MAKING THE CONNECTION WITH CONCEPT MAPPING: A VERSATILE STRATEGY FOR TEACHING, ASSESSING, AND EVALUATING CLINICAL JUDGMENT

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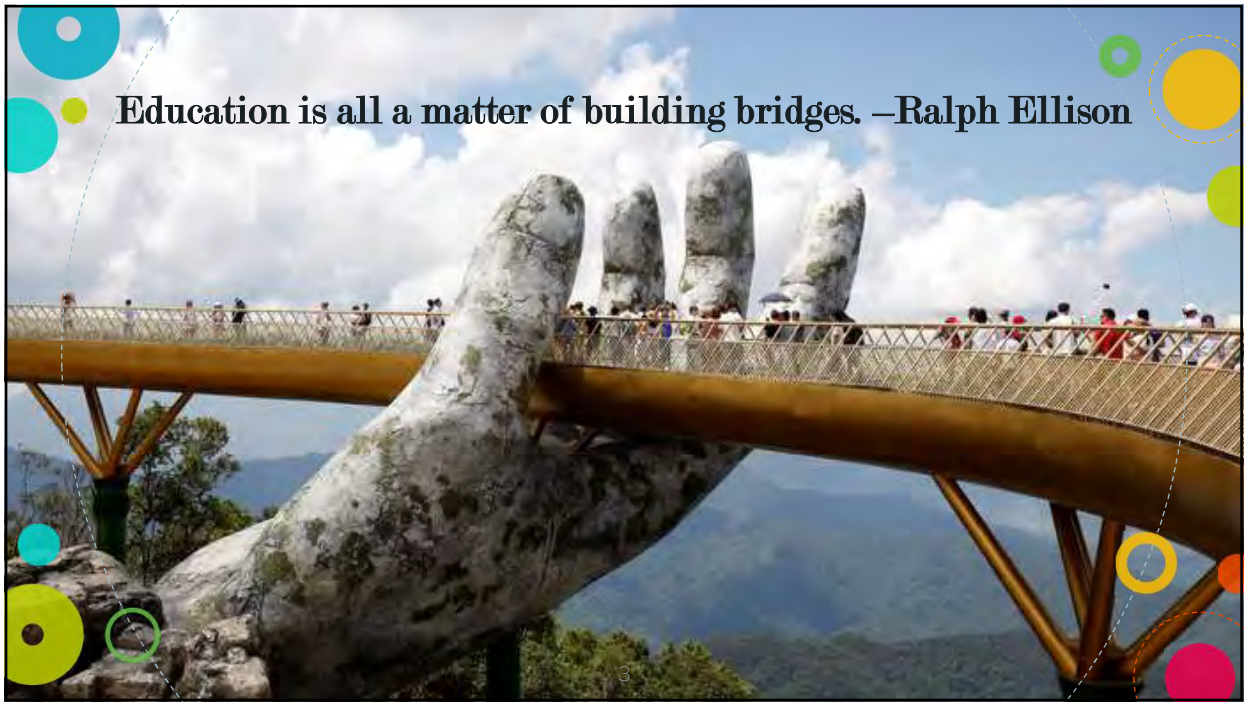
University of Maryland School of Nursing
NextGen NCLEX Preparatory Sessions

Learning Objectives

- Discuss the connection between concept mapping and clinical judgment development
- Recognize the utility of concept mapping as a teaching strategy, assessment opportunity, and evaluation tool.
- Practice tailoring a concept-mapping activity to meet students' needs.
- Share implementation ideas to use concept-mapping across the curriculum.



What's on the other side?

- Next Generation NCLEX
- Readiness for Practice
- Ability to use clinical judgment

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National Survey Findings: Teaching Strategies Used to Promote Student Development of Clinical Judgment.

