SECOND YEAR
SEMESTER - IV

COURSE:BD4KC
KNOWLEDGE AND CURRICULUM

UNIT- I KNOWLEDGE AND KNOWING

INTRODUCTION

- Central theme in philosophy
- Various philosophers
- Different definitions
- Different interpretation

THE CONCEPT OF KNOWLEDGE BY NOTABLE PHILOSOPHERS

Plato: Knowledge as "Justified True Belief"

- **Definition:** Knowledge consists of justified true belief.
- **Conditions for Knowledge:**
  - The belief must be true.
  - The person must believe it.
  - The belief must be justified (have a rational basis).

THE CONCEPT OF KNOWLEDGE BY NOTABLE PHILOSOPHERS

Aristotle: Knowledge as "Episteme"

- **Definition:** Knowledge refers to scientific knowledge or knowledge of facts and principles.
- **Characteristics:**
  - Systematic and derived through logical reasoning.
  - Involves understanding the causes and principles behind phenomena.

THE CONCEPT OF KNOWLEDGE BY NOTABLE PHILOSOPHERS

René Descartes: Knowledge as "Indubitable Belief"

- **Definition:** Knowledge is beliefs that are absolutely certain.
- **Methodology:**
  - Emphasized the need for certainty in knowledge.
  - Used methodological skepticism, doubting all beliefs that could be doubted.
  - Concluded with "Cogito, ergo sum" (I think, therefore I am) as indubitable knowledge.

THE CONCEPT OF KNOWLEDGE BY NOTABLE PHILOSOPHERS

John Locke: Knowledge as "Perception of Agreement or Disagreement"

- **Definition:** Knowledge is the perception of the agreement or disagreement among ideas.
- **Types of Knowledge:**
  - Intuitive knowledge: Immediate recognition of agreement or disagreement.
  - Demonstrative knowledge: Knowledge through reasoning.
  - Sensitive knowledge: Knowledge of the external world through sensory experience

LEVELS OF KNOWLEDGE

According to **Bloom of Bloom's Taxonomy**, things can be known and understood at 6 levels.

The 6 levels of knowledge are:

- Remembering
- Understanding
- Applying
- Analyzing
- Evaluating
- Creating

LEVELS OF KNOWLEDGE

Level 1 - Remembering

- **Definition**:
  - Lowest form of knowledge
  - Involves storing facts and repeating them when asked
- **Characteristics**:
  - Does not need to be understood
  - Cannot be meaningfully used in real life

LEVELS OF KNOWLEDGE

Level 2 - Understanding

- **Definition**:
  - More than remembering
- **Characteristics**:
  - Requires comprehension
  - Involves understanding why something is the way it is

LEVELS OF KNOWLEDGE

Level 3 - Applying

- **Definition**:
  - Using knowledge in different situations to achieve practical goals
- **Characteristics**:
  - Capable of using knowledge across different contexts
  - Beyond classroom tasks

LEVELS OF KNOWLEDGE

Level 4 - Analyzing

- **Definition**:
  - Ability to closely examine and deconstruct a concept
- **Characteristics**:
  - Categorize, sort, compare, and contrast concepts

LEVELS OF KNOWLEDGE

Level 5 - Evaluating

- **Definition**:
  - Uses strategies of analyzing with an additional step
- **Characteristics**:
  - Involves making value judgments
  - Determines value and validity using critical thinking

LEVELS OF KNOWLEDGE

Level 6 - Creating

- **Definition**:
  - Highest level of knowledge
- **Characteristics**:
  - Competent with existing knowledge
  - Creates new knowledge extending upon what is already known

SOURCES OF KNOWLEDGE

- perception
- memory
- experience
- books
- journals
- experts
- problems
- research
- seminar
- conference
- websites
- media, and etc.

