Critical Thinking in the Nursing and Allied Health Classroom

Before the workshop, we encourage you to

- Read the recommended readings noted below.
- Identify a course that you'd like to think about or work on.

Please bring to the workshop

- Materials that will help you think about or work on your course (e.g. a list of your program or course competencies, your syllabus, a learning activity, an assignment, an assessment tool, etc.).
- A laptop computer, if you have one.

Workshop

8:00 a.m. – 5:00 p.m., Thursday, August 31, 2017

8:00 a.m. Opening Discussion

- What are your experiences in the classroom?
- What would you like to get out of this workshop?

9:00 a.m. Critical Thinking

- What Critical Thinking is
- Why Critical Thinking can be Hard
- What makes Critical Thinking Easier
- Recommended Reading: Facione, P. (2015). "Critical Thinking What It Is and Why It Counts." from http://www.insightassessment.com/Resources/Critical-Thinking-What-It-Is-and-Why-It-Counts

9:50 a.m. Break

10:00 a.m. Visual Thinking

- Concept Maps
- Reasoning Maps
- Recommended Reading: Davies, M. (2011). "Concept mapping, mind mapping, and argument mapping: What are the differences and do they matter?" *Higher Education*, 62(3), 279-301.

11:00 a.m. Critical Thinking and Visual Thinking in the Health Sciences

- Nursing Process
- Barriers to Implementing Nursing Process
- Responses to Barriers
- Recommended Reading: Billings, D. and K. Kowalski (2008). "Argument Mapping." Journal of Continuing Education in Nursing: 246-247.

Noon

1:00 p.m. What this Means for You

Lunch

- Learning Outcomes in your Classroom
- Assessment Tools in your Classroom
- Learning Activities in your Classroom
- Recommended Reading: McTighe, J. and G. Wiggins (2012). "Understanding by Design Framework." 2016, from

 $http://www.ascd.org/ASCD/pdf/siteASCD/publications/UbD_WhitePaper0312.pdf.$

2:00 p.m. Some Assembly Required

- Working on your courses.
- 4:00 p.m. Reporting Back

Critical Thinking in the Nursing and Allied Health Classroom

Vera Klekovkina, Wade Mahon, Jodi Olmsted, Dona Warren The University of Wisconsin-Stevens Point **Opening Discussion**

Critical Thinking

Visual Thinking

Critical Thinking and Visual Thinking in the Health Sciences

What this Means for You

Some Assembly Required

Opening Discussion

What are your experiences in the classroom?

What would you like to get out of this workshop?

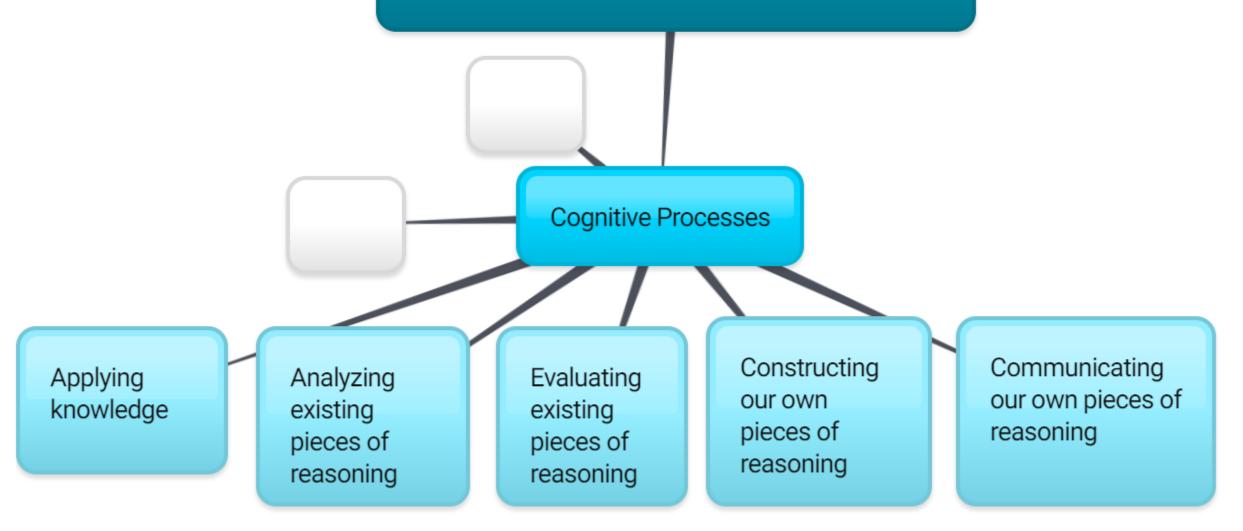
Critical Thinking

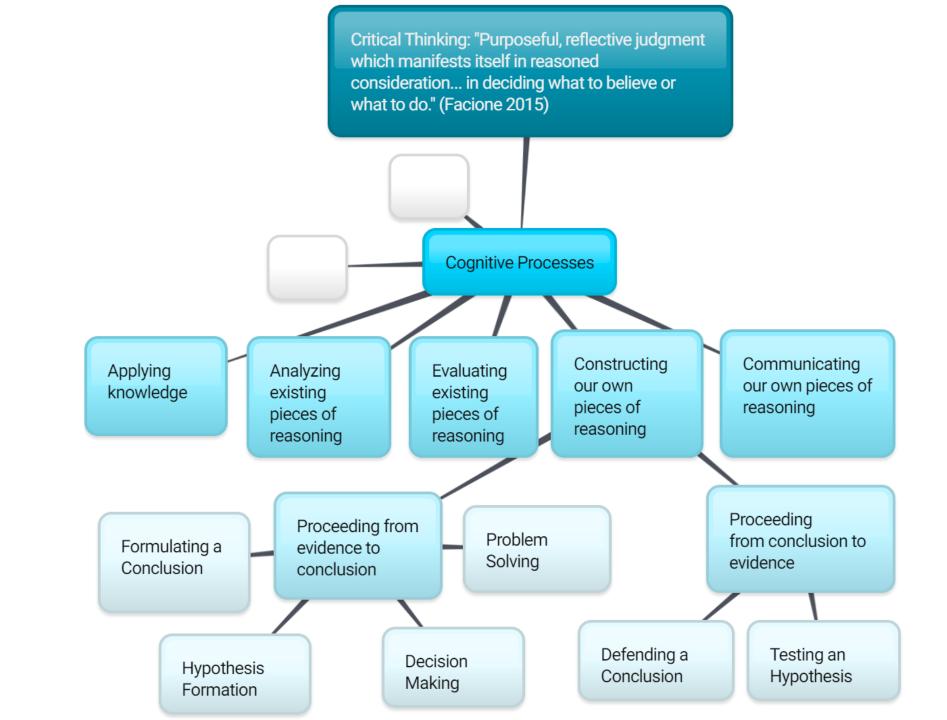
What it is

Critical Thinking: "Purposeful, reflective judgment which manifests itself in reasoned consideration... in deciding what to believe or what to do." (Facione 2015)

Facione, Peter, 2015, "Title: Critical Thinking What It Is and Why It Counts," <u>http://www.insightassessment.com/Resources/Critical-Thinking-What-It-Is-and-Why-It-Counts</u>

Critical Thinking: "Purposeful, reflective judgment which manifests itself in reasoned consideration... in deciding what to believe or what to do." (Facione 2015)

