

## Types of decisions:

### 1-Routine decisions

- decision made when problems are relatively well defined and common
- established rules, policies, and procedures can be used to solve them

### 2-Adaptive decisions

- decision made when problems and alternative solutions are somewhat unusual and only partially understood

### 3-Innovative decisions

- decision made when problems are unusual and unclear and creative solutions are necessary Decision-making situation

### 4-Personal decision making

### 5-Clinical decision making

- Process of gathering, interpreting, and evaluating data in order to select an evidence-based choice of action

### 6-Organizational decision making

- choosing options directed toward the resolution of organizational problems and the achievement of organizational goals

## Decision levels

<b>Strategic decisions</b>	<b>-Mainly made by top executives</b> <b>- crucial to operations or long-range planning</b>
<b>Administrative decisions</b>	<b>-Made by middle managers</b> <b>-resolve unusual problems and develop techniques to improve functioning</b>
<b>Operational decisions</b>	<b>-Made by middle and low-level managers</b> <b>-routine day-to-day events.</b>

## Decision Making vs Problem Solving

- Similar but not synonymous

- Sometimes depend on one another
- Decision making may or may not involve a problem (ex. Getting dressed)  
involves selection of alternatives
- Problem solving involves diagnosing a problem and solving it  
may be more than one correct solution
- Decision making is a subset of problem solving

## **Problem solving**

### **-Problem:**

-A present unsatisfactory state that needs to be changed to a desired state as soon as possible

### **-Problem solving:**

- Active process that starts with a problem and ends with a solution.
- Always includes a decision-making step

## **Decision Making Process**

- 1-Defining the problem
- 2-Gather Information
- 3-Develop Alternatives
- 4-Weigh Alternatives
- 5-Select the best alternative
- 6-Implement the solution
- 7-Monitor progress

## **Problem Solving Methods**

### **1-Trial-and-error method:**

-one solution after another is tried until the problem is solved or appears to be Improving.

### **2-Experimentation:**

-a theory is tested to enhance knowledge and understanding

## **Problem Solving Steps**

- Define the problem (assessment, diagnosis).

- Gather and analyze information (outcome identification).
- Generate alternatives and select an action (planning).
- Implement the selected action (implementation).
- Evaluate the action (evaluation).

<b>1-Define the problem</b>	<ul style="list-style-type: none"> <li>-Difficult to solve a problem if you do not know what the problem is</li> <li>- Simple vs. complex</li> </ul>
<b>2-Gather Information</b>	<ul style="list-style-type: none"> <li>-Collect data and information</li> <li>-Research</li> <li>-History-taking</li> </ul>

### Questions to ask:

1. What is the setting?
2. What is the problem?
3. Where is it a problem?
4. When is it a problem?
5. Who is affected by the problem?
6. Is this your problem or someone else's problem?
7. What is happening?
8. Why is it happening? What are the causes of the problem? Can the causes be prioritized?
9. What are the basic underlying issues? What are the areas of conflict?
10. What are the consequences of the problem? Which is the most serious?

<b>3-Define objectives clearly</b>	<ul style="list-style-type: none"> <li>-Without a clear objective, a poor-quality decision is very likely.</li> <li>-One problem may need multiple objectives</li> <li>-Examples: increase life expectancy, reduce pain, see patients more quickly, improve patient satisfaction</li> </ul>
<b>4-Generate Many Alternatives</b>	<ul style="list-style-type: none"> <li>-Brainstorming</li> <li>-Don't limit yourself</li> </ul>

	<ul style="list-style-type: none"> <li>-Get input from many</li> <li>-No idea is crazy or stupid</li> </ul>
5-Evaluate alternatives	<ul style="list-style-type: none"> <li>-List alternatives</li> <li>-Think about each alternative</li> <li>-How to evaluate each alternative?</li> <li>-Thomas Saaty's Analytical Hierarchy Matrix</li> <li>-SFF Matrix</li> </ul>
6-Choose best alternative and act decisively	<ul style="list-style-type: none"> <li>-Not acting is a decision</li> <li>-Example of buying a car</li> </ul>
7-Evaluate	<ul style="list-style-type: none"> <li>-Monthly reports</li> <li>-Patient follow up</li> <li>-Feedback from others</li> <li>-Monitor results</li> </ul>

### Example

#### -Problem

-Bedouin people in Jordan living in rural areas have a hard time accessing doctors

#### -Gather information

-Research: how many people live there, how many doctors are there, how do they currently access care, what are the barriers to them receiving care...

-History taking: talk to MOH, local doctors, local Bedouins

### Examples

#### -Define objectives:

-Increase access to primary healthcare for Bedouins living in rural areas

#### -Develop alternatives:

-Alternative A: pay doctors in rural areas more money

-Alternative B: Provide free transportation to rural Bedouins

-Alternative C: Give a monthly salary to poor rural Bedouins

-Alternative D: Build more clinics in rural areas

- Etc, etc, etc.