TYPES OF KNOWLEDGE

Knowledge can be categorized in various ways

Explicit vs. Tacit Knowledge:

Explicit Knowledge

- **Definition**:
  - Formal and codified
  - Easily articulated and documented
  - Shared formally through language, symbols, or numbers
- **Examples**:
  - Manuals
  - Procedures
  - Databases

TYPES OF KNOWLEDGE

Explicit vs. Tacit Knowledge:

Tacit Knowledge

- **Definition**:
  - Informal and deeply rooted in experience
  - Difficult to articulate or codify
  - Often gained through personal experience, intuition, or practice
- **Characteristics**:
  - Intuitive and subconscious
  - Context-specific
  - Shared through observation and practice rather than verbal communication

TYPES OF KNOWLEDGE

Procedural vs. Declarative Knowledge:

Procedural Knowledge

- **Definition**:
  - Knowing how to do something
  - Related to skills, techniques, or processes

Declarative Knowledge

- **Definition**:
  - Knowing that something is the case
  - Related to facts, concepts, or principles

TYPES OF KNOWLEDGE

Domain-Specific vs. Domain-General Knowledge:

Domain-Specific Knowledge

- **Definition**:
  - Applicable within a specific field or domain
  - Examples: Medicine, engineering, literature

Domain-General Knowledge

- **Definition**:
  - Can be applied across various domains
  - Also known as transferable or cross-disciplinary knowledge
  - Examples: Critical thinking, problem-solving, communication skills

TYPES OF KNOWLEDGE

Situational Knowledge

- Specific to situation/context
- Acquired through direct experience
- Gained by observation

TYPES OF KNOWLEDGE

Individual or Personal vs. Collective Knowledge:

Individual Knowledge

- **Definition:** Personal experiences, beliefs, and skills that reside within an individual's mind
  - Unique to each person
  - Shaped by personal experiences and perspectives
  - Includes skills, expertise, and personal beliefs.

TYPES OF KNOWLEDGE

Individual or Personal vs. Collective Knowledge:

Collective Knowledge

Definition: Shared knowledge among a group of individuals, such as within a community, organization, or society

- Includes cultural knowledge, shared beliefs, and institutional knowledge
- Shared among a group of people
- Can be formal or informal

TYPES OF KNOWLEDGE

Logical Knowledge

- Applying Logic to Acquire Knowledge
- Involves examining relationships between statements
- Drawing conclusions based on the law of logic

Definition

The application of logic to acquire knowledge by examining relationships between statements and drawing conclusions based on logical principles

Example: Example of Logical Knowledge in Action

FORMS OF KNOWLEDGE

- Propositional Knowledge
- Procedural Knowledge
- Perspective Knowledge
- Experiential Knowledge

FORMS OF KNOWLEDGE

1.Concepts

Definition: Cognitive organization of reality into categories of things that share similarities

Examples:

- Housecats
- Felines
- Mammals
- Animals
- Living beings

FORMS OF KNOWLEDGE

Facts

Definition: Statements about the features of individual things that are examples of concepts

Example: "James Madison was the fourth president"

Facts can categorize an individual thing into multiple concepts, such as: President

- Male
- Wears pants
- Rides horses

FORMS OF KNOWLEDGE

2.Concepts as Cognitive Organizations:

- Concepts involve the cognitive (thinking) organization of reality.
- They categorize things that share certain similarities.

Examples of Conceptual Classes:

- Specific class: Housecats.
- Behavioral class: Things that have it pretty easy, laying around and licking themselves.

Broader biological classes:

- Felines.
- Mammals.
- Animals.
- Living beings.

FORMS OF KNOWLEDGE

3. Rules, or propositions.

- Statements about how categories/concepts are connected:

a. Categorical rules, or relationships:

- All (things in the class of) dogs are (in the class of) canines.
- Some (things in the class of) wars are (in the class of things that are) moral.
- No (person in the class of) politician can be (in the class of person who is) trusted with your money.

b. Hypothetical or causal rules.

- The (more/less) X, the (more/less) Y. Whenever X occurs, Y occurs. If and only if X occurs, does Y occur.

FORMS OF KNOWLEDGE

4. Cognitive routines.

- Sequences of steps that solve, explain, describe, sort, build, fix, make a model of, make a logical case for or against.
- For instance, the second step in the routine for sounding out words might be saying the first sound…rrrr in ram.