	Average among all schools
Case Studies	98.34%
Simulations	96.68%
Virtual Technology	80.91%
Questioning	76.76%
Concept Mapping	70.12%
Feedback	67.63%
Structured Reflection	54.77%
Coaching	46.89%
Concept-based Learning	38.59%
Other	3.32%
	n=241

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However, Implementing teaching strategies as per usual is not enough to adequately develop students' clinical judgment (Tyo & McCurry, 2019).

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Teaching to Promote Development of Clinical Judgment

- Consider integrating a clinical judgment model
- Teach with attention to cognitive components associated with clinical judgment
- Consider evidence-based practices
- Link: Noticing, Interpreting, Responding, and Reflecting

(Gonzalez et. al., 2021)

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Cognition and Concept-Mapping

1. Retrieval of previous knowledge.
2. Build complex inter-relationship between concepts.
3. Construct new knowledge pathways/frame works
4. Promote reflective thinking and evaluating ideas.
5. Meaning-making and Interpreting between data points.
6. Facilitate knowledge transfer and sharing

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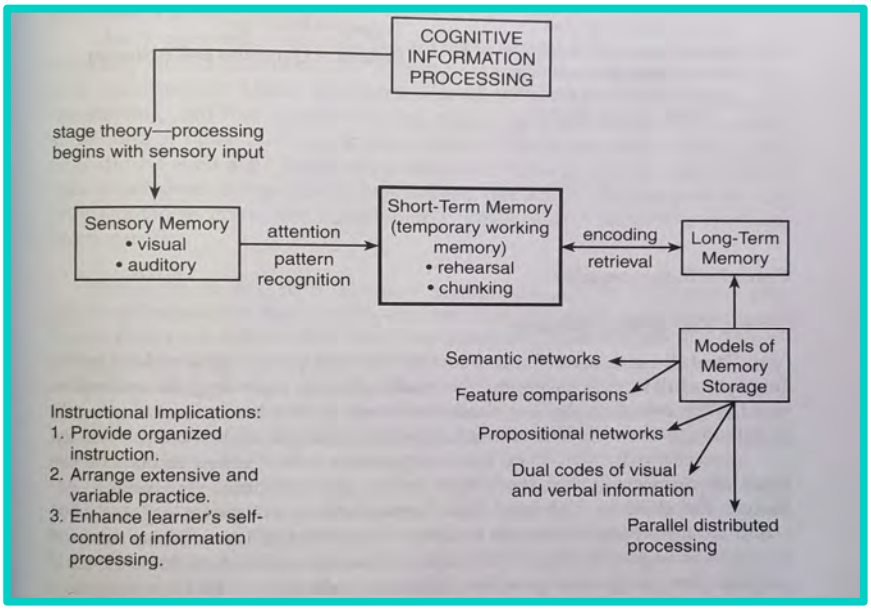

Driscoll, 2005

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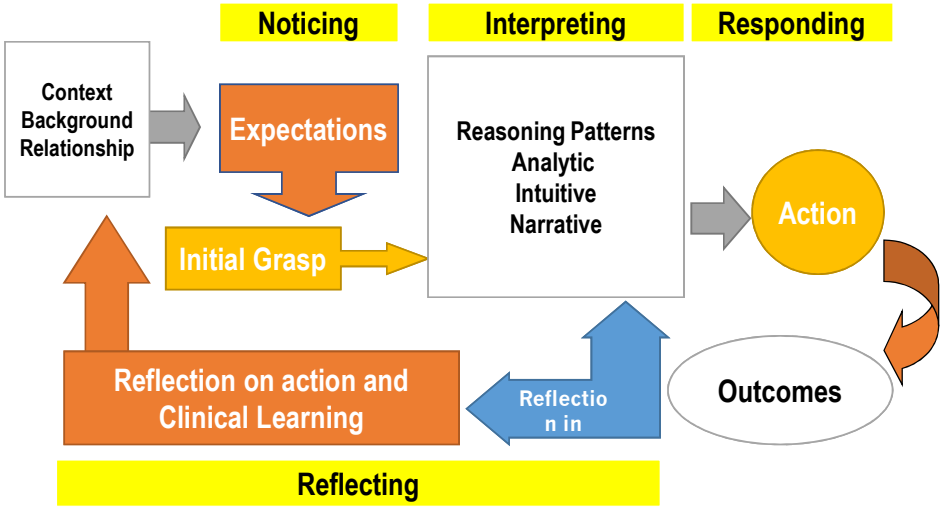
Model of Clinical Judgment

