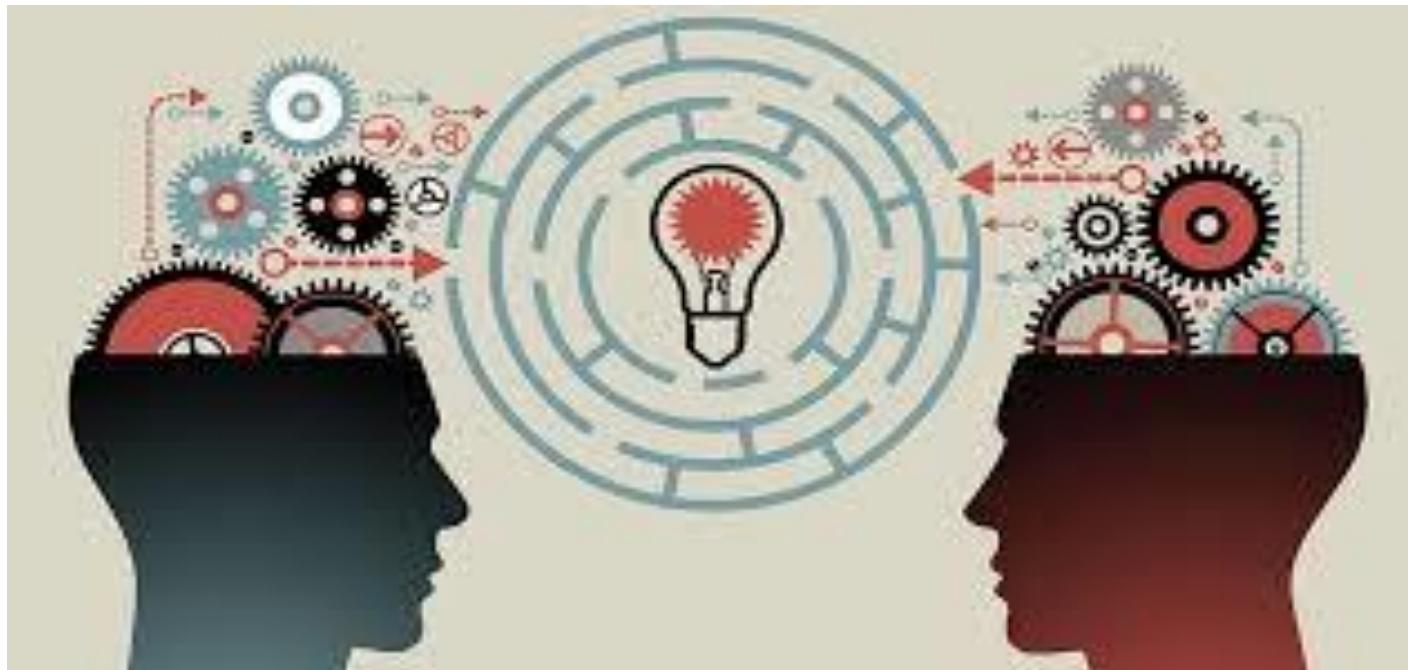


# CRITICAL THINKING AND CLINICAL REASONING



# INTENDED LEARNING OUTCOMES

- Describe the significance of developing critical thinking abilities in order to practice safe, effective, and professional nursing care.
- Describe the actions of clinical reasoning in the implementation of the nursing process.
- Discuss the attitudes and skills needed to develop critical thinking and clinical reasoning
- Describe the components of clinical reasoning.
- Integrate strategies to enhance critical thinking and clinical reasoning as the provider of nursing care.