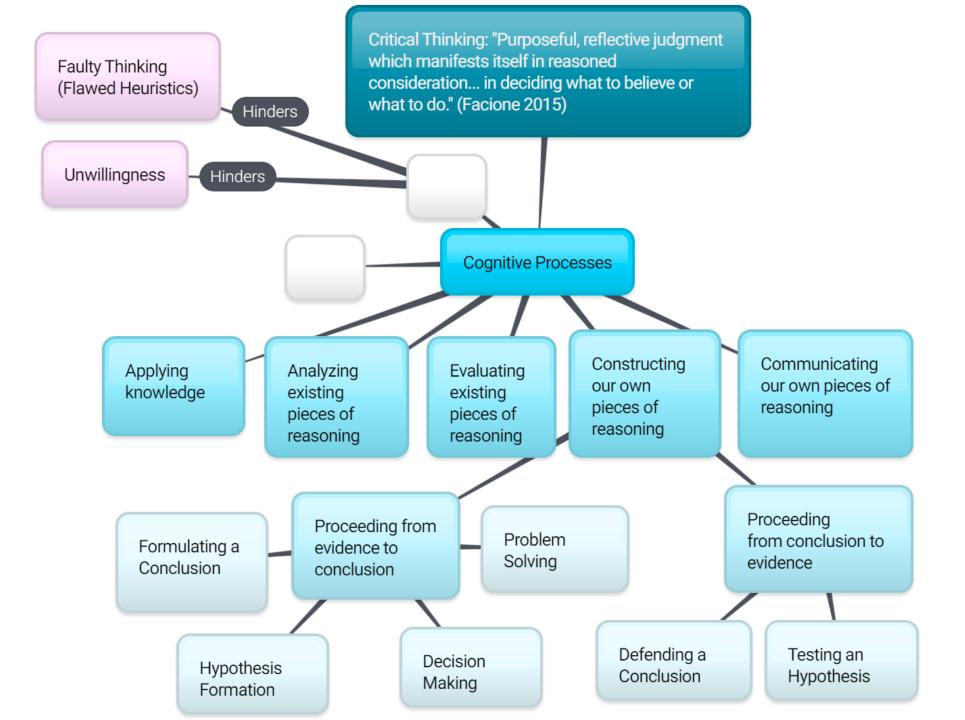


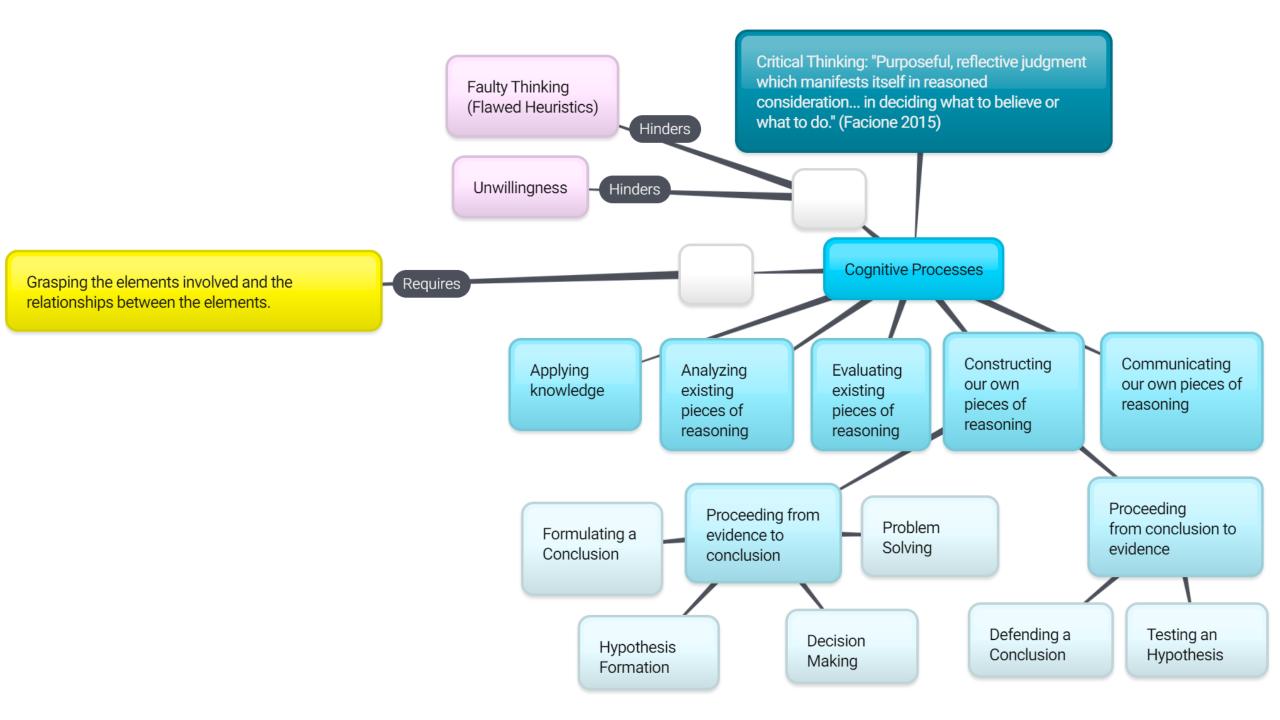


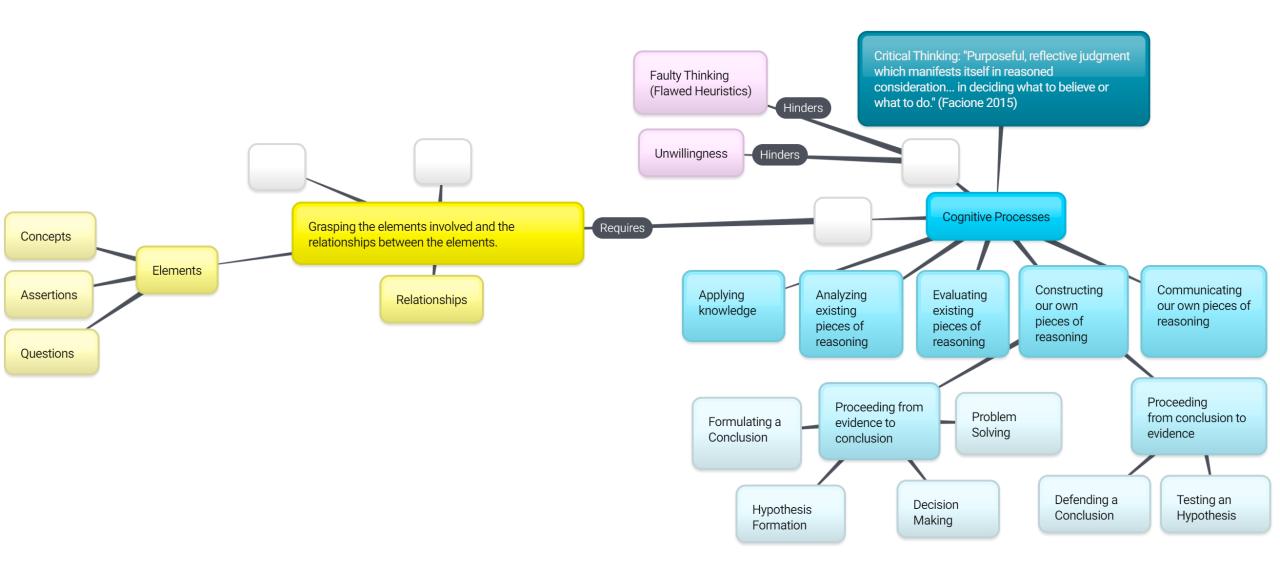
Critical Thinking

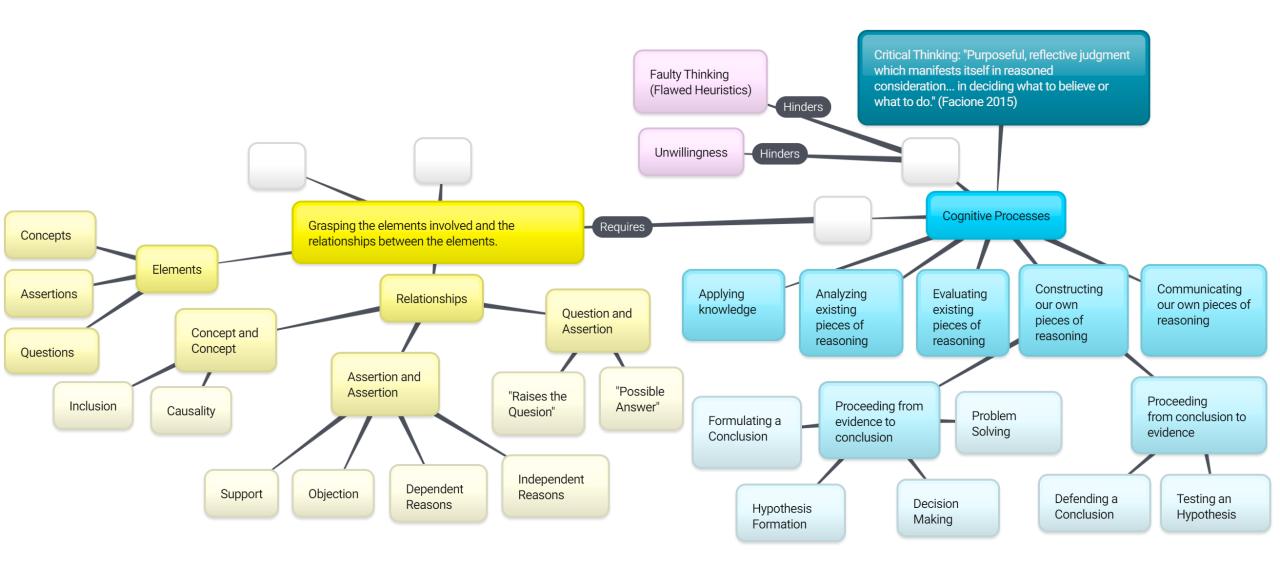
What it is

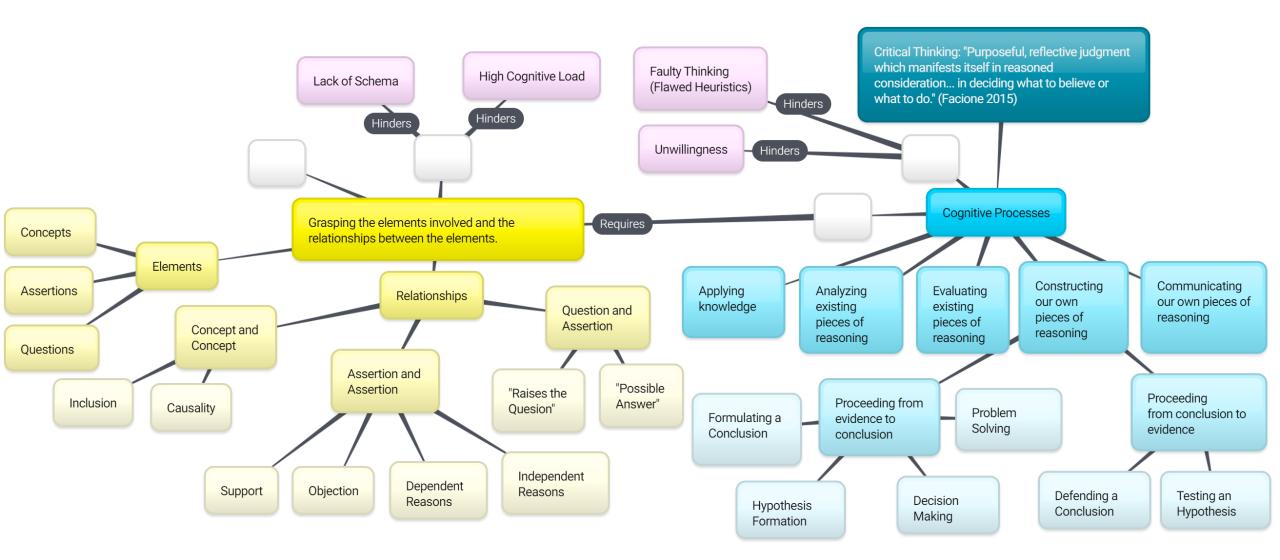
Why it can be hard









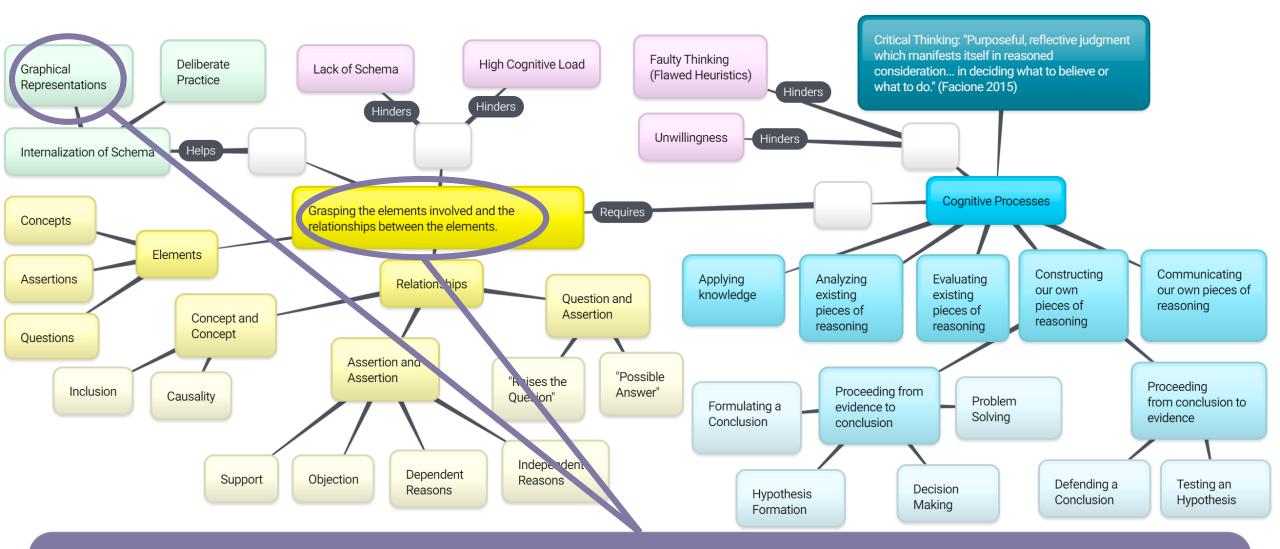


Critical Thinking

What it is

Why it can be hard

What can make it easier

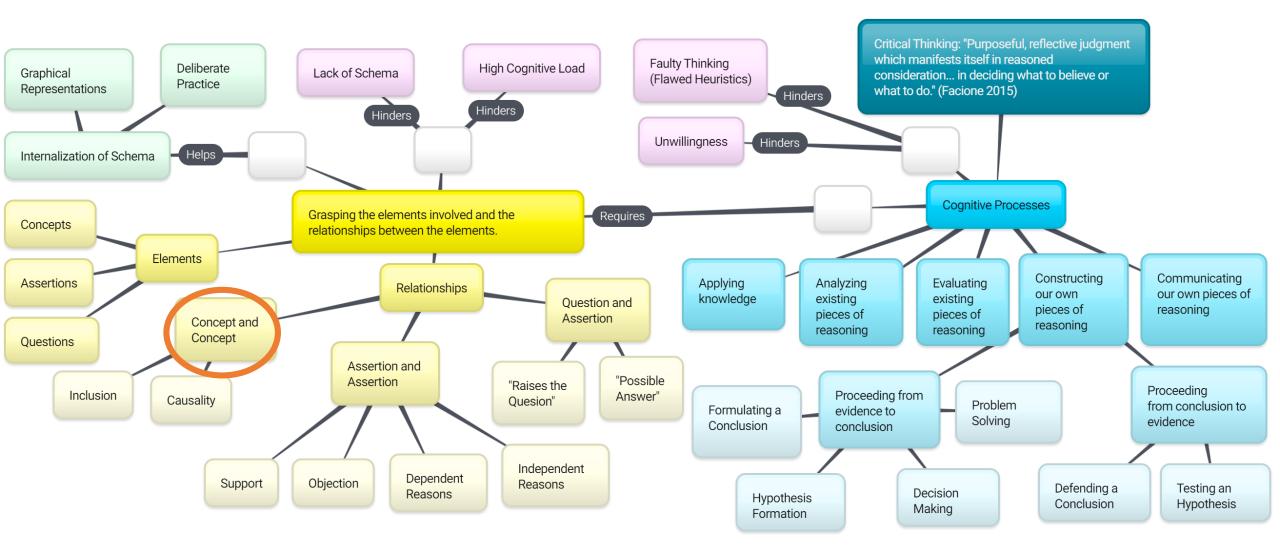


Graphical representations make

- the elements easier to see
- the relationships between the elements easier to track
- the reasoning easier to evaluate

Visual Thinking





We can understand critical thinking as the "purposeful, reflective judgment which manifests itself in reasoned consideration... in deciding what to believe or do. (Facione 2015). This purposeful reflective judgment can take the form of a variety of psychological actions, including applying knowledge, analyzing existing pieces of reasoning, evaluating existing pieces of reasoning, constructing our own pieces of reasoning, and communicating our own pieces of reasoning. Constructing our own reasoning can, in turn, be conceptualized as proceeding from the evidence to a conclusion– which includes formulating a conclusion, formulating an hypothesis, making a decision, and solving a problem – or proceeding from the conclusion to supporting evidence – which includes defending a conclusion and testing an hypothesis.

