# KNOWLEDGE VS INFORMATION And NURTURING CREATIVITY

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# Learning Objectives

- To know the concept of Information
- To know the concept of Knowledge
- To know the major difference between knowledge and Information
- To understand the concept of Knowledge Explosion
- To find the methods of nurturing child's creativity in the era of Knowledge Explosion

# What is information

- Information is data that has been interpreted so that it has meaning for the user.
- Information is a set of data that is processed in a meaningful way according to the given requirement. It is processed, structured, or presented in a given context to make it meaningful and useful.
- Information assigns meaning and improves the reliability of the data.

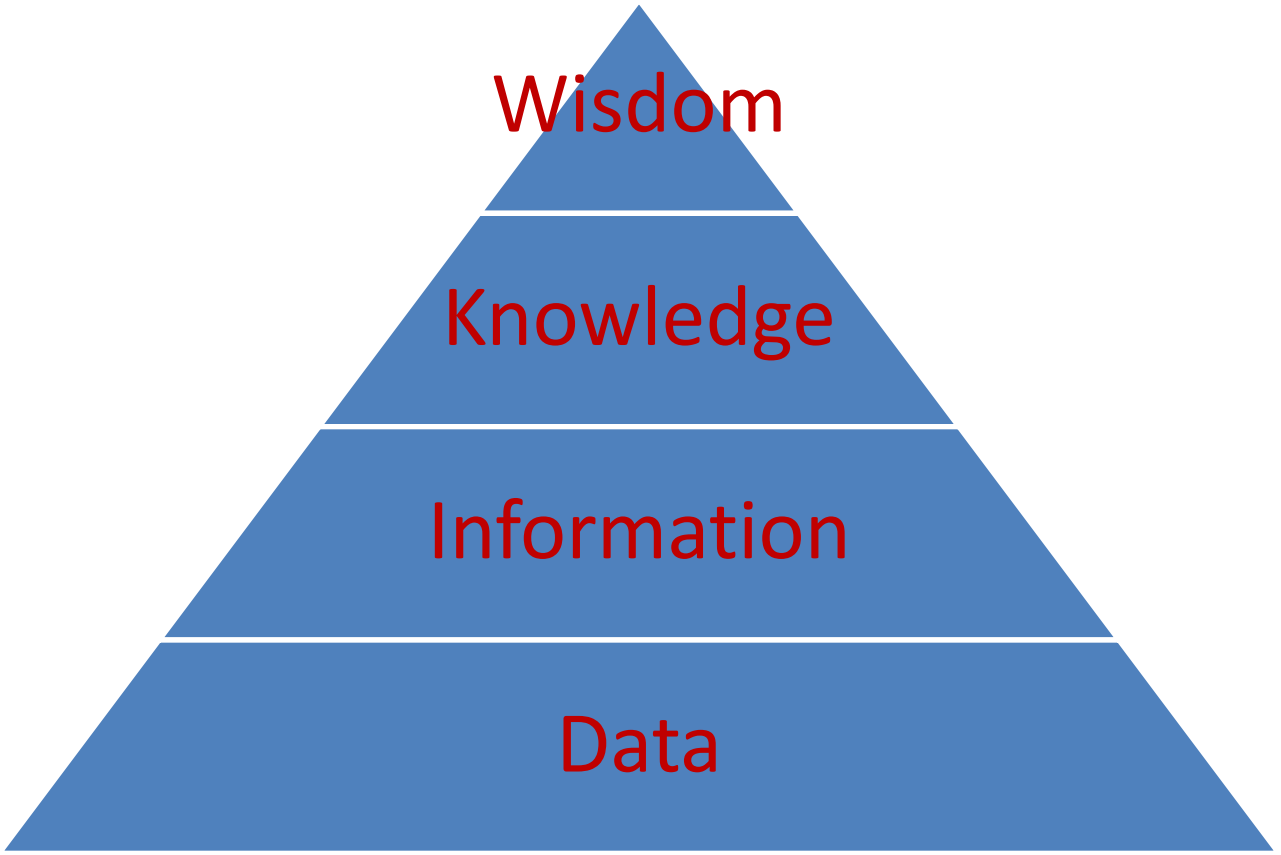
- It helps to ensure undesirability and reduces uncertainty. Therefore, when the data is transformed into information, it never has any useless details. It includes data that possess context, relevance, and purpose.