# DEFINITION

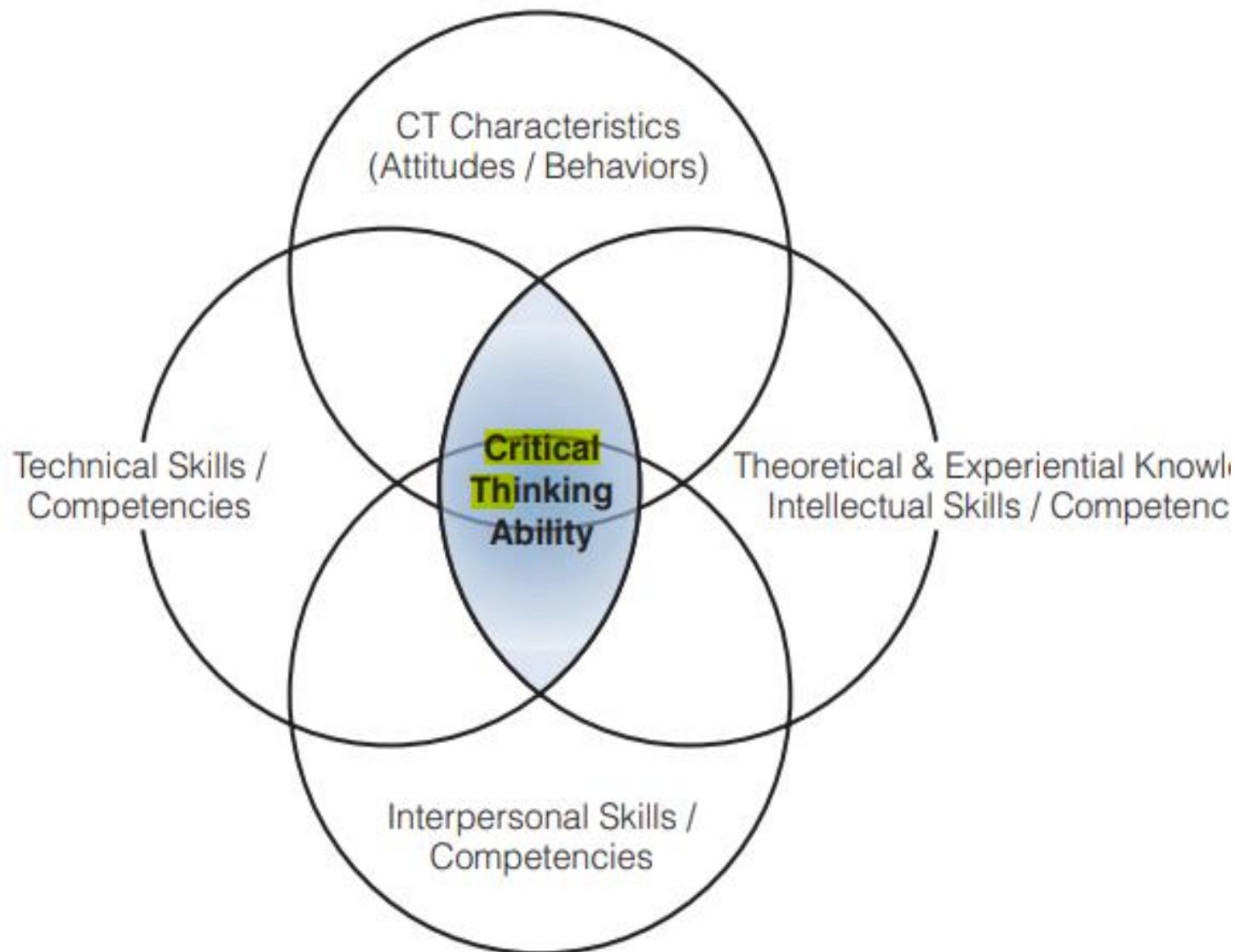
- The practice of nursing requires critical thinking and clinical reasoning.
- **Critical thinking** is the process of intentional higher level thinking to define a client's problem, examine the evidence-based practice in caring for the client, and make choices in the delivery of care.
- **Clinical reasoning** is application of critical thinking to the clinical situation.

# PURPOSE OF CRITICAL THINKING

- **Critical thinking** is an essential skill needed for the identification of client problems and the implementation of interventions to promote effective care outcomes.
- The process of providing **feedback and reflection** is vital to the improvement of nursing practice.
- **Critical thinking** is a bridge between information and action.
- **Critical thinking** in nursing involves **habits of the mind** and requires the implementation of **cognitive skills**.
- When nurses incorporate **creativity**, they are able to find unique solutions to unique problems.

# WHAT YOU NEED TO DO TO DEVELOP YOUR ABILITY TO THINK CRITICALLY

1. Develop **critical thinking characteristics** such as; honesty, fair-mindedness, creativity, patience, and confidence.
2. Take responsibility and **seek out learning experiences** to help you get the theoretical and experiential knowledge to think critically.
3. Gain **interpersonal skills** such as teamwork, resolving conflict, and being an advocate. Keep in mind that “being too nice” problems can be as bad as “not being very nice” problems.
4. Practice related **technical skills** (e.g., using computers, managing IV’s).



Starting at the top and going clockwise around the circles above, here's what you need to do to develop your ability to think critically.

# COMPONENTS OF CRITICAL THINKING

## Ten habits of the mind(affective components)

- Confidence,
- Contextual perspective,
- Creativity, Flexibility,
- Inquisitiveness (الفضول) ,
- Intellectual integrity (السلامة الفكرية) ,
- Intuition, Open-mindedness,
- Perseverance (المثابرة) ,
- Reflection.

