

OMPU3112

PHILOSOPHY AND CURRENT ISSUES

SELF INSTRUCTIONAL
MATERIALS

ACADEMIC YEAR 2024

**FACULTY OF BUSINESS, HUMANITIES &
HOSPITALITY**

**BACHELOR OF COMMERCE (HONS) IN
INTERNATIONAL BUSINESS**

Topic 3 ► Logic and Philosophy

LEARNING OUTCOMES

By the end of this topic, you will be able to:

1. Apply deductive reasoning to construct valid and sound arguments.
2. Use inductive reasoning to draw general conclusions from specific observations.
3. Apply abductive reasoning to propose the most plausible explanations for given situations.

► INTRODUCTION

Logic is a fundamental branch of philosophy that focuses on the principles of correct reasoning. It provides systematic methods for evaluating arguments, distinguishing between valid and invalid reasoning, and making sound decisions. In everyday life, individuals constantly engage in reasoning when solving problems, making judgments, and forming conclusions.

Understanding logic is essential for developing critical thinking skills, as it enables individuals to analyze arguments, identify assumptions, and avoid errors in reasoning. Logical thinking is not only important in academic contexts but also in practical situations such as decision-making, problem-solving, and communication.

In philosophy, reasoning is generally categorized into three main types: deductive reasoning, inductive reasoning, and abductive reasoning. Each type serves a different purpose and follows distinct patterns of thinking. This topic explores these forms of reasoning and their applications in both philosophical inquiry and real-life situations.

3.1 DEDUCTIVE REASONING

3.1.1 Meaning of Deductive Reasoning

Deductive reasoning is a logical process in which a conclusion is drawn from general premises that are assumed to be true. It moves from general principles to specific conclusions. If the premises are true and the reasoning is valid, the conclusion must also be true.

3.1.2 Structure of Deductive Arguments

Deductive arguments typically follow a structured form:

- **Premise 1 (General statement)**
- **Premise 2 (Specific statement)**
- **Conclusion (Logical outcome)**

Example:

- All humans are mortal.
 - Socrates is a human.
 - Therefore, Socrates is mortal.
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3.1.3 Validity and Soundness

- **Validity** refers to whether the conclusion logically follows from the premises.
- **Soundness** means the argument is valid and the premises are true.

An argument can be valid but not sound if the premises are false.

3.1.4 Importance of Deductive Reasoning

Deductive reasoning is important because it:

- Ensures logical consistency
- Helps construct strong and reliable arguments
- Reduces ambiguity in reasoning
- Is widely used in mathematics, law, and formal logic

Example:

Legal reasoning often relies on deductive logic when applying general laws to specific cases.

 **Deductive reasoning guarantees certainty when the premises are true and the logic is valid.**

3.2 INDUCTIVE REASONING

3.2.1 Meaning of Inductive Reasoning

Inductive reasoning involves drawing general conclusions based on specific observations or experiences. Unlike deductive reasoning, the conclusions are probable rather than certain.

3.2.2 Process of Inductive Reasoning

Inductive reasoning typically involves:

- Observing patterns or repeated events
- Identifying trends
- Forming general conclusions

Example:

- The sun has risen every day in the past.
- Therefore, the sun will rise tomorrow.

3.2.3 Strength of Inductive Arguments

Inductive arguments are evaluated based on their strength:

- **Strong arguments** have highly probable conclusions
- **Weak arguments** have less reliable conclusions

The reliability depends on the quality and quantity of evidence.

3.2.4 Importance of Inductive Reasoning

Inductive reasoning is important because it:

- Supports scientific inquiry and research
- Helps in making predictions
- Allows generalization from experience
- Encourages evidence-based thinking

Example:

Scientists use inductive reasoning to develop theories based on experimental data.

 **Inductive reasoning provides probable conclusions based on evidence and observation.**

3.3 ABDUCTIVE REASONING

3.3.1 Meaning of Abductive Reasoning

Abductive reasoning is the process of forming the most plausible explanation for a given set of observations. It involves making an informed guess or hypothesis based on limited information.

3.3.2 Nature of Abductive Reasoning

Unlike deductive and inductive reasoning:

- It does not guarantee certainty
- It focuses on the **best possible explanation**
- It is often used when information is incomplete

Example:

- The ground is wet.
 - The most likely explanation is that it rained.
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3.3.3 Application in Real Life

Abductive reasoning is widely used in:

- Medical diagnosis
- Criminal investigations
- Everyday decision-making

Example:

A doctor diagnoses a disease based on symptoms and available evidence.

3.3.4 Importance of Abductive Reasoning

Abductive reasoning is important because it:

- Helps make decisions under uncertainty
- Encourages hypothesis formation
- Supports problem-solving in complex situations

However, it may lead to incorrect conclusions if the chosen explanation is not accurate.

 **Abductive reasoning identifies the most likely explanation, even when certainty is not possible.**

**SELF CHECK 3.1**

Compare deductive, inductive, and abductive reasoning, and explain how each type contributes to logical thinking and decision-making.

► CONCLUSION

In this topic, we learned that:

- logic is essential for evaluating arguments and reasoning effectively;
- deductive reasoning provides certain conclusions when premises are true;
- inductive reasoning draws probable conclusions from observations;
- abductive reasoning identifies the most plausible explanations;
- each type of reasoning plays a unique role in critical thinking and decision-making;
- understanding these reasoning methods improves analytical and problem-solving skills.