Tanner (2006)



Tanner's Clinical Judgment Model (Tanner, 2006)

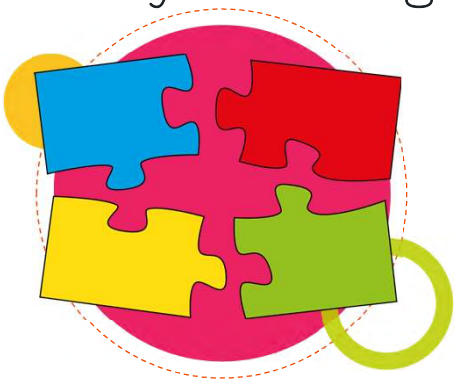
Noticing
Attention to and awareness of the patient and/or clinical situation.

Interpreting
Making sense of information.

Responding
Choosing and implementing an intervention.

Reflecting
Evaluating or pondering the action and outcomes

What are your thoughts?



What have you noticed about your students' clinical judgment development?

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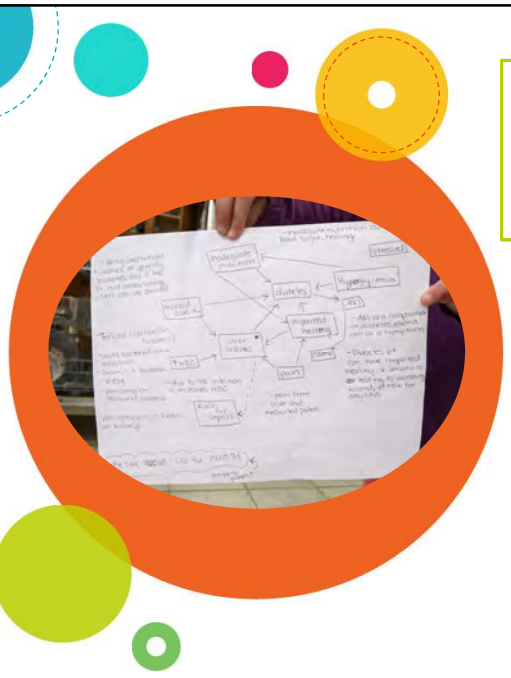
CONCEPT MAPPING AS A VERSATILE STRATEGY



What are the basic components of a concept map?

- Labeled nodes (ideas/concepts)
- Links (directional or non)
- Linking labels to describe the relationship.

Bridges et. al., 2015; Schwendimann, 2015

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Concept Mapping as a teaching strategy

- Unpack complex concepts during lecture
- Explore the inter-relationship of concepts (Garwood et. al., 2018).
- Summarize a concept
  - Hierarchical concept map (flow chart)
- In place of or to support care plans (Cook et. al., 2012; Eisenmann, 2021)
- Prioritize nursing care (Kaddoura et. al., 2016).