Faulty thinking and general unwillingness can both hinder the constitute critical thinking, actions that require grasping the element between the elements. The elements include concepts, asserticausality are relationships between concepts. Relationship "to objection, standing as dependent reasons, and standing as W Relationships between question and assertion include "raises"

The lack of schema and high cognitive load both hinder the relationships involved in critical thinking. The ability to grasp the elemin critical thinking can be assisted by the internalization of schema, and the facilitated by graphical representations and deliberate practice.

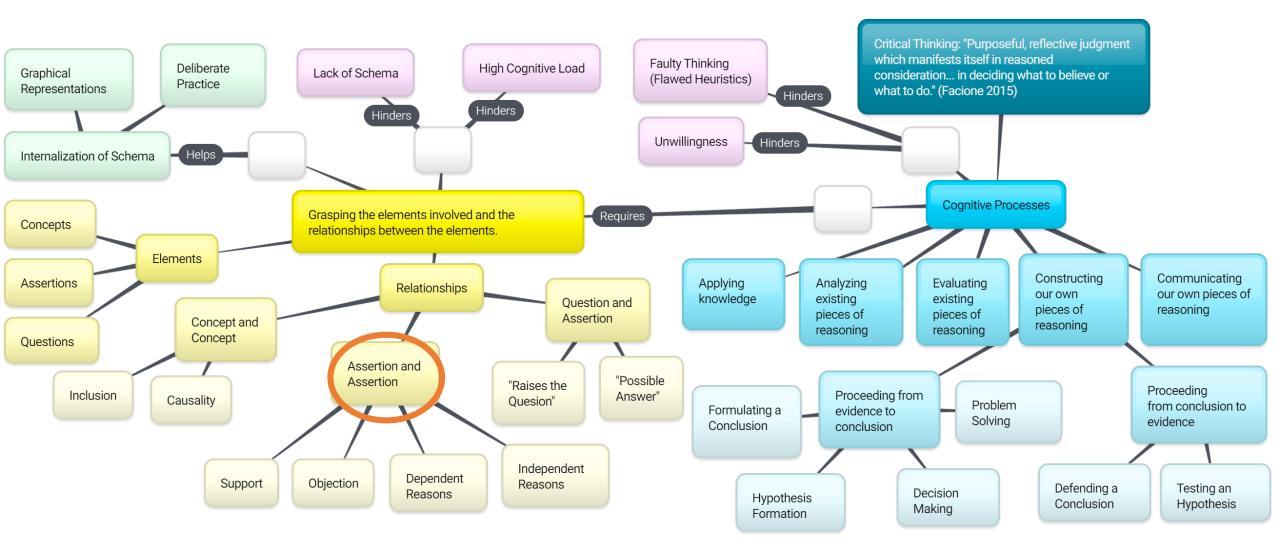
This is <u>not</u> a "thinker friendly" way of presenting the information. en. and th. and th. "ionship "ionshi

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Visual Thinking

Concept Maps

Argument Maps



"I think my house will sell within six months. After all, it's on a river. Of course, lots of people are worried about flooding. My nasty neighbor thinks that my house is priced twice as high as comparable houses, but I think it's priced reasonably, and reasonably priced houses always sell quickly. My husband claims that our house needs a new roof, and of course houses that need new roofs stay on the market longer, but as far as I can see, our roof is structurally sound."



