

# UNIT I

## EPISTEMOLOGICAL BASES OF EDUCATION

### INTRODUCTION

In this unit epistemological bases of education, meaning of epistemology ,conception of knowledge ,six important types of knowledge ,meaning of education .meaning of important terms in Education such as teaching, learning, skills, training, data and information ,reasoning ,belief, difference between teaching and training ,difference between knowledge and belief ,distinction between knowledge and information .

### MEANING OF EPISTEMOLOGY

‘Epistemology’ is a branch of philosophy which studies the relationship between acquisitions of knowledge thus acquired .are things which are not known to us do really exist. What are the frontiers of knowledge? What are the gateways of knowledge? Epistemologists are involved in investigating.

1. The development of human knowledge ,its nature and limitations
2. The way of knowing as well as discriminating the truth from the false and speculations.

### MEANING OF KNOWLEDGE

Knowledge is a familiarity, awareness or understanding of someone or something such as facts, information, description, or skills, which is acquired through experience or education, by perceiving, discovering and learning.

Knowledge involves cognitive abilities of an individual’s, acting on information obtained through sensory perception and experiences. Knowledge may result from education as well.

The term "**knowledge**" can refer to a theoretical or practical understanding of a subject. ... The philosopher **Plato** famously pointed out the need for a distinction between **knowledge** and true belief in the Theaetetus, leading many to attribute to him a **definition of knowledge** as "justified true belief".

In other word knowledge acquisition is a process Where as “knowledge” is the product resulting from ‘Knowledge acquisition’.

### THREE CONCEPTIONS OF KNOWLEDGE IN EPISTEMOLOGY

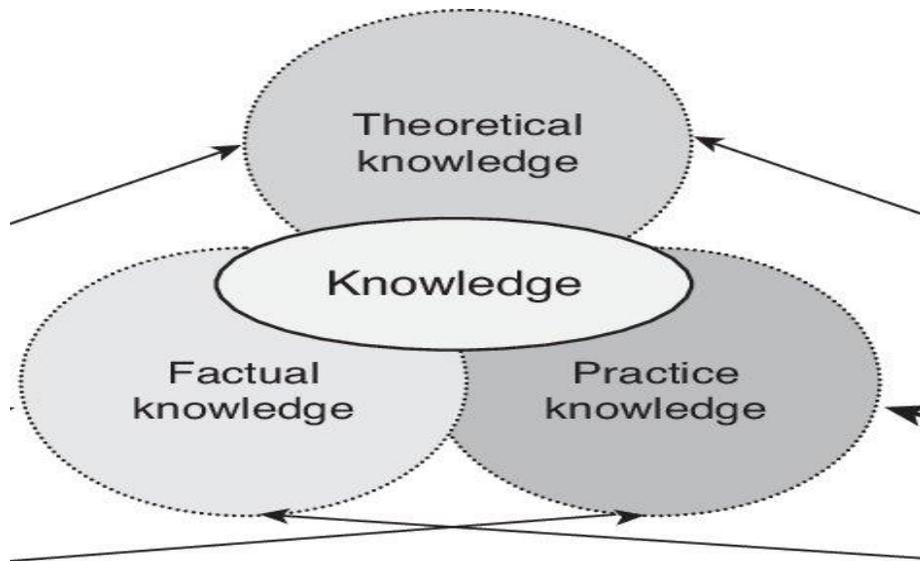
There are three conceptions of knowledge viz.. i) Knowledge for practice II) Knowledge in practice III) Knowledge of practice

#### KNOWLEDGE FOR PRACTICE

This conception of knowledge reflects the objective of acquiring knowledge .though we may acquire knowledge from various sources using different methods ,true knowledge is the ones which find use in our daily life .In other words we can say that among those we have learnt ,what we apply in our life constitute our true knowledge ; the remaining ones remain insignificant or go to waste.

For example knowledge of law acquired by lawyer ,if helps him to argue his cases in the court efficiently ,then it is valid knowledge for him; or otherwise it loses significances as for as he is concerned .here it is worth recalling the saying of pragmatists which states knowledge is that which works . Hence it could be concluded that knowledge of an individual consists of thee abilities o acquire it and apply the same appropriately in his/her life .

Aim of all Education is to help pupils acquire “functional knowledge”; Passive knowledge serves no purpose for any one.



