

Higher Order Thinking Skills (HOTS): are the **cognitive skills** that enable individuals to **comprehend information** and then **apply it for** making decisions and solving problems. HOTS include **creative and critical thinking, logical and reflective** thinking.

A skill is an ability to do something well. All skills are inter related and reinforce each other, and promote good health by reducing uncertainty.

## 1. Six Higher Order Thinking Skills :

- 1.1 Creating = Generating new ideas or products.
- 1.2 Evaluating = Justifying decision or course of action.
- 1.3 Analyzing = Breaking down information into parts to explore.
- 1.4 Applying = Using learned information in new situations.
- 1.5 Understanding = Grasping the meaning of information.
- 1.6 Remembering = Recalling Information when needed.

## 2. Eight Abilities needed for putting HOTS into action:

1. Make observations.
2. Ask relevant questions.
3. Find the resources that are needed.
4. Challenge and examine beliefs, assumptions, and opinions against.
5. Recognize and define problems.
6. Assess the accuracy of statements and arguments.
7. Make **wise decisions** and find **suitable solutions**.
8. Understand logic and logical arguments.

## CREATIVE AND CRITICAL THINKING

### 3. For creative and critical thinking **two skills** are needed:

- a) **Skill to raise questions:** Questioning is the key to analytical skill because it develops knowledge. Questioning is **not for finding answers**

immediately. It is for **asking the right questions** to get information that is directly relevant to the situation or topic.

Questions are fundamental to Higher Order Thinking Skills. They show a 'willingness **not to take things for granted**' or to 'be satisfied with the obvious answer'. Different types of questions require different levels of thinking skills.

- b) **Skill of having a right attitude towards learning** critical thinking and objectivity by being :
1. Inquisitive
  2. Truth seeking
  3. Open minded
  4. Systematic
  5. Judicious
  6. Analytical
  7. Confident
  8. Reasonable

4. **Eight Problem Solving Steps** :

1. **Define the Problem** : A problem correctly defined is half solved.
2. Put off solution for later : Do not try to look at the solution before thinking about it.
3. **Identify Options**: Making a list of all that you can do. Try to be creative and think of all possible options and avoid obvious options.
4. **Identify the Best Solution**: Thinking about each option and selecting the best one . Try to be sure that the selected solution will produce the desired results. Avoid selecting the easiest option.
5. **Plan to Achieve the Best Solutions**: Thinking about how to get at the solution and list the resources needed to achieve that solution
6. Try to think through the plan and how the solution thought of will affect other people Try not to reject other ideas.
7. **Evaluate Results** : To determine if it is the best possible solution to the problem. Evaluation should be immediate and not to be delayed.

8. Try to avoid the assumption that the problem will stay solved. **Problems are dynamic.** Every solution may raise new problems.
  
5. Critical Thinkers see problems as opportunities for development. They know a **systematic way** of tackling problems. Application of their systemic way is useful in sustaining a life time of success.
  
6. **Twenty four strengths** needed for sustaining success are :
  - a) **Creativity:** Creative thinking is a kind of thinking that focuses on exploring ideas, generating possibilities, looking for many right answers rather than just one.
  - b) **Problem Solving:** Dealing constructively with problems in our daily lives. Creative people see problems as a normal part of their life. They try to find a solution in the problem itself. The creative person knows that there is always room for improvement.
  - c) **Critical Thinking:** Ability to analyze information in an objective manner.
  - d) **Challenge:** Creative people accept challenges and face them rather than run away from them. Most of the creative ideas come up while attempting to solve those problems.
  - e) **Curiosity:** State of being curious to learn more about something. Creative people are in the habit of asking “*Why*”, “*What if*” and “*I wonder*”. Such people tend to experience varied things in their lives and thus have well equipped minds. Best ideas often originate from such minds.
  - f) **Strong Relationships:** Showing respect and kindness towards each other.
  - g) **High sense of Humour:** The quality of being comic and the ability to bring smiles on others’ faces.
  - h) **Positive attitude towards life:** Creative people always remain optimistic in life and believe in the fact that every problem can be solved.
  - i) **Public Speaking:** Speaking in influential and convincing manner to convey ideas to audience.

- j) **Effective Communication**: Ability to express effectively both verbally and non-verbally.
- k) **Time Management**: Ability to separate important from unimportant.
- l) **Stress Management**: Ability to cope with stress.
- m) **Concentration**: Directing one's mental powers and efforts towards a particular activity or problem. It enhances memory.
- n) **Imagination**: To think in new ways and coming up with fresh ideas.
- o) **Reasoning**: Ability to make sense of things and establishing facts.
- p) **Listening Power**: Being attentive to what others are speaking.
- q) **Self Discipline**: Ability to focus and act according to what is right, rather than how you feel at that moment.
- r) **Decision Making**: Dealing constructively with decisions in our daily lives.
- s) **Kindness**: Doing good deeds for others.
- t) **Leadership**: Ability to influence other people.
- u) **Open mindedness**: Being receptive to new and different ideas and opinions of others.
  
- v) **Holding off criticism and judgment**: Great ideas, initially, seem to be weird, crazy or strange. But gradually they come out as practical and usable. Thus it is important for a creative person to hold off judging and criticizing ideas at the initial stage, otherwise, the whole idea would be killed.
  
- w) **Determination**: Creative people have the ability to stick with their ideas and see them through, even when facing negative responses like “that's no good”, “that's impossible”, etc.
  
- x) **Flexible imagination**: Creative people entertain all kinds of strange thoughts and ideas. They are able to think of several solutions to a particular problem because of their flexible imagination.

7. **Life Skills** fall into three basic categories: thinking skills, social skills, and emotional skills. These three are further divided into ten core skills under each. Life Skills Development is a lifelong process.
8. All have a few strengths but many weaknesses. Identify strengths and focus on using them to maximum. Then try to strengthen weaknesses.
9. **Self Awareness** is the foundation skill for personal growth. It helps the individual to understand and gain insight into own strengths and weaknesses as follows:
  - a) Understand what Self Awareness is and its importance.
  - b) Develop awareness of personal strengths, weaknesses, and talents in various settings.
  - c) Gain awareness of feelings, opinions and personal values and how These relate to those of others
  - d) Develop own definition of success.
  - e) Develop ‘niche picking’ skill.