The knowledge elements of:

- 1) making the rrrr sound;
- 2) connecting a certain sound---rrrr--with the letter r.

CHARACTERISTICS OF KNOWLEDGE

Utilization is Fundamental:

- The primary value of knowledge lies in its proper use.
- Merely storing knowledge without application has little consequence.

Dual Nature of Knowledge Use

- Knowledge can be utilized for both beneficial and harmful purposes.
- The impact of knowledge depends on how it is applied.

CHARACTERISTICS OF KNOWLEDGE

Some of the important characteristics of knowledge:

- Knowledge is infinite
- Knowledge is dynamic, continuous, and ever-expanding
- Knowledge is provisional and subject to change
- Knowledge can be lost if not recorded or shared
- Sharing knowledge does not result in loss to the person
- Knowledge can become obsolete

CHARACTERISTICS OF KNOWLEDGE

- A gifted person can acquire wide knowledge, deep wisdom, and spiritual insights
- Sharing knowledge doesn't result in personal loss
- Knowledge can become outdated
- Knowledge can be a process or a product

KNOWLEDGE DIMENSION

- The concept of a "knowledge dimension" can refer to various aspects or dimensions of knowledge that are used to categorize or analyze it.

- **Depth:** Level of detail, complexity, and sophistication of knowledge (from superficial to profound)

- **Breadth:** Scope and range of knowledge, encompassing variety of subjects and domains.

- **Specialization:** Specialization refers to the degree to which knowledge is focused and specialized within a particular field, discipline, or domain.

KNOWLEDGE DIMENSION

- **Integration:** The interconnectedness and synthesis of knowledge across different disciplines, fields, or domains.
- **Applicability:** The practical utility and relevance of knowledge in real-world contexts.
- **Validity:** The accuracy, reliability, and trustworthiness of knowledge.

KNOWLEDGE DIMENSION

- **Timeliness:** The currency and relevance of knowledge in relation to contemporary issues, developments, and trends.
- **Accessibility:** The ease of access and availability of knowledge to individuals, communities, or society as a whole.
- **Ethical Considerations:** The moral principles, values, and responsibilities associated with the acquisition, dissemination, and application of knowledge.

CATEGORIES OF KNOWLEDGE DIMENSIONS

Epistemological Dimensions:

- **A priori vs. Empirical:** Knowledge can be derived from reasoning alone (a priori) or from empirical evidence and experience.

- **Analytical vs. Synthetic:** Knowledge can be analytical, derived through logical deduction, or synthetic, gained through observation and synthesis of information.

CATEGORIES OF KNOWLEDGE DIMENSIONS

Cognitive Dimensions:

- **Declarative vs. Procedural:** Declarative knowledge involves knowing "that" something is the case, while procedural knowledge involves knowing "how" to do something.
- **Conceptual vs. Perceptual:** Knowledge can be conceptual, involving abstract ideas and concepts, or perceptual, based on sensory perception and direct experience.
- **Explicit vs. Tacit:** Explicit knowledge is formal and easily transferable, while tacit knowledge is implicit and difficult to articulate.

CATEGORIES OF KNOWLEDGE DIMENSIONS

Scope Dimensions:

- **General vs. Specific:** Knowledge can be general, applicable across various domains, or specific, relevant to a particular context or field.

- **Broad vs. Narrow:** Knowledge can have a broad scope, encompassing a wide range of topics, or a narrow scope, focusing on a specific area in depth.

CATEGORIES OF KNOWLEDGE DIMENSIONS

Temporal Dimensions:

- **Historical vs. Contemporary:** Knowledge can be historical, derived from past events and experiences, or contemporary, relevant to current times.

- **Static vs. Dynamic:** Knowledge can be static, remaining unchanged over time, or dynamic, evolving and adapting to new information and developments.

CATEGORIES OF KNOWLEDGE DIMENSIONS

Functional Dimensions:

- **Foundational vs. Applied:** Knowledge can be foundational, providing the basis for further learning and understanding, or applied, used directly to solve problems or achieve specific goals.