## Seven skills (cognitive components)

- Analyzing,
- Applying standards,
- Discriminating,
- Information seeking,
- Logical reasoning,
- Predicting,
- Transforming knowledge

# TECHNIQUES IN CRITICAL THINKING

1. Critical analysis,
2. Inductive and deductive reasoning,
3. Making valid inferences,
4. Evaluating the credibility of information sources,
5. Clarifying concepts,
6. Recognizing assumptions
7. Differentiating facts from opinions,

# TECHNIQUES IN CRITICAL THINKING

- **Critical analysis** is the application of a set of questions to a particular situation or idea to determine essential information and ideas and discard unimportant information and ideas. The questions are not sequential steps; rather they are a set of criteria for judging an idea.
- In **inductive reasoning**, generalizations are formed from a set of facts or observations. When viewed together, certain bits of information suggest a particular interpretation.
- **Deductive reasoning**, by contrast, is reasoning from general premise to the specific conclusion.

# TECHNIQUES IN CRITICAL THINKING

- **Evaluating the credibility of information sources** is an important step in critical thinking. Unfortunately, we cannot always believe what we read or are told. The nurse **must ascertain the accuracy of information** by checking other documents or with other informants.
- **Clarifying concepts:** to comprehend a client situation clearly, the nurse and the client must agree on the meaning of terms.
- **Recognizing assumptions:** people live their lives under certain assumptions. If the nurse and client recognize that they make choices based on their assumptions, they can still work together toward an acceptable plan of care.

# TECHNIQUES IN CRITICAL THINKING

- Differentiating facts from opinions

**TABLE 10-1** Differentiating Types of Statements

Statement	Description	Example
Facts	Can be verified through investigation	Blood pressure is affected by blood volume.
Inferences	Conclusions drawn from the facts; going beyond facts to make a statement about something not currently known	If blood volume is decreased (e.g., in hemorrhagic shock), the blood pressure will drop.
Judgments	Evaluation of facts or information that reflects values or other criteria; a type of opinion	It is harmful to the client's health if the blood pressure drops too low.
Opinions	Beliefs formed over time; include judgments that may fit facts or be erroneous	Nursing interventions can assist in maintaining the client's blood pressure within normal limits.

# CREATIVITY

- When nurses incorporate creativity, they are able to find unique solutions to unique problems.
- **Creativity** is thinking that results in the development of new ideas and products.
- **Creativity** in problem solving and decision making is the ability to develop and implement new and better solutions for health care outcomes.
- **Creativity** is required when the nurse encounters a new situation or a client situation in which traditional interventions are not effective.
- **Creative thinkers** must assess a problem and be knowledgeable about the underlying facts and principles that apply.

# PROBLEM SOLVING

- **Problem solving** is a mental activity in which a problem is identified that represents an unsteady state.
- It requires the nurse to obtain information that clarifies the nature of the problem and suggests possible solutions.
- The nurse carefully evaluates the possible solutions and chooses the best one to implement.
- The situation is carefully monitored over time to ensure that its initial and continued effectiveness returns the client to a steady state.
- Commonly used approaches to problem solving include **trial and error, intuition, and the research process.**

# PROBLEM SOLVING

- **TRIAL AND ERROR:** a number of approaches are tried until a solution is found. The use of trial-and-error methods in nursing care can be dangerous because the client might suffer harm if an approach is inappropriate.
- **INTUITION:** is approach that relies on a nurse's inner sense. Intuition is the understanding or learning of things without the conscious use of reasoning. It is also known as sixth sense, hunch, instinct, feeling, or suspicion.
- **RESEARCH PROCESS:** is a formalized, logical, systematic approach to problem solving. It could be quantitative or qualitative.

# PROBLEM SOLVING STEPS



# CLINICAL REASONING

- **Clinical reasoning:** the ability to reason about a clinical situation as it unfolds
- It requires the nurse to use cognitive and metacognitive processes.
- **Cognitive processes** are the thinking processes based on the knowledge of aspects of client care. Cognitive skills are learned through reading and applying health-related literature.
- **Metacognitive processes** include reflective thinking and awareness of the skills learned by the nurse in caring for the client. The nurse reflects on the client's status, and through the use of critical thinking skills determines the most effective plan of care

# COMPONENTS OF CLINICAL REASONING

1. Setting priorities
  2. Developing rationales
  3. Learning how to act
  4. Clinical reasoning-in-transition
  5. Responding to changes in the client's condition.
- Reflection