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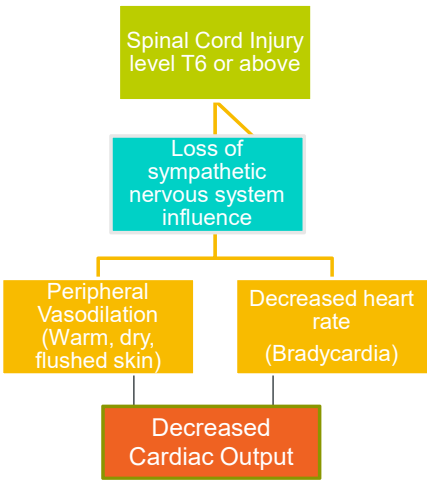
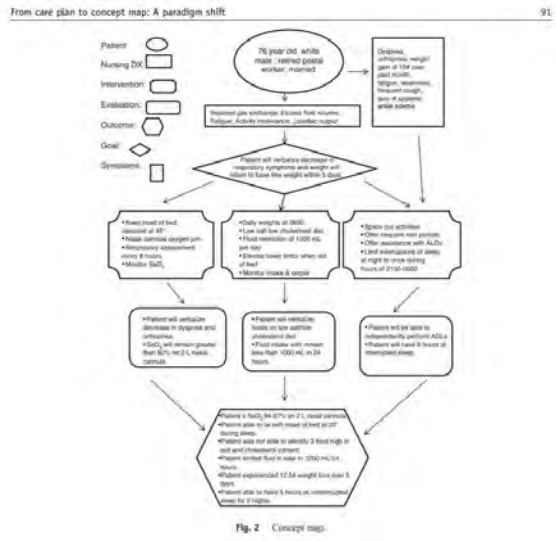
Mental Flow Chart: Neurogenic Shock



Concept Map in place of care plan



Cook et. al., 2012

Concept Mapping as a learning activity

- Group concept mapping (Hagell et. al, 2016)
- Study Tool
  - Create a standard tool
  - Students create their own
  - Freestyle flow of ideas
- Integrate theory into clinical learning
  - Data to diagnosis activity (Gonzalez, 2018)

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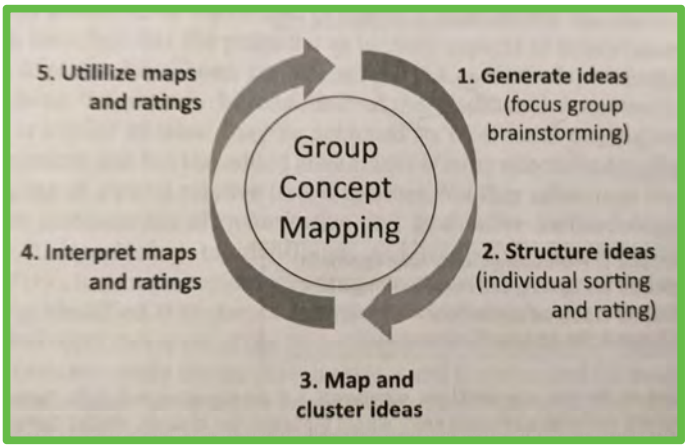

Illustration of Group Concept Mapping Process (Hagell et. al, 2016)

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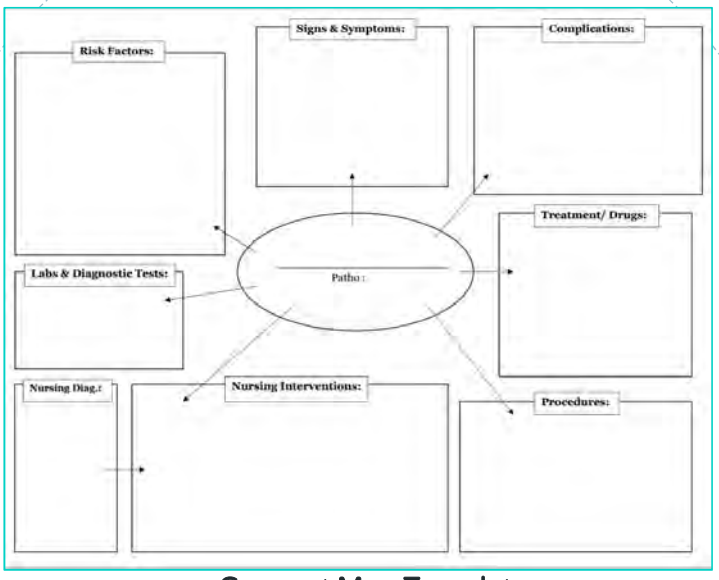