## KNOWLEDGE IN PRACTICE

This conception of knowledge throws light on the method of acquiring true knowledge. According to this conception of knowledge, actions are more important than thoughts. When man reacts with environment, he gets experience. one's knowledge is the result of his experience. Action is the pre runner for knowledge. there is no pre existing knowledge – knowledge is not given; but one acquires it through efforts and self experience. When theories are operationalised, they derive practical use. that is why learning by doing is advocated as the most appropriate method of acquiring real knowledge. Educationist emphasize the importance of making curriculum, activity –centred and task oriented.

## Knowledge in Practice

- Actions are more important than thoughts.
- When man reacts with the environment , he gets experiences.
- Action is the pre-runner for knowledge.
- Learning by doing is the appropriate method.



## KNOWLEDGE OF PRACTICE

This conception of knowledge gives emphasis for the applications of knowledge .knowledge, apart from proving itself as beneficial to man, should also lead to further knowledge, for finding new uses and innovations. Body of knowledge is not fixed and stagnant; it is ever growing and expanding due to new discoveries and inventions. Existing knowledge should be applied to new situations so as to develop new knowledge. This implied in the saying knowledge is that which leads to further knowledge .This conception of knowledge is taken to mean knowledge as tool for furtherance of knowledge.

These three conceptions of knowledge are equally true but they approach knowledge from different angles. In the first approach, the emphasis the objective of acquiring knowledge ; in the second approach the method of acquiring knowledge and in the third ,importance is given to finding new existing knowledge ,which leads to further knowledge.

## TYPES OF KNOWLEDGE

Knowledge, depending upon its nature, is categorized into six types viz. i) A priori knowledge ii) A posteriori knowledge iii) Explicit knowledge iv) Tacit knowledge v) propositional knowledge and vi) Non propositional knowledge

### **. A priori knowledge:-**

- The literal meaning of *a priori* is *from before* or *from earlier*.
- A priori is the knowledge that is attained independently of experience.
- It means there are certain assumptions that one can take for granted.
- This knowledge is non-empirical. (empirical means originating or based on observation or experience)
- This type of knowledge comes from theoretical reasoning rather than actual observation or personal experience.
- In practical, apriority describes knowledge that exists without reference to any actual proof or reality.

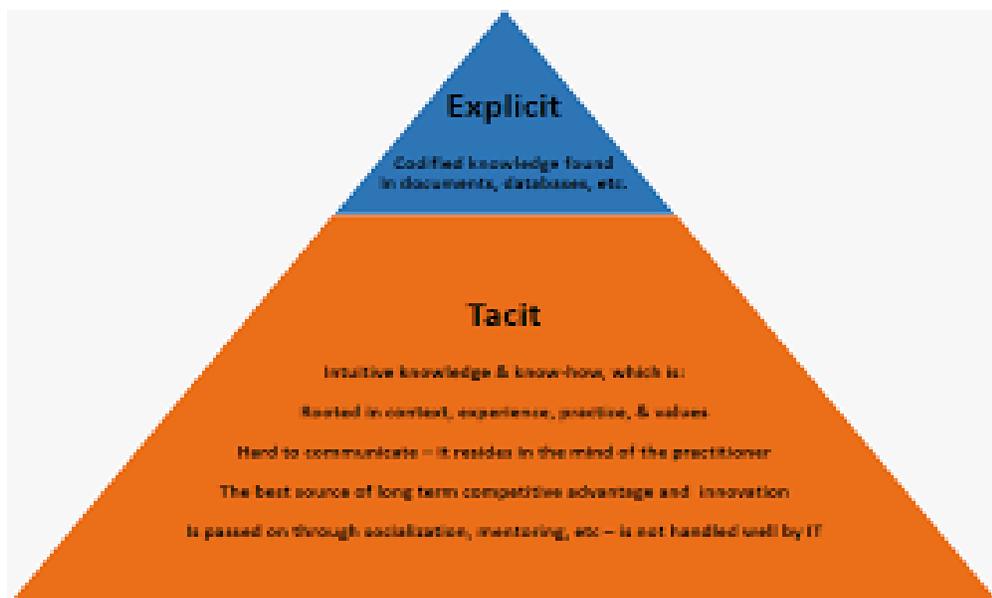
### **A posteriori**

- A posteriori literally mean *from what comes later* or *from what comes after*.
- It is the knowledge which is gained through experience.
- A posteriori knowledge depends on experimental evidence or warrant.
- This knowledge is empirical, arrived at afterward.
- Truths of physics, chemistry, and biology are instances of a posteriori knowledge.
- A posteriori judgment adds to the knowledge. But the knowledge yielded can sometimes be uncertain or problematic.