## **Choose best alternative and act decisively**

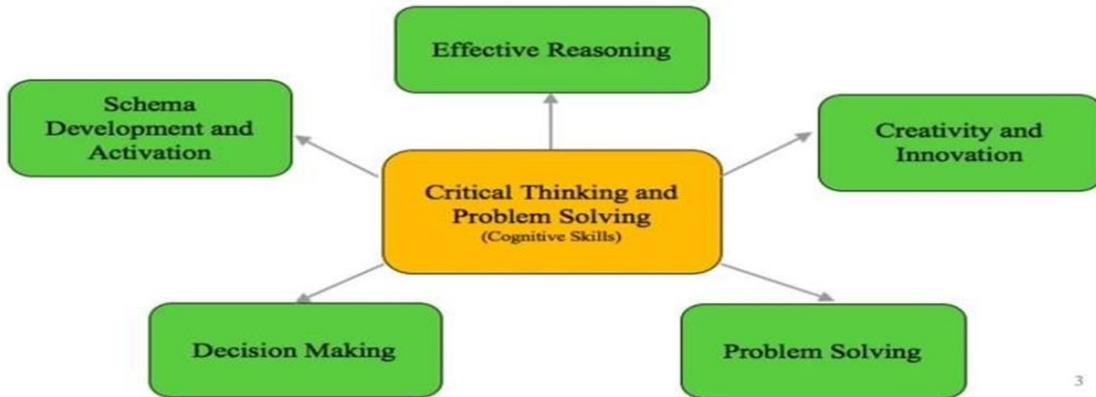
**-We will start paying doctors a higher salary to work in rural areas**

## **Evaluation**

- Monitor number of doctors working in rural areas**
- Monitor health outcomes of Bedouins in rural areas**
- Talk with rural Bedouins**

## **Critical thinking**

- Critical thinking is a higher-order thinking skill. Higher-order thinking skills go beyond basic observation of facts and memorization.**
  - They are what we are talking about when we want our students to be evaluative, creative and innovative.**
  - When most people think of critical thinking, they think that their words (or the words of others) are supposed to get “criticized” and torn apart in argument, when in fact all it means is that they are criteria-based.**
  - These criteria require that we distinguish fact from fiction; synthesize and evaluate information; and clearly communicate, solve problems and discover truths.**
- what we mean by critical thinking. After a review of the literature and looking at the practice at other schools, we identified five constructs that encompass a set of broadly applicable skills: schema development and activation; effective reasoning; creativity and innovation; problem solving; and decision making**

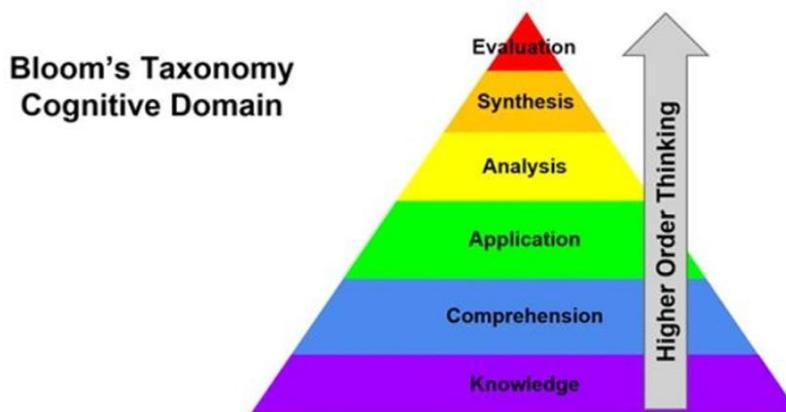


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**-Using Bloom's Taxonomy of thinking skills, the goal is to move students from lower- to higher-order thinking:**

- from knowledge (information gathering) to comprehension (confirming)
- from application (making use of knowledge) to analysis (taking information apart)
- from evaluation (judging the outcome) to synthesis (putting information together) and creative generation
- This provides students with the skills and motivation to become innovative producers of goods, services, and ideas. This does not have to be a linear process but can move back and forth, and skip steps

**Blooms Taxonomy Cognitive Domain**



## **Clinical Reasoning**

-“the cognitive process necessary to evaluate and manage a medical problem”

-Reasoning (The action of thinking about something in a logical, sensible way)

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-Knowledge

-Skill

## **Diagnostic process**

-Differential Diagnosis Generation

-Information gathering

-Diagnosis Refinement

-Diagnosis Verification

-The physician’s training in clinical reasoning.

-This skill builds upon the taking of a relevant history, the performance of a physical examination, and the use of the cognitive processes inculcated by medical education to arrive at a probable range of diagnoses and corresponding treatment options.

-Ideally, a physician would narrow the differential to a testing to arrive at a single unifying diagnosis. limited number of diagnostic possibilities, and would use diagnostic

-Every diagnostic process begins with uncertainty, and there are many cognitive errors that can lead to a wrong diagnosis—at the patient’s expense