Concept Map Template

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TABLE 1
Clinical Judgment and Reasoning Concepts and Topics

Concept	Associated Topics	LCJR	Tanner's Clinical Judgment Model Phase
Organization (flow of the shift)	Using a report sheet for mental organization Maintaining a sense of salience throughout a shift Asking the right questions	Information seeking	Noticing
Focused assessment	Practicing observation skills Determining body system-based focused assessments Completing health care driven focused assessments (e.g., AWSS)	Focused observation	Noticing
	Using focused assessments in recognizing deviations from expected patterns Recognizing cues, stable versus unstable Determining patient baselines	Recognizing deviations from expected patterns	Noticing
Data to diagnosis	Using deductive and inductive reasoning to analyze data Form a hypothesis Support a nursing diagnosis Concept-mapping to visualize connections between the data	Making sense of data	Interpreting

Gonzalez, Nielsen, & Lasater, 2021; Gonzalez, 2018

Priority diagnosis	Identifying underlying issues Considering factors involved in decision-making (e.g., affective domain) Prioritizing A, B, C's for unstable patients	Prioritizing data	Interpreting
Interventions	Tailoring interventions to meet patient's needs Anticipating and evaluating responses Using evidence-based principles Implementing protocols (e.g., heparin drips, sepsis protocol) Practicing psychomotor skills	Well-planned interventions; flexibility Being skillful	Responding
Documentation	Documenting clear, logical, and concise Nursing progress notes Assessment documentation		
Communication	Identifying situations that require collaborative communication Communicating clearly, concisely SBAR Interdisciplinary rounding Shift report	Clear communication Calm, confident manner	Responding
Prioritizing care	Identifying priority issues Managing priorities of care	Prioritizing data	Responding
Reflection	Evaluating self accurately Reflecting-on-action Reflecting-in-action	Evaluation and self-analysis Commitment to improvement	Reflecting

Gonzalez, Nielsen, & Lasater, 2021, Gonzalez, 2018

Topic 4: Data to Diagnosis
Connection between assessment and nursing diagnosis
Objectives:

- Formulate nursing diagnoses relevant to abnormal assessment findings and/or admission or current medical diagnoses.
- Care Plan evidence (subjective and objective) support and relate to nursing dx.
- Create a concept map for your patient

Teaching Methods and Strategies			
Warm-up	**Lesson/Mid-shift Conference**	**Options for Learning Activities**	**Clinical Evaluation Tool Categories**
Preconference question: What do we do with all the data we collected? **Warm-up activity:** Instructor introduces the concept of making sense of data and asks students pay attention to abnormal assessment findings today. **Instructor guidance:** 1) What abnormal assessment findings did you notice and what is the significance? 2) Based on the data, what issues are starting to emerge and what nursing diagnoses are becoming evident? 3) What information connects with which issue?	**Lesson:** Making connections between the data. Concept-mapping activity to show how concept mapping can help you see the connections between data. Check accuracy of connections between the data by explaining the connection. Does it make sense? If cannot explain either 1) not a good connection or 2) need more knowledge of the connection. **Reflective Moment:** Students share or ask questions about the meaning or connections between their patient's data.	**During Shift:** Student creates a concept map that reflects collected data and includes sentences explaining each connection. **Post-Conference:** Students share the connections made in their concept map activity. Students share a nursing diagnosis with supporting assessment data; fellow students listen and offer feedback. Students and instructor reflect on the theme for the day.	**CJM phase:** Interpreting **LCJR dimensions:** Making sense of data. **NUR 2115L CET component** **Focused observation** • Gathers client data relevant to medical and nursing diagnosis **Recognizing deviations from expected patterns** • Identifies abnormal assessment findings **Making sense of data** • Formulates accurate nursing diagnosis