- What are the main elements (assertions) in this piece of reasoning, and how are they related to each other?
- Try to represent this argument visually.

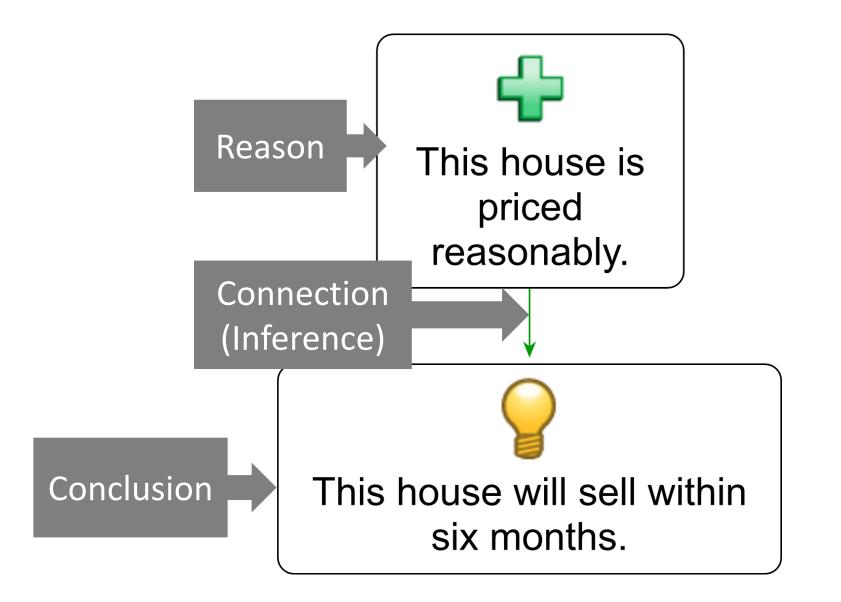
Visual Thinking

Concept Maps

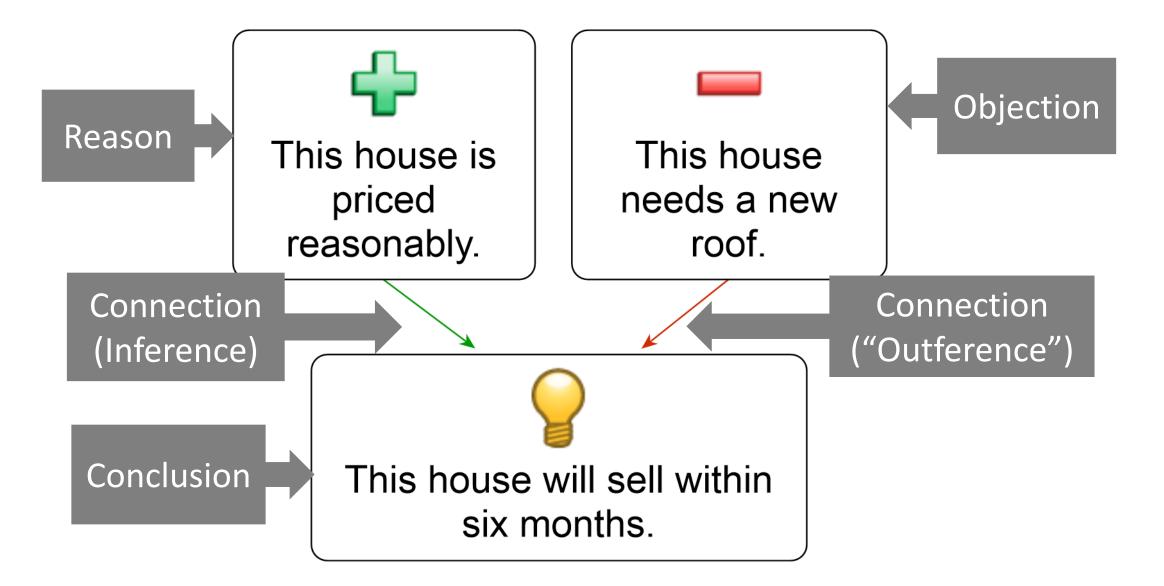
Argument Maps

Logical Structure of Reasoning

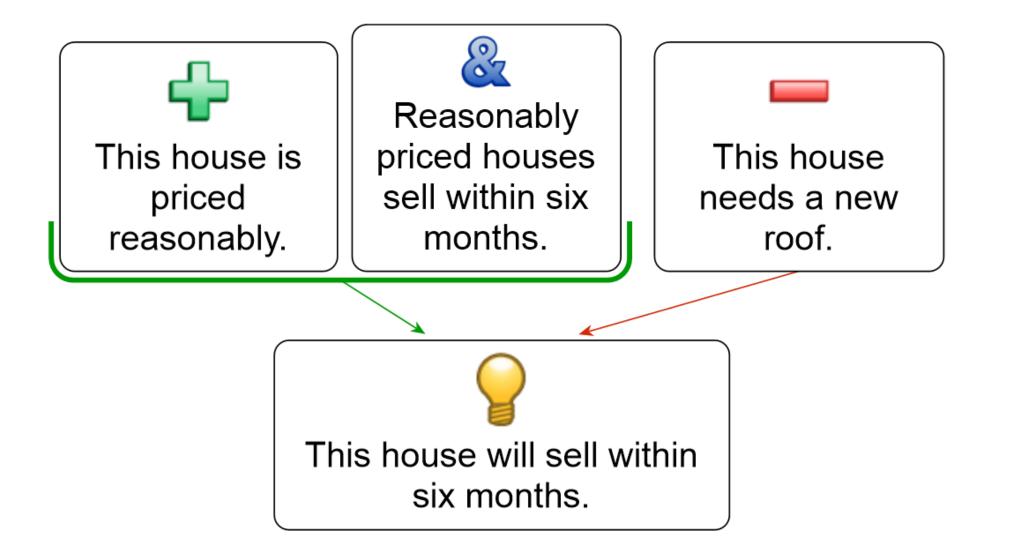
Support



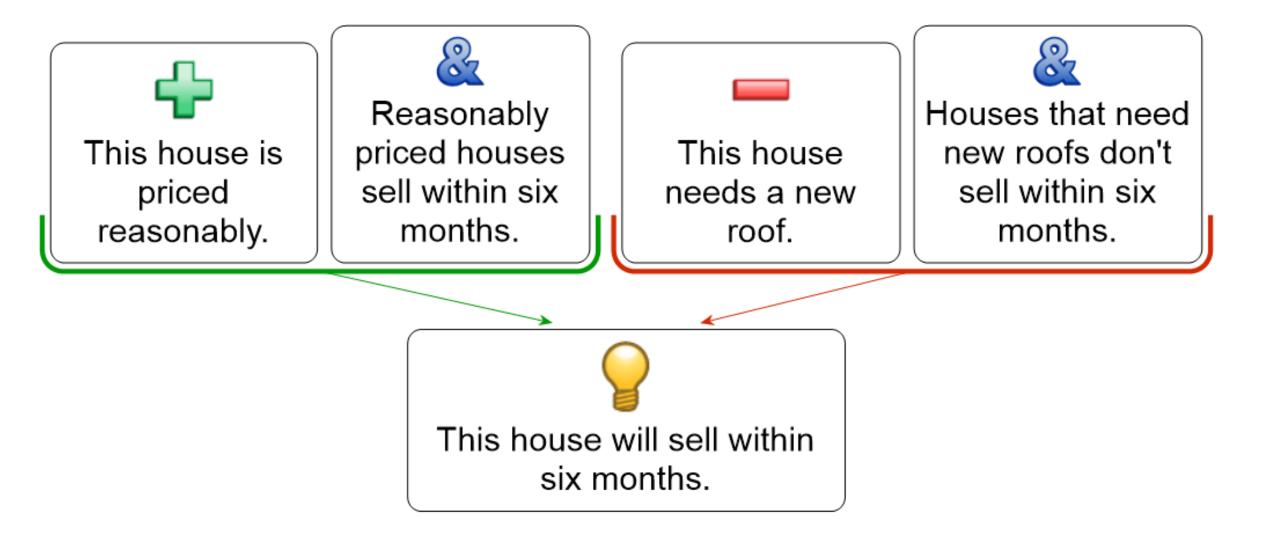
Objection



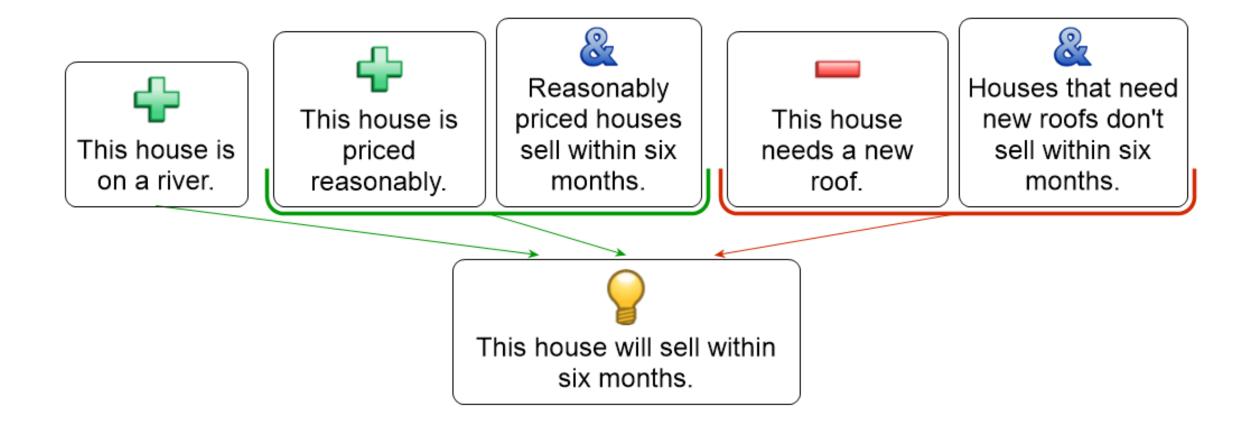
Dependent Reasons



Dependent Reasons



Independent Reasons



- The structure of the reasoning can be more complex.
- The content of the reasoning can be more difficult to comprehend.
- It can be difficult to track other people's reasoning.
- It can be difficult to track our own reasoning.

It's hard to find a black chicken in the dark. But it's even harder if you don't know what a chicken looks like.

Visual Thinking

Concept Maps

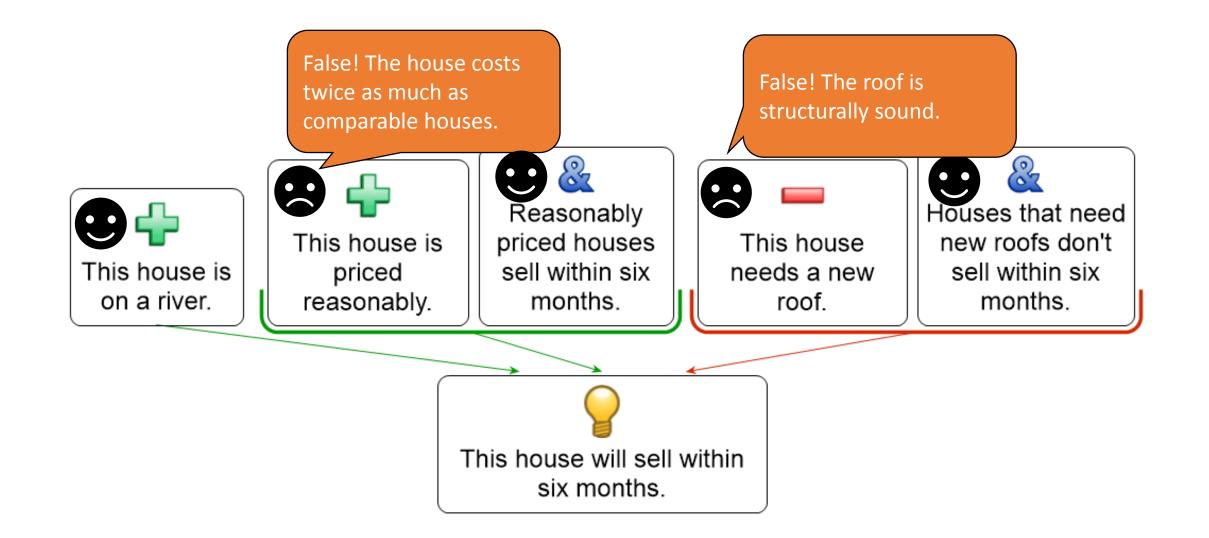
Argument Maps

Logical Structure of Reasoning

Evaluation of Reasoning

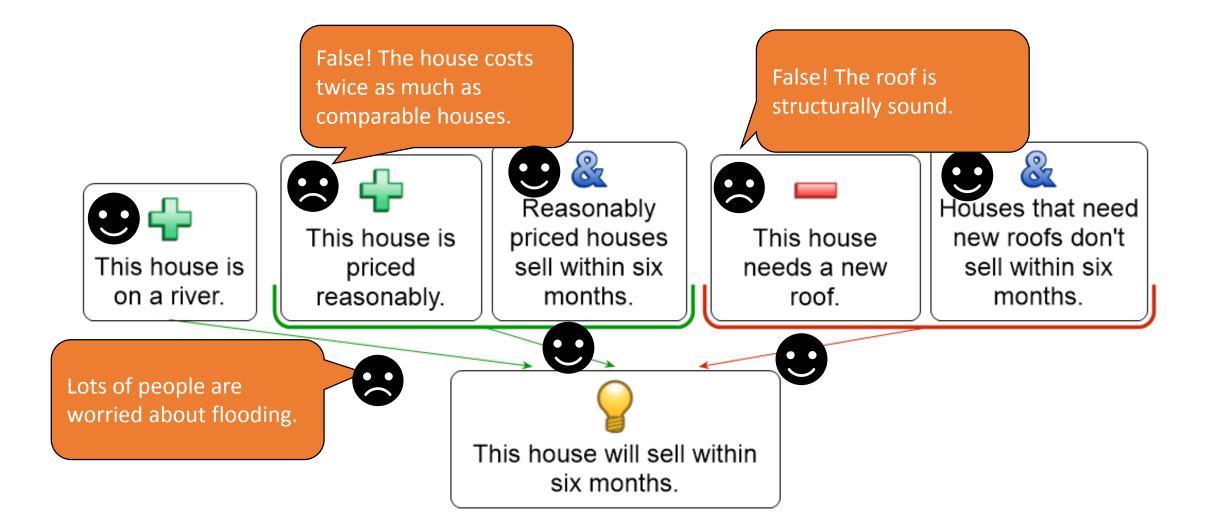
Assessing Reasons

Are the reasons true?