- This kind of knowledge is gained by first having experience and then using logic and reflection to derive understanding from it.
- It is believed a priori knowledge is more reliable than a posteriori knowledge.
- In philosophy term, *a posteriori* is sometimes used interchangeably with empirical knowledge based on observation.

- **Explicit knowledge**

(also expressive **knowledge**) is **knowledge** that can be readily articulated, codified, stored and accessed. It can be easily transmitted to others. Most forms of **explicit knowledge** can be stored in certain media. **Explicit knowledge** is often seen as complementary to tacit **knowledge**



## Tacit knowledge

Facial expression, body movements and gestures, body language etc. may communicate information. Knowledge thus communicated non verbally is otherwise known as tacit knowledge. Tacit knowledge is opposite to explicit knowledge. Explicit knowledge is easily transferable whereas tacit knowledge is very difficult, almost impossible to be communicated.

Tacit knowledge could be communicated through consistent and extensive relationship or contacts over a long period of time.

## Propositional Knowledge:

In epistemology descriptive knowledge (also known as propositional knowledge, knowing that, declarative knowledge, or connotative knowledge)<sup>1</sup> is knowledge that can be expressed in a declarative sentence or an indicative proposition. "Knowing-that" can be contrasted with "knowing-how" (also known as "procedural knowledge, which is knowing how to perform some task, including knowing how to perform it skillfully. It can also be contrasted with "knowing of" (better known as "knowledge by which" is non-propositional knowledge of something which is constituted by familiarity with it or direct awareness of it. By definition, descriptive knowledge is knowledge of particular facts, as potentially expressed by our theories, concepts, principles, schemas and ideas. The descriptive knowledge that a person possesses constitute her understanding of the world and the way that it works.

## Non propositional Knowledge:

Non-propositional approach to knowledge by acquaintance, there is a sense in which one can be said to know something with which one is acquainted, even though the person does not necessarily have any propositional belief states about the thing that is said to be known by acquaintance.

### Meaning of Teaching:

In much modern usage, the words ‘teaching’ and ‘teacher’ are wrapped up with schooling and schools. One way of approaching the question ‘What is teaching?’ is to look at what those called ‘teachers’ do – and then to draw out key qualities or activities that set them apart from others. The problem is that all sorts of things are bundled together in job descriptions or roles that may have little to do with what we can sensibly call teaching. Another way is to head for dictionaries and search for both the historical meanings of the term, and how it is used in everyday language. This brings us to definitions like:

**A definition:** Teaching is the process of attending to people’s needs, experiences and feelings, and intervening so that they learn particular things, and go beyond the given. Interventions commonly take the form of questioning, listening, giving information, explaining some phenomenon, demonstrating a skill or process, testing understanding and capacity, and facilitating learning activities (such as note taking, discussion, assignment writing, simulations and practice).

### Concept of learning

The knowledge we acquire, the language we speak, the habits, attitudes, and skills developed in us are all due to learning.

Psychologists define learning as a relatively permanent change in the behavior, which occurs as a result of activity, training, practice or experience. This definition of learning has three important elements:

- i) Learning result in change in behavior
- ii) It is a change that takes place through practice or experience.
- iii) Before it can be called learning, the change must be relatively permanent. it must last a fairly long time. But behavior changes brought about by fatigue, drugs, illness, warmup, etc. are transitory in nature and hence they are not included under learning.

### Concept of skill

Skill is an ability and capacity acquired through deliberate, systematic, and sustained effort to smoothly and adaptively carry out complex activity or job function .generally skills are developed through training and experience .skills are learnt using the sensory inputs and outputs.

Speaking ,writing, reading ,drawing, fixing the laboratory equipment in a proper way handling laboratory equipments ,preparing simple improvised learning aids driving, operating vehicles tools and

coordination. The ability of performing physical activities with perfection is known as mastery in skill.

Teaching skills involved four stages

- i) Observing
- ii) Imitating
- iii) Practicing
- iv) Adopting

Concept of training:

Training constitutes a basic concept in human resource development. It is concerned with developing a particular skill to a desired standard by instruction and practice. Training is a highly useful tool that can bring an employee into a position where they can do their job correctly, effectively, and conscientiously. Training is the act of increasing the knowledge and skill of an employee for doing a particular job.

Data and information

**Data:** Data is a raw and unorganized fact that required to be processed to make it meaningful. Data can be simple at the same time unorganized unless it is organized. Generally, data comprises facts, observations, perceptions numbers, characters, symbols, image, etc.