- **Descriptive vs. Normative:** Knowledge can be descriptive, describing how things are, or normative, prescribing how things should be based on values and principles.

CATEGORIES OF KNOWLEDGE DIMENSIONS

Social Dimensions:

- **Individual vs. Collective:** Knowledge can be held by individuals or shared among groups/communities

- **Formal vs. Informal:** Knowledge can be acquired through education/training or everyday experiences/interactions

DIMENSIONS OF COGNITIVE PROCESSES

Encoding

- Transformation of sensory input into a storable form
- Initial processing of information
- Recognizing patterns
- Extracting meaning
- Converting sensory data into neural representations

Storage

- Maintaining encoded information over time in memory
- Various memory systems:
- Sensory memory
- Short-term memory
- Long-term memory
- Different capacities and durations of retention

Retrieval

- Accessing stored information when needed
- Searching memory for relevant knowledge
- Activating associated concepts
- Reconstructing past experiences or learned material
- Image suggestion: A diagram illustrating the retrieval process, such as a memory search or concept activation

DIMENSIONS OF COGNITIVE PROCESSES

Attention

- Selectively focusing awareness on particular aspects of the environment or mental representations
- Allocating cognitive resources to relevant stimuli
- Filtering out distractions

Perception

Interpreting sensory input to create meaningful representations of the world

Processes: -

- Pattern recognition –
- Categorization
- Object identification

Comprehension

- Understanding and making sense of information
- Integrating new knowledge with existing knowledge
- Extracting key ideas
- Identifying relationships
- Deriving meaning from textual or visual material

Problem-Solving

- Finding solutions to complex or novel challenges

Processes: -

- Problem representation
- Goal setting
- Generating potential solutions - Evaluating alternatives

DIMENSIONS OF COGNITIVE PROCESSES

Decision-Making

- Assessing risks and opportunities
- Weighing pros and cons
- Considering consequences
- Making judgments based on values and preferences

Metacognition

- The Key to Self-Awareness
- Monitoring cognitive activities
- Controlling cognitive processes
- Planning and self-assessment
- Error detection and correction
- Adjusting strategies based on feedback

INDIAN AND WESTERN THEORIES OF KNOWLEDGE

THE UTILITY THEORY OF TRUTH

Concept: According to this theory, emphasizes the practical consequences and usefulness of beliefs in guiding action and solving problems.

Key features

The Correspondence Relation

- Practical Consequences
- **Definition:** Truth is evaluated based on its practical consequences
- A belief is considered true if it proves to be beneficial or advantageous
- Focus on achieving desired ends

Instrumentalism

- **Definition:** Beliefs are viewed as tools or instruments to achieve aims
- Truth is determined by effectiveness in serving practical purposes
- Beliefs are means to an end

Problem-Solving Orientation

- **Definition:** Focus on the role of beliefs in solving practical problems
- Beliefs that contribute to successful problem-solving are deemed true Regardless of correspondence to reality or internal coherence

Contextual and Pragmatic

- **Definition:** Truth judgments are context-dependent
- What is considered true may vary depending on goals, needs, and circumstances + Recognizes the importance of context in truth evaluation

INDIAN AND WESTERN THEORIES OF KNOWLEDGE

KNOWLEDGE IN RELATION TO INFORMATION, BELIEF AND TRUTH

Aspects	Information	Belief	Truth
Definition	Data, facts, or propositions that convey meaning	Acceptance of a proposition as true or likely true	Correspondence between a statement and reality
Nature	Raw material, can be communicated or represented	Personal acceptance, can be based on various factors	Objective, independent of personal opinions
Relationship to Knowledge	Can contribute to knowledge, but not necessarily	Can be a component of knowledge, but not sufficient	Essential component of knowledge, justified true belief
ustification	No inherent justification	May not be justified or supported by evidence	Requires correspondence to reality
Truth Value	Neutral, can be true or false	Can be true or false, depending on correspondence to reality	True or false, depending on correspondence to reality
Complexity	Relatively straightforward	Can be complex, influenced by various factors	Can be complex, subject to debate and ambiguity