# What is Knowledge

- Knowledge is a combination of information, experience, and insight that helps the individual or the organization.
- It is linked to doing and implies know-how and understanding.
- Knowledge is possessed by each individual and is an outcome of his or her experience. It also covers the norms to evaluates new inputs from his surroundings.

- Knowledge is a combination of information, experience and insight that may benefit the individual or the organization. For eg.
- **Information** - "The price of crude oil has risen from $70 to $80 per barrel" gives meaning to the data and so is said to be information to someone who tracks oil prices.
- **Knowledge** "When crude oil prices go up by $10 per barrel, it's likely that petrol prices will rise by 2p per liter" added experience to the information and become knowledge.

# DIKW (Data, Information, Kwoledge, Wisdom

- 

# Difference between Information and Knowledge

| BASIS FOR COMPARISON | INFORMATION | KNOWLEDGE |
|---|---|---|
| Meaning | When the facts obtained are systematically presented in a given context it is known as information. | Knowledge refers to the relevant and objective information gained through experience. |
| What is it? | Refined data | Useful information |
| Combination of | Data and context | Information, experience and intuition |
| Processing | Improves representation | Increases concisousness |
| Outcome | Comprehension | Understanding |
| Transfer | Easily transferable | Requires learning |
| Reproducibility | Can be reproduced. | Identical reproduction is not possible. |
| Prediction | Information alone is not sufficient to make predictions | Prediction is possible if one possess required knowledge. |
| One in other | All information need not be knowledge. | All knowledge is information. |

# Knowledge Explosion

- The term '**knowledge explosion**' refers to the evolvement of such type of human societies where sufficient quantity of quality **knowledge** is accessible to the majority of humans.
- Era of Knowledge Explosion means an era when students are expected to have knowledge in every field. Curriculum must be designed in a way which enables them to explain every phenomenon of life.

- a very important characteristic of human knowledge, that the ‘knowledge’ can be accumulated over time. Its meaning is that whenever some new information comes to the notice of humanity, the new information does not erase up the corresponding previous information.
- The previous information actually is just ‘flagged’ as being ‘out-dated’ but still remains intact as a functional part of overall human knowledge. After having seen that just how the quality and quantity of human knowledge has been increased over time,

Each individual human does not need to explain all what he identifies, at his own. Ready-made explanations can easily be transferred from one human mind to the minds of other individuals. This is usually done in the form of formal education and training through which accumulated knowledge, which was evolved over centuries, is transferred to the minds of new generations in relatively very short period of time. The state of ‘knowledge explosion’ actually is the result of this type of very large-scale educational activities. In this way more and more people are having more divers sets of information in their minds. The facilities of interaction with other people who live on distant places also have been immensely increased which has resulted in such a phenomenon, which can be termed as ‘knowledge sharing’.

# Nurturing Child's Creativity

## What is Creativity

- **Torrance (1955)** : " A process of becoming sensitive to problems, deficiencies, gaps in knowledge, missing elements, disharmonies and so on; identifying the difficulties, searching for solutions, making guesses or formulating hypotheses about the deficiencies, testing and retesting them, and finally communicating the results.

- **Lahois (1963)** “ Creativity as a complex human attribute that is manifested as a cognitive empirical process from which an original product emerges”
- **Dehaan and Havinghhurst (1961)** : “Creativity is the quality which leads to the production of something new and desirable. The new product may be new to society or new to the individual who creates it”.

# Ability And Personal Traits for Creativity

A curriculum Designer must ensure the activities which can build following ability and traits in the students-:

**Abilities for creativity-**

(a) *Divergent thinking*-Divergent thinking abilities generally include Fluency, Flexibility, Originality and Elaboration.

(b) *Intelligence-* Of course, to be creative, a certain level of intelligence is required. Intelligence enables a person to comprehend complex problems while creativity helps him in being productive in new directions

*(c) Problem solving ability* : It refers to all those mental and experimental activities a person goes through in attempting to resolve some problems. Like sensitivity in perceiving a problem, defining the problem, eagerness to look for more information, searching for alternative solutions etc.

*(d) Intuition and the Unconscious* : Intuition is the ability of coming to a conclusion without going through all the steps of analytical thinking. The unconscious follows a type of thinking that is different from the logical and analytical thinking of the conscious mind.