Concept Mapping for assessment/evaluation

- Use at the middle or end of class to assess or evaluate learning.
  - What points do I need to clarify?
- Student self-assessement
  - Do I understand the connections?
  - What do I need to further study?
- Makes the invisible (thinking) visible.
  - What is the student thinking?
- Evaluate the effectiveness of concept mapping to learning clinical judgment.
  - Rubric by Gerdeman et. al. 2013

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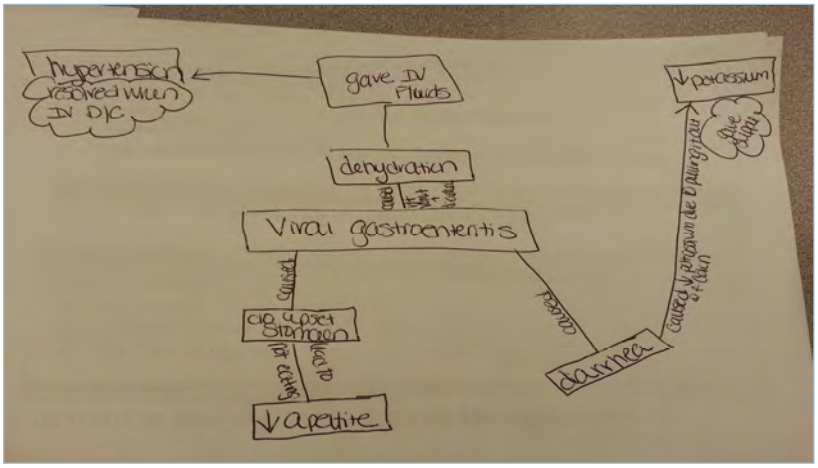


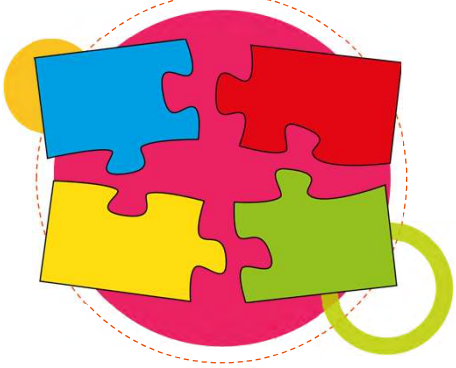
Student Concept Map

What does the concept map tell you about the students thinking?

Rubric by Gerdeman et. al. 2013

Phase	Excellent	Good	Marginal	Poor
"Noticing" Did the use of the concept map help the student focus their observations, recognize patterns, and gather information to create ideas in the development of interventions based on priorities?	The concept map focus the student's observations relating to the topic and gathering subjective / objective data; Students are able to focus on the most important information, to recognize patterns and deviations in the information, and form ideas for appropriate interventions based on the information depicted in the map.	The concept map allows the student to recognize most of the useful information; both subjective and objective data are identified, but may have missed some subtle information; The student actively seeks information about clinical situation but does not completely explore important leads in the development of ideas for interventions.	The student focuses on the main topic, but was overwhelmed by the collection of data; feels like they could focus on the most important information, but may have overlooked important information; unsure of next step in relation to the situation; did not fully understand what information to illicit when developing ideas for interventions.	Confused by the concept map, presentation of clinical situation, and types of data; missed important information which could lead to clinical errors; only could focus on one concept at a time, unable to see clinical situation as a "whole" using the map. There was not enough information to develop sufficient interventions for the clinical situation.

What are your experiences ?



How you have used concept-mapping?