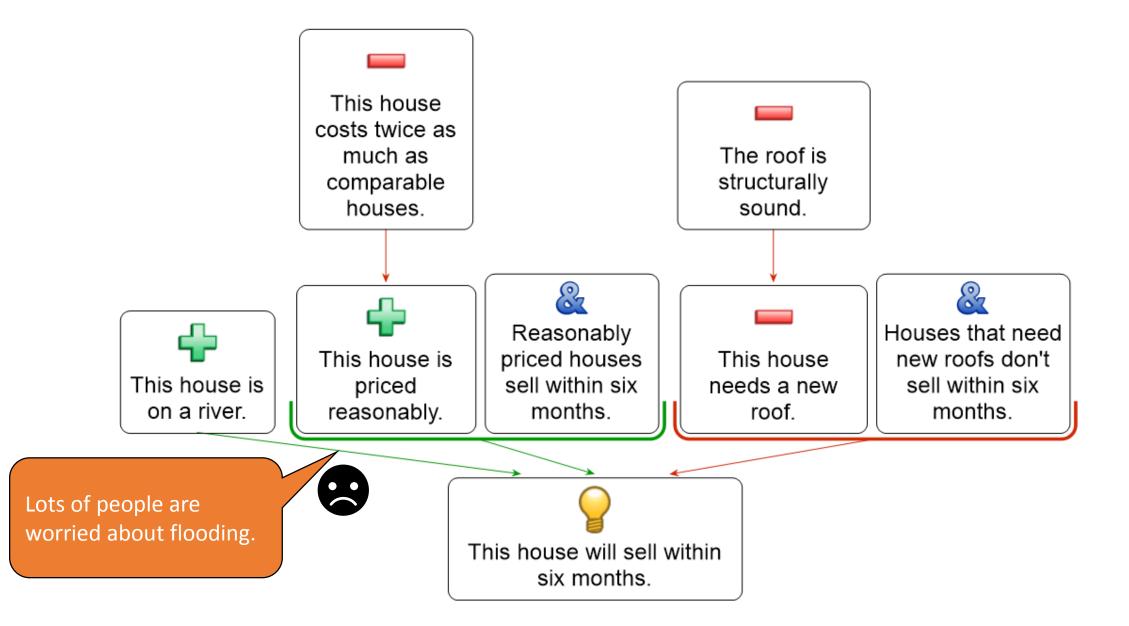


Assessing Connections

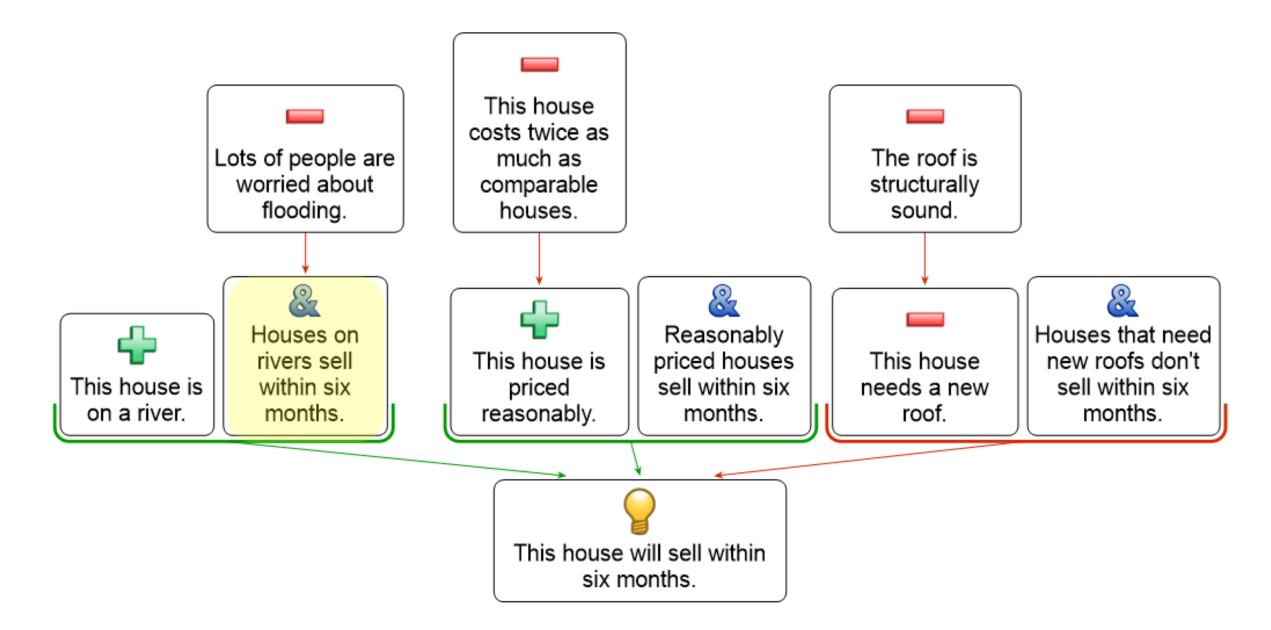
If the reasons were true, would they show that the conclusion is probably true (or false)?



Mapping Objections to Reasons



Mapping Objections to Connections



Visual Thinking

Concept Maps

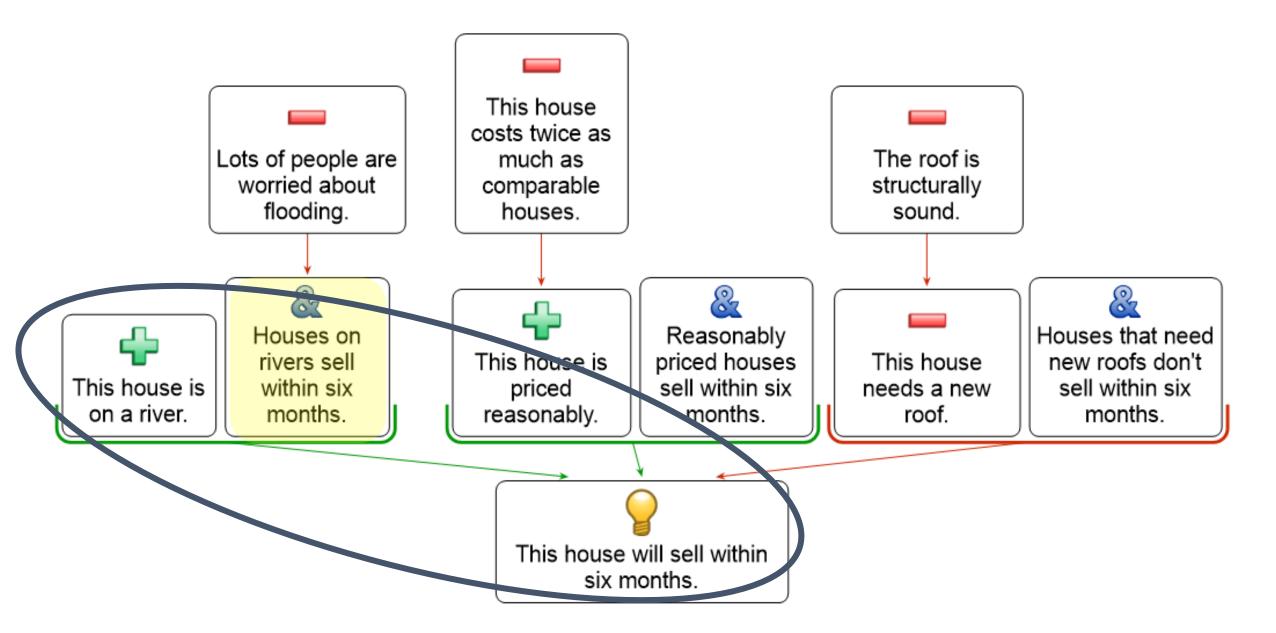
Argument Maps

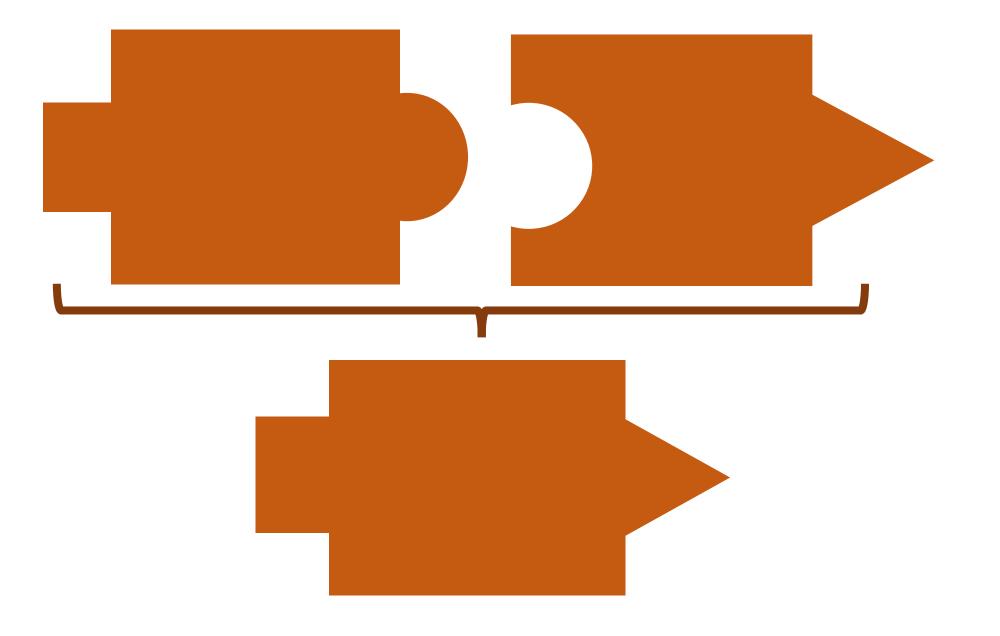
Logical Structure of Reasoning

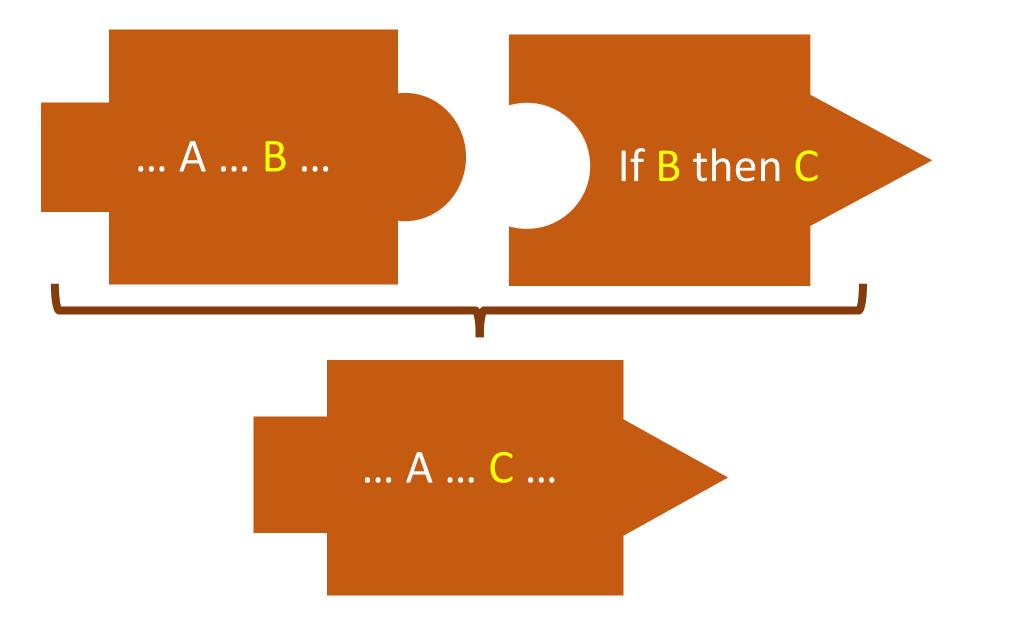
Evaluation of Reasoning

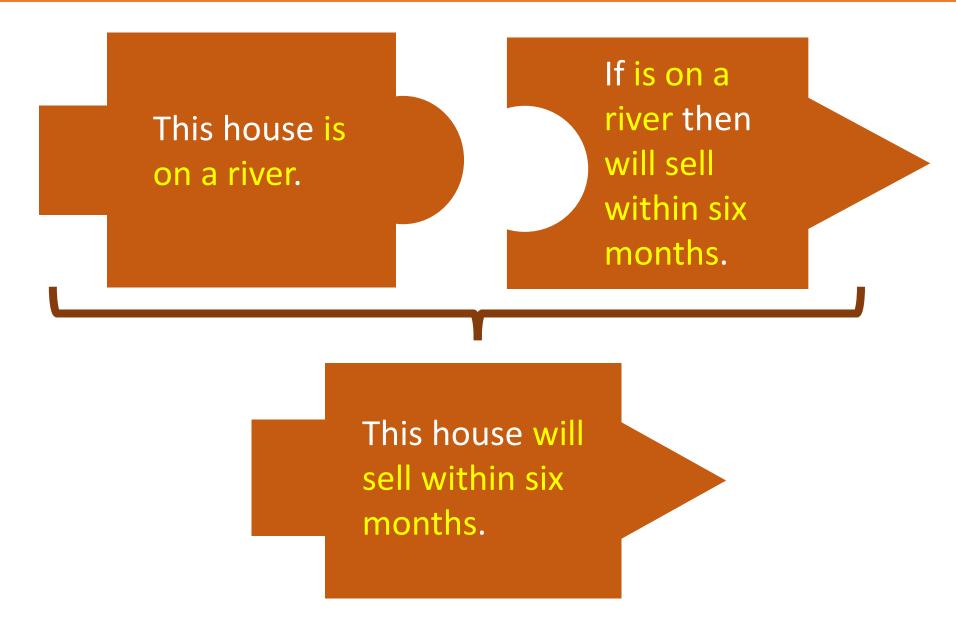
Uncovering Hidden Assumptions

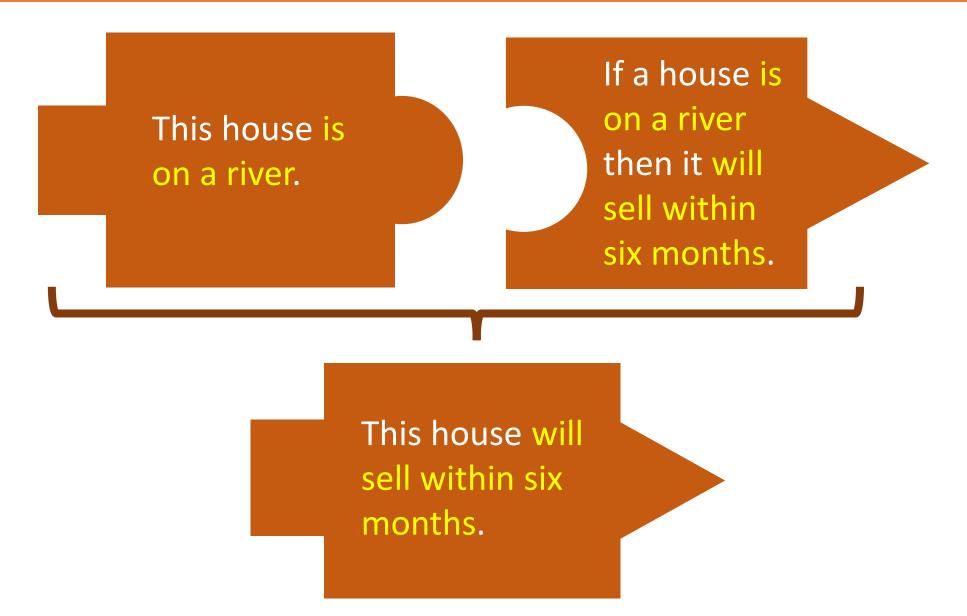
Mapping Objections to Connections

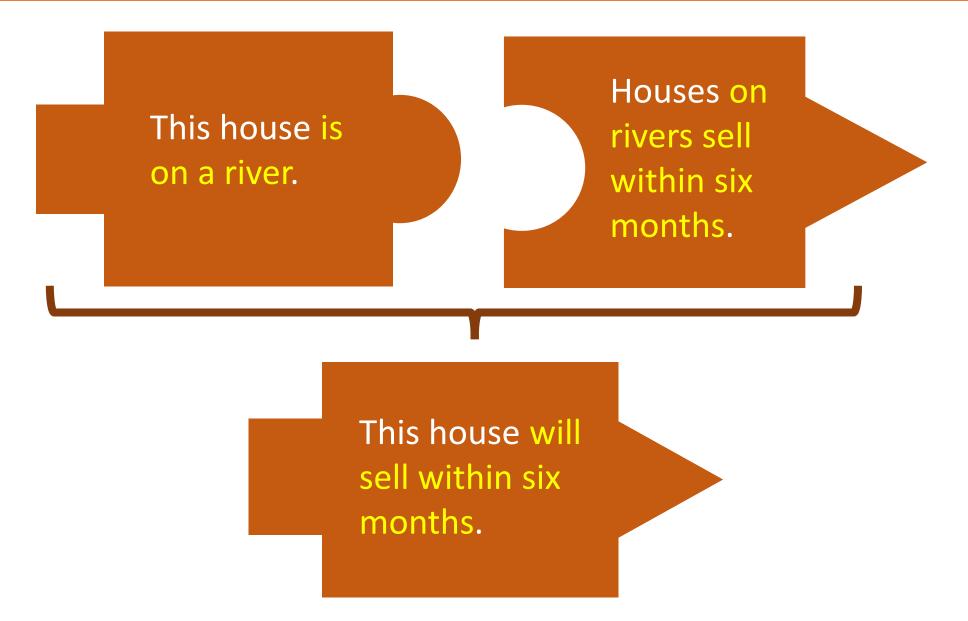


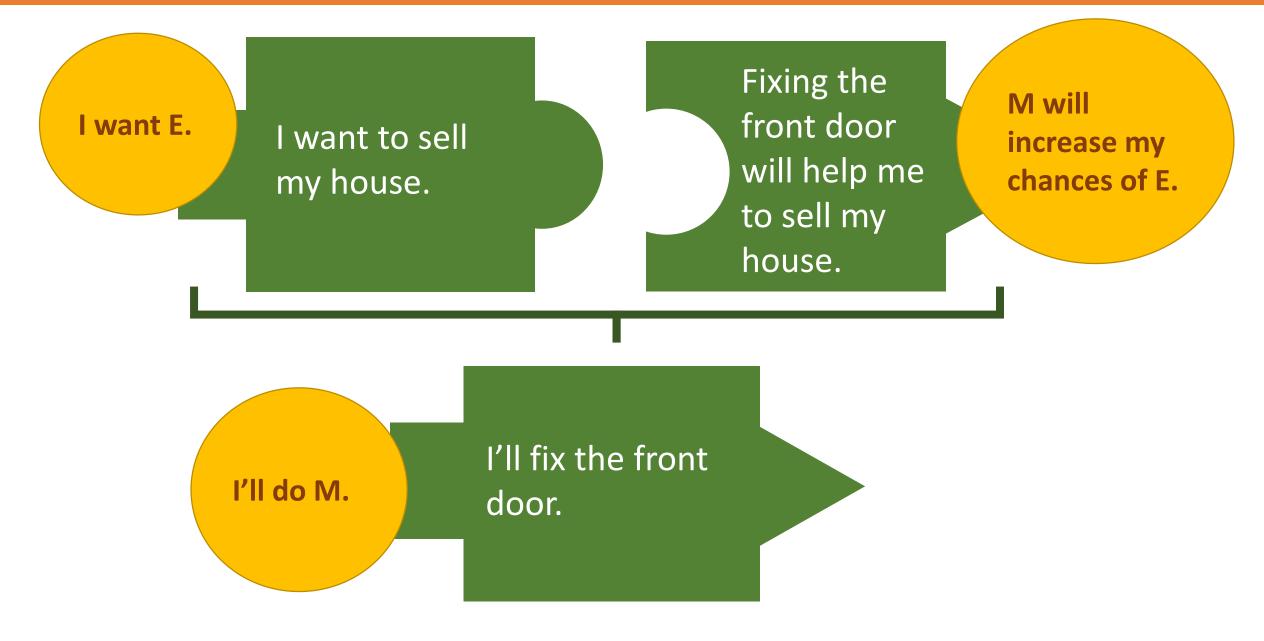


