Deals with reasoning and argumentation.
- Key Contributions:
  - Introduced by Aristotle through syllogistic reasoning.
  - Modern developments include symbolic and formal logic.
- Questions: How do we reason correctly? What makes an argument valid?

## **7. Political Philosophy**

- Focus: Studies political systems, authority, freedom, and justice.
- Key Thinkers: Plato, Aristotle, Hobbes, Locke, and Chanakya.
- Key Questions:
  - What is the best form of governance?
  - What are the rights and duties of individuals within a state?
  - How should society be organized for fairness and justice?

# RESEARCH ETHICS

- **Research ethics provides guidelines for the responsible conduct of any branch of research.** In addition, research ethics educates and monitors scientists conducting research to ensure a high ethical standard.
- Research that involves human subjects or participants raises unique and complex ethical, legal, social and political issues. Research ethics is specifically interested in the analysis of ethical issues that are raised when people are involved as participants in research.
- **There are three objectives in research ethics:**
  1. The first and broadest objective is to protect human participants.
  2. The second objective is to ensure that research is conducted in a way that serves interests of individuals, groups and/or society as a whole.
  3. Finally, the third objective is to examine specific research activities and projects for their ethical soundness, looking at issues such as the management of risk, protection of confidentiality and the process of informed consent.

- Research involving vulnerable persons, which may include children, persons with developmental or cognitive disabilities, persons who are institutionalized, the homeless or those without legal status, also raises unique issues in any research context.
- Research ethicists everywhere today are challenged by issues that reflect global concerns in other domains, such as the conduct of research in developing countries, the limits of research involving genetic material and the protection of privacy in light of advances in technology and Internet capabilities.



## **FIVE RECOMMENDATIONS OF SCIENCE DIRECTORATE GIVES TO HELP RESEARCHERS STEER CLEAR OF ETHICAL QUANDARIES:**

### **1. Discuss Intellectual Property Transparently**

- Open communication about authorship and credit distribution should occur early in any collaboration to prevent misunderstandings.
- The **APA Ethics Code** advises faculty to discuss publication credits with students from the start and throughout the research process.
- Formalizing these agreements in writing can help resolve potential disputes, which may arise due to differing perspectives.

### **2. Be Conscious of Multiple Roles**

- Psychologists must avoid relationships that could impair objectivity or harm others but recognize that some dual roles are permissible if they do not have adverse effects.
- Examples include recruiting students or clients for research but ensuring participation is voluntary and ethically managed.

- Transparency in course syllabi and educative debriefings ensures ethical standards are met in such scenarios.

### **3. Follow Informed-Consent Rules**

- Proper informed consent ensures participants voluntarily join research with full knowledge of risks and benefits.
- Key elements include:
  - Purpose, duration, and procedures of the research.
  - Participants' right to withdraw at any time.
  - Disclosure of risks, benefits, and confidentiality measures.
  - Contact information for questions.
- The federal standard emphasizes comprehensibility of information and voluntary participation.

#### **4. Respect Confidentiality and Privacy**

- Confidentiality is central but must be customized to the research population's needs.
- Researchers should:
  - Outline how data will be stored, used, and shared, obtaining consent for specific uses.
  - Be aware of legal obligations, such as reporting child abuse or adhering to state laws.
  - Use secure data storage and anonymization methods where possible.
  - Plan for data sharing before research begins to avoid ethical violations.
  - Use caution when handling sensitive data online and seek technical expertise to safeguard digital information.

#### **5. Leverage Ethics Resources**

- Familiarity with ethical guidelines and professional resources helps researchers avoid and resolve ethical dilemmas.
- Continuous reflection on ethical responsibilities ensures adherence to research and professional standards.

# **FALSIFICATION, FABRICATION, PLAGIARISM**

## **FALSIFICATION**

Falsification is the changing or omission of research results (data) to support claims, hypotheses, other data, etc. Falsification can include the manipulation of research instrumentation, materials, or processes. Manipulation of images or representations in a manner that distorts the data or “reads too much between the lines” can also be considered falsification.

## **FABRICATION**

Fabrication is the construction and/or addition of data, observations, or characterizations that never occurred in the gathering of data or running of experiments. Fabrication can occur when “filling out” the rest of experiment runs, for example. Claims about results need to be made on complete data sets (as is normally assumed), where claims made based on incomplete or assumed results is a form of fabrication.

# **PLAGIARISM**

Plagiarism is, perhaps, the most common form of research misconduct. Researchers must be aware to cite all sources and take careful notes. Using or representing the work of others as your own work constitutes plagiarism, even if committed unintentionally. When reviewing privileged information, such as when reviewing grants or journal article manuscripts for peer review, researchers must recognize that what they are reading cannot be used for their own purposes because it cannot be cited until the work is published or publicly available.

# **REDUNDANT PUBLICATION**

Redundant publication, often referred to as duplicate publication, occurs when a researcher submits or publishes the same research findings in multiple places, such as different journals or conferences. It's like wearing the same outfit to multiple parties – it might save you time, but it's not acceptable in the academic world.

## **Key Points:**

- Redundant publication is like recycling your research without adding new insights.
- It can lead to ethical and copyright issues.
- Journals and publishers frown upon it.

## **SALAMI SLICING IN REDUNDANT PUBLICATION**

Salami slicing is a sneaky cousin of redundant publication. Instead of rehashing the entire study, researchers slice their data into smaller, less meaningful chunks and publish them separately. It's like cutting a salami into thin slices and serving them as separate snacks.

### **Key Points**

- Salami slicing involves breaking down research into smaller, publishable units.
- It's considered unethical because it artificially inflates a researcher's publication count.
- It can dilute the significance of the original research.

## **The Difference Between Redundant and Duplicate Publication:**

**Redundant Publication** is when you publish the same work in multiple places without significant changes.

**Duplicate Publication** is when you publish someone else's work as your own, which is a serious breach of ethics.

**Salami Slicing** is a form of redundant publication where you divide your research into smaller pieces to increase your publication count.

### **Key Points:**

- Redundant publication is about recycling your own work, while duplicate publication is stealing someone else's.
- Salami slicing is a tricky way to inflate your publication count.

## Examples of Salami Publication in Research:

- 1.The Divide-and-Conquer Study:** Dr. Smith conducted a comprehensive study on climate change but published separate articles on temperature rise, sea-level changes, and carbon emissions without providing the complete picture.
- 2.The Patient Puzzle:** In medical research, a researcher may publish separate papers on different aspects of a single patient's case, like symptoms, diagnosis, and treatment, instead of presenting the entire case at once.



# REFERENCES

[https://www.msuniv.ac.in/images/research/downloads/research\\_publication\\_ethics.pdf](https://www.msuniv.ac.in/images/research/downloads/research_publication_ethics.pdf)

[https://www.drmgrdu.ac.in/uploads/Research/Academic/Lecture\\_notes\\_DRP\\_901\\_RPE\\_Unit\\_02.ppsx](https://www.drmgrdu.ac.in/uploads/Research/Academic/Lecture_notes_DRP_901_RPE_Unit_02.ppsx)

<https://www.ajol.info/index.php/njp/article/view/72240/61175>

<https://www.manuscriptedit.com/scholar-hangout/understanding-redundant-publication-and-salami-slicing-in-research/>