# CONCEPT MAPPING AND ENHANCING CRITICAL THINKING AND CLINICAL REASONING

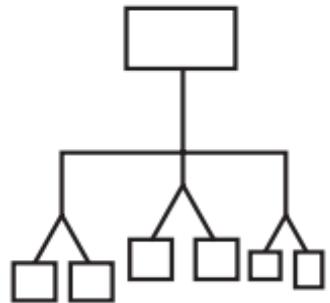
- **Concept mapping** is a technique that uses a graphic depiction of nonlinear and linear relationships to represent critical thinking.
- The attributes of the concept are linked, making meaning of the concept they represent. Concept maps provide an opportunity to visualize things in your own way.
- The concept map can incorporate multiple problems, rather than address one single client problem.
- This allows the nurse to demonstrate interrelationships among a client's problems and determine care based on the complexity of those problems.

## BOX 10-4

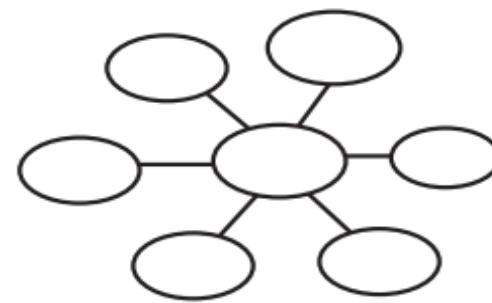
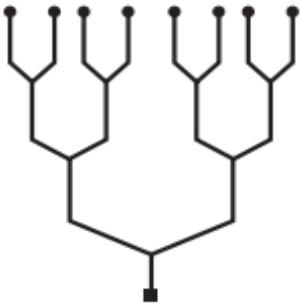
### Types of Concept Maps

- **Hierarchical maps**—concept and attributes arranged in a hierarchical pattern and typically constructed in a descending order of importance. Relationships are identified between and among a concept and its attributes (see Figure 10–2A)
- **Spider maps**—depict the interrelatedness of the concept and its attributes in the map (see Figure 10–2B)
- **Flowchart maps**—linear diagrams demonstrating sequence or cause-and-effect relations (see Figure 10–2C)
- **Systems maps**—inputs and outputs illustrate relationships among the concept and its attributes (see Figure 10–2D)

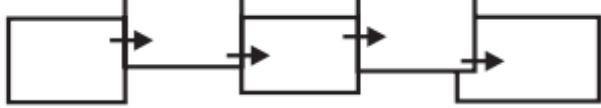
# TYPES OF CONCEPT MAPS



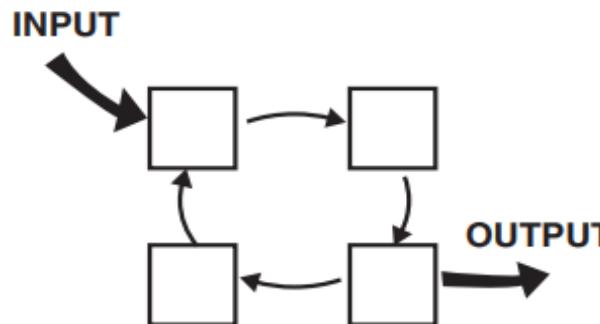
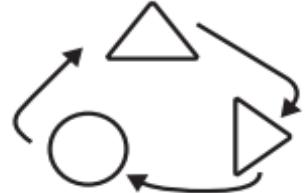
A.



B.



C.



D.

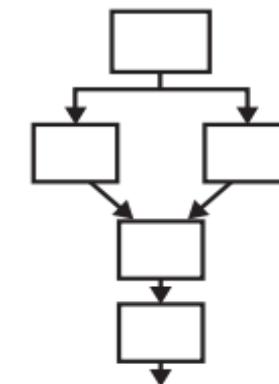


Figure 10-2 ■ Types of concept maps: A, hierarchical; B, spider; C, flowchart; D, systems.

# SUMMARY

- Critical thinking, clinical reasoning, and problem solving are inter-related mental activities and/or scientific approaches that should be learned by nurses to provide safe and effective nursing care.
- Critical thinking, and problem solving are the foundation of the nursing process.
- Clinical reasoning enables nurses to prioritize care, anticipate patient responses, and adapt interventions based on changing circumstances.
- Nursing process and critical thinking, problem-solving, and clinical reasoning are closely interconnected concepts that form the basis of nursing practice. By integrating these elements, nurses can provide holistic, evidence-based care that meets the unique needs of individual patients.

**END OF THE LECTURE  
ANY QUESTION**