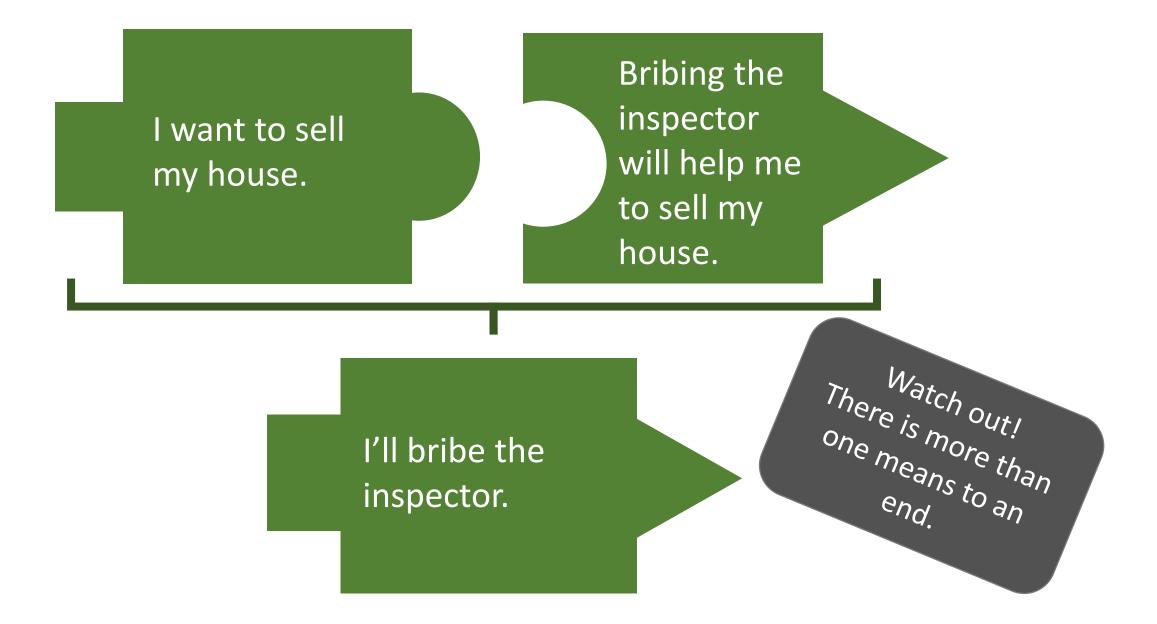


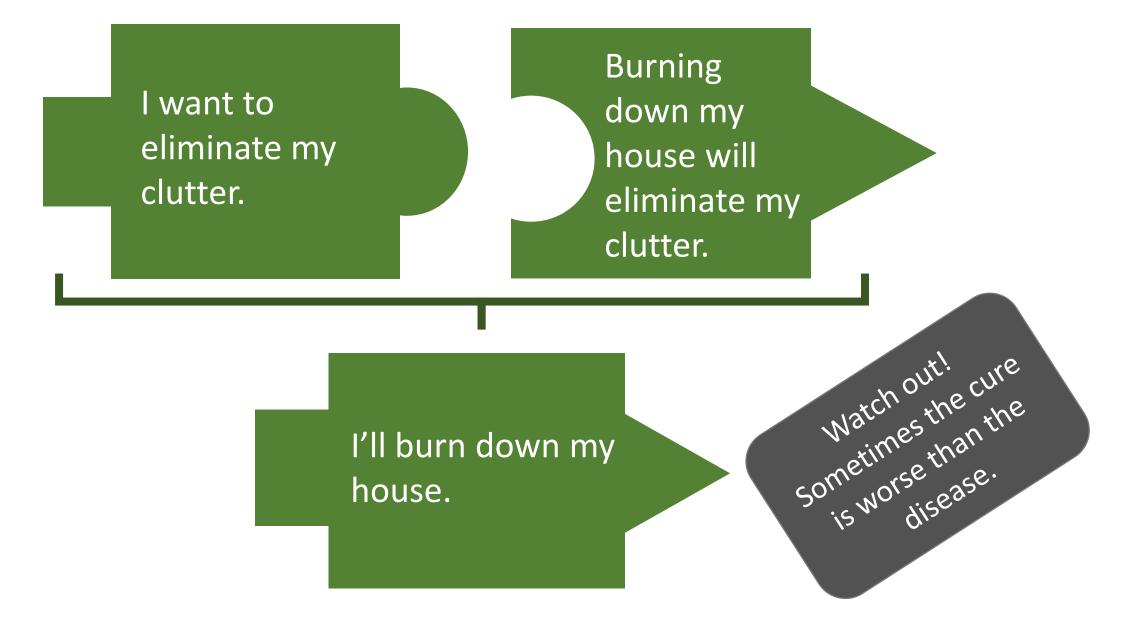


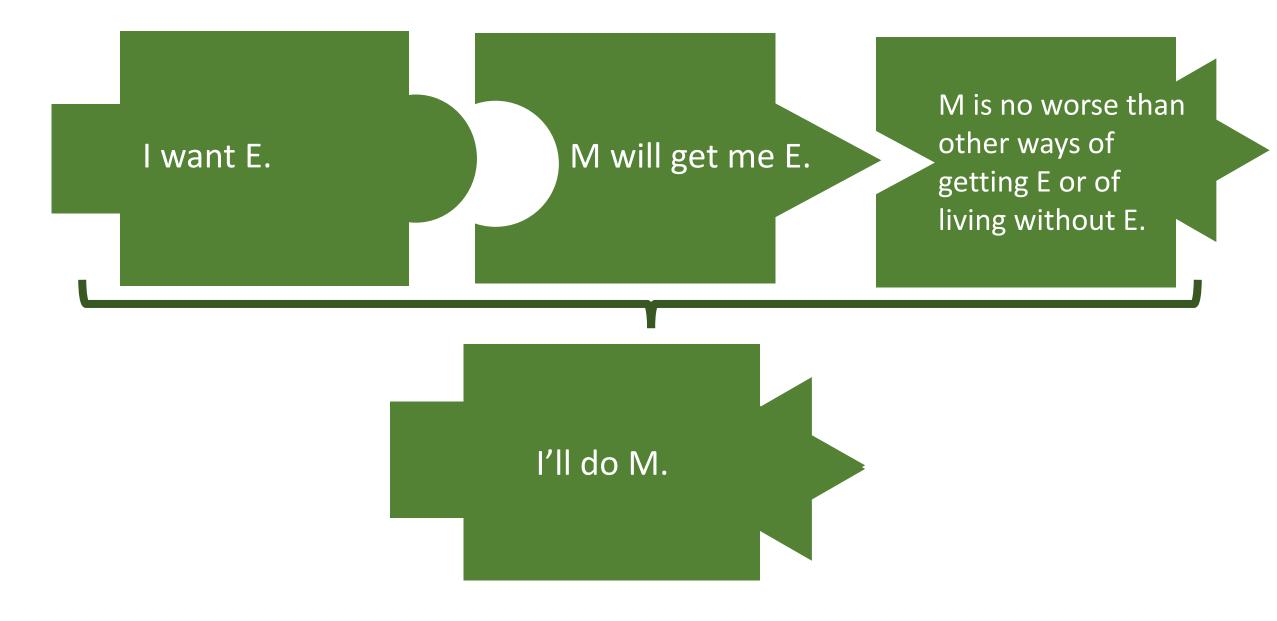










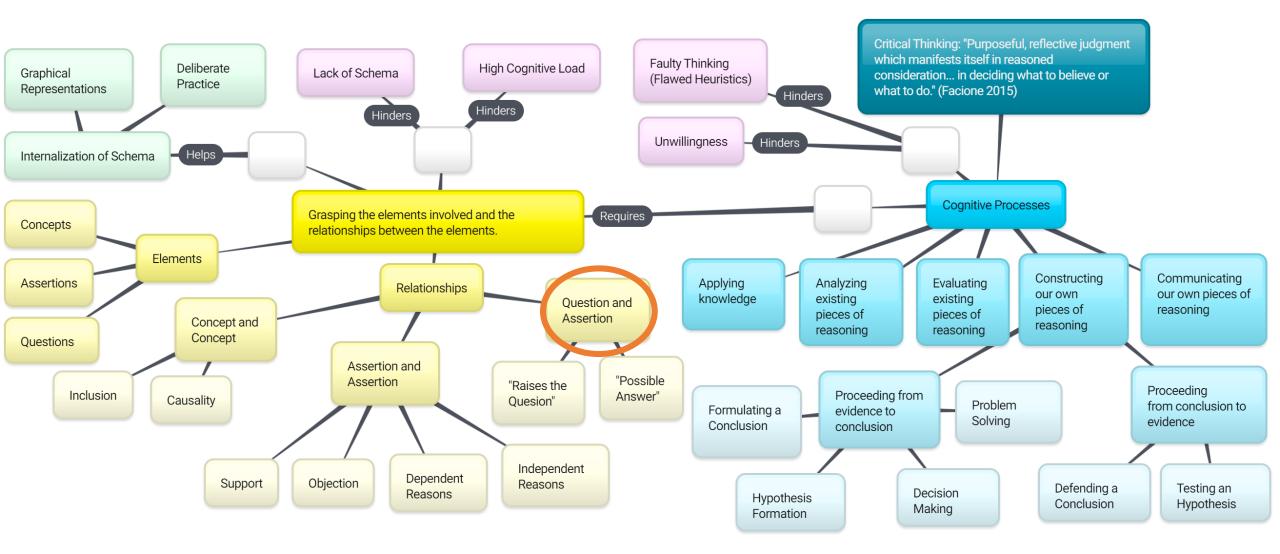


Visual Thinking

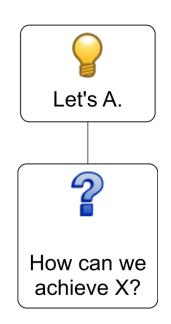
Concept Maps