## Personal Traits for Creativity

a) *Motivation* : Creative persons who have attained eminence show a high level of motivation. They find their work so absorbing that they prefer to forego social and recreational activities that would take them away from their work.

b) *Imagination and Visualisation* : Many creative ideas are first imagined and then translated into action. Visualisation is an aspect of imagination where in persons are able to see images and manipulate them. When visual images replace symbols their thinking gets a new direction leading to an unexpected solution.

- *(c) Independence* : Another important characteristic of creative persons is that they are independent in thinking and also independent in their judgment. A creative person has the capacity for taking calculated risks.
- (d) *Tolerance of Ambiguity and preference for complexity* : In any creative attempt a person will come across situations which are complex and which do not indicate any clear-cut results of solutions. He has to face complexity and ambiguity.

- *(e) Curiosity, Wide Range of Interests and Humour :* Creative persons are open - minded and more receptive to new ideas. They are more curious. Creative people are usually interested in a variety of things, Creative persons have a sense of humour. This may not be of much help to them in their work unless they are writing something witty, or drawing a cartoon, but the mental operation in humour is the same as in creative work.
- *(g) Artistic and Aesthetic Interests* : It is natural to expect high aesthetic interest among artist and writers. But scientists including social scientists also show deep interests in artistic creations and music. One can say that rhythm, harmony, balance and other elements of arts have some kind of relationship to creation in fields that are not directly related to the art.

# Activities for Nurturing Creativity

- **Brain-storming** : It is creative problem solving technique frequently used in the classroom. Osborn (1963) developed this technique . ‘Brain-storming can be used individually or in a group. Normally, brain-storming is conducted in a small group of about 12 which includes one leader, one associate, five core members and five other members. But number is no restriction for brain-storming.

- **Attribute listing (AL)** : Attribute listing (AL) of Crawford (1971), is a technique to design or refine some product or activity. This technique is used to produce new creative ideas to modify anything in a novel way. In AL, a person has to do micro observations of basic characteristics of a product or activity which can be modified. After that, as per the demand the new creative ideas may be provided for the same. After collecting the newly generated ideas, discussion, checking, and elaboration of the same is desired. When it is acknowledged by the group, implementation is the last step which would have resulted into the modification.

- **Role - playing** : Moreno (1946) used this natural phenomenon to develop his socio-drama and psycho-drama techniques. As an instructional technique it was later developed into role - playing which starts with imitation but then there is imaginative transformation of reality. It is a group activity. It enables learners to adopt self- - learning process by exploring, correlating, contrasting and comparing. In role - playing , learning takes place not only at verbal level, but also at sense level, action level and emotional level. Role - playing can be conducted in ordinary classroom setting. It is simple to perform and provide learning in real life situation.

- *Questioning* : It is a learner-centered technique. Good questioning can very effectively provide for the development of student's curiosity, spontaneity, creativity and activity. But the type of thinking provokes, depends on the type of questions asked. The teacher may use different types of questions while teaching different subjects.

- *Self - Discovery and Guided - Discovery Method* : ;At all levels there should be growing emphasis on having students discover, rules or principles or appropriate definitions or axioms or steps in proof, instead of presenting them in readymade formula or assumptions or proofs. Self discovery learning must be centered around a series of problem solving situations actively involving students. The teacher must take a definite role in guiding the entire process.

- *Play-way and Activity method* : A natural way of learning for young children is to learn through activity and play. Play and activity are the two best ways to express what the child cannot express through language. As Munn (1974) has defined : “Play is a profound manifestation of creative activity.” The principles underlying the play-way method are similar to the principles of creative teaching. Different forms of play and activities are popular at different stages of child development with the succession of forms reflecting the cognitive, emotional and social growth changes that occur with advancing maturity.

- *Creative writing*: Language has great potentiality for creative writing. There can be a variety of ways in which the students may be asked to express themselves. Through these, they will not only gain a better command over the language but will also develop sensitivity in the use of words and phrases, which lend an aesthetic value to what is expressed.

# Evaluation

- What do you mean by knowledge explosion?
- Can you differentiate between knowledge and information?
- How do you find a child's creativity?
- How will you nurture a child's creativity in the era of knowledge explosion?