Data is always interpreted, by a human or machine, to derive meaning. So, data is meaningless. Data contains numbers, statements, and characters in a raw form.

### Information:

Information is a set of data which is processed in a meaningful way according to the given requirement. Information is processed, structured, or presented in a given context to make it meaningful and useful.

It is processed data which includes data that possess context, relevance, and purpose. It also involves manipulation of raw data.

Information assigns meaning and improves the reliability of the data. It helps to ensure undesirability and reduces uncertainty. So, when the data is transformed into information, it never has any useless details.

### Meaning of reasoning:

It is one of the best forms of controlled thinking consciously towards the solution of a problem. It is realistic in the sense that the solution is sought always in reference to the reality of the situation. We can solve many problems in our day-dreams, dreams and imaginations but they are unrealistic solutions.

As Sherman defined, “**reasoning is a process of thinking during which the individual is aware of a problem identifies, evaluates, and decides upon a solution**”.

*Types of Reasoning:*

Reasoning may be classified into two types.

### **Inductive reasoning:**

It is a specialized thinking aimed at the discovery or construction of a generalized principle by making use of particular cases, special examples and identifying of elements or relations.

For example, Mohan is mortal, Radha is mortal, Karim is mortal; therefore, all human beings are mortal

### **Deductive reasoning:**

It is the ability to draw some logical conclusions from known statement or evidences. Here one starts with already known or established generalized statement or principle and applies it to specific cases. For example, all human beings are mortal you are a human being, therefore, you are mortal.

### **Belief:**

Belief and believe are two words that refer to the faith or conviction in other people, things or ideas. The main difference between belief and believe is that Belief is a noun that refers to the act of accepting something as **true** while believe is a **verb** that refers to accepting something as truth. As apparent from

this simple explanation, the meaning of these two words is similar; it is only the grammatical form and the usage of these two terms that differ. In this article, we are going to elaborate this difference between Belief and Believe.

## Difference between knowledge and skills

Knowledge is information acquired through sensory input: Reading, watching, listening, touching, etc. The concept of knowledge refers to familiarity with factual information and theoretical concepts. Knowledge can be transferred from one person to another or it can be self acquired through observation and study.

Skills, however, refer to the ability to apply knowledge to specific situations. Skills are developed through practice, through a combination of sensory input and output. As an example, social skills are developed through interaction with people by observing, listening, and speaking with them. Trial and error is probably the best way to achieve skills mastery.

To make it simple, knowledge is theoretical and skills are practical. You can know all the rules of a sport, know all the teams and all players, know all the statistics, but this only makes you knowledgeable about this sport; it does not make you any good at it. To become good at a sport you must play it, practice its techniques, and improve your skills through experience. You don't need to know all the teams or all the players to practice a sport and you can easily learn the rules as you play, through trial and error

Distinction between teaching and training:

<b>BASIS COMPARISON</b>	<b>TEACHING</b>	<b>TRAINING</b>
Meaning	Teaching is an academic activity, in which a teacher imparts knowledge and concepts to the student on a given topic, to prepare him/her for the future challenges.	Training is a learning process, where a person is given instructions and guidelines, by a professional or expert, concerning a specific skill, related to a particular task, for improving the learner's performance.
Approach	Theoretical	Practical
What is it?	Provision of new knowledge to students.	Application of existing knowledge of learners, in a specific manner.
Emphasis	Education, knowledge and wisdom	Skills and abilities
Inculcates	Breadth of knowledge in different spheres.	In-depth knowledge in a particular sphere.
Conducted in	Classroom environment	Work environment or classroom environment

## Distinction between knowledge and information

S.NO	INFORMATION	KNOWLEDGE
1.	Information offers rises to the concept of facts and data.	In contrast to, knowledge that inflicting the understanding of the matter or subject.
2.	Information is a combination of context and data.	While it is a combination of experience, perception and information.
3.	Not all information is knowledge.	Whereas all knowledge is information.
4.	Information can be reflected.	While it can not be reflected or replicated.
5.	Information alone isn't enough to form expectations.	The expectation is feasible if one retains the desired information.

**S.NO INFORMATION****KNOWLEDGE**

6.	The transfer of information is simple or straightforward over numerous ways like newspaper, internet, television, people etc.	While the transfer of knowledge is hard in comparison of information as it requires learning.
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### Conclusion

In this unit titled epistemological bases of education, meaning of epistemology, types of knowledge, meaning of important terms of education, meaning of teaching and learning, skills, training, data, information, reasoning, belief, difference between knowledge and skills and distinction between reasoning and belief have been explained detail.