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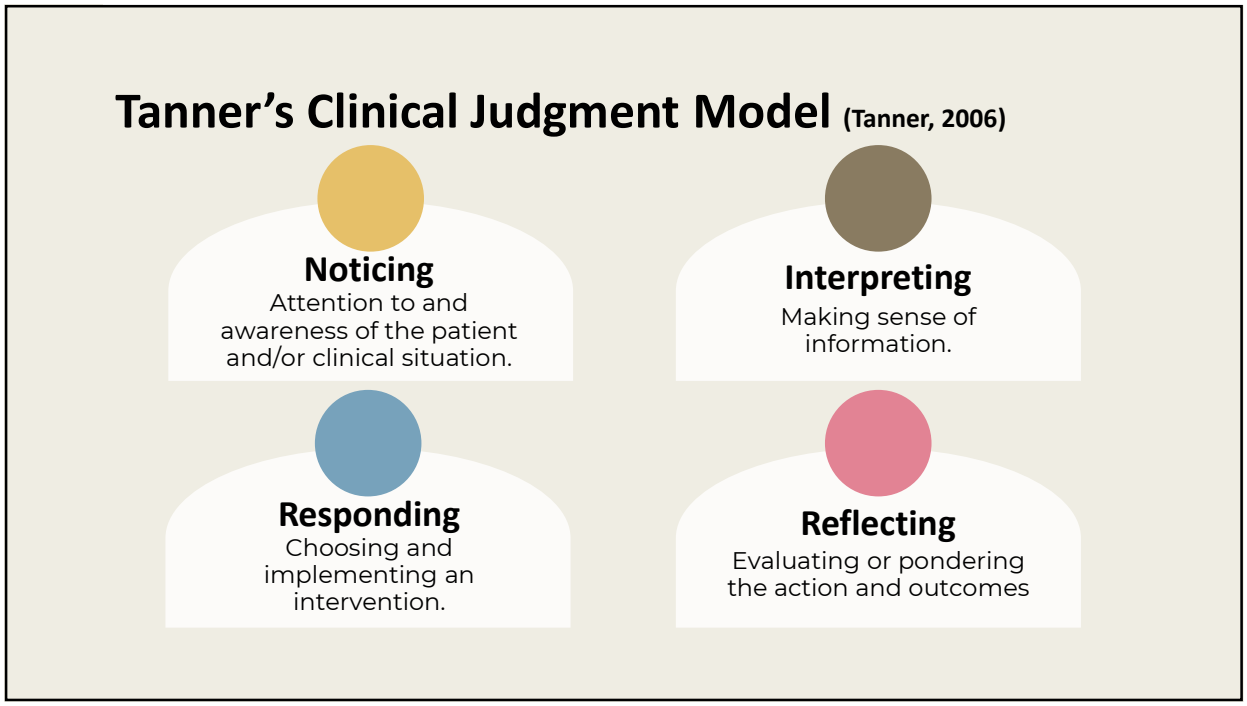
Tanner's Clinical Judgment Model (Tanner, 2006)



Student Assessment

- Consider the aspects of Tanner's Clinical Judgment Model
  - *Where is the student struggling most?*
- Consider the student level
  - *First year versus second year*
- Uncover their thinking
  - *Ask higher-level questions to reveal the concepts*
- Individual student versus the group
  - *Does more than one student have the same question?*
- Consider the learning environment
  - *Clinical versus classroom versus laboratory*
  - *Resources available*

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Case Study:

One of your clinical students is struggling to understand how his patient's fluid status relates to their evident electrolyte imbalance. He notices numerous abnormal assessment findings such as hypernatremia, elevated lactic acid level, low blood pressure, and that the patient had diarrhea for a couple days prior to admission. He also noted that the patient was admitted with failure to thrive and enteral tube feeding began this am. He also notes that the patient has an acute kidney injury, but can't quite remember what that means.

How could you use concept mapping to help this student?
How would you evaluate the student's understanding?

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Implementation Strategies

- Decide on a concept mapping activity
  - *Teaching, Learning, Assessment, Evaluation*
- Create the activity
  - *What is the goal?*
  - *Time element*
  - *Collaborative versus individual*
- Make time for discussion or feedback
  - *Clear up any muddy points*
- Reflect on clinical judgment
  - *How does this help develop students' clinical judgment?*

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Let's get to work!

In your breakout room group discuss:

- Concept-mapping activity ideas
- How could you implement concept mapping in your curriculum or course?
- Use the provided worksheet to create a concept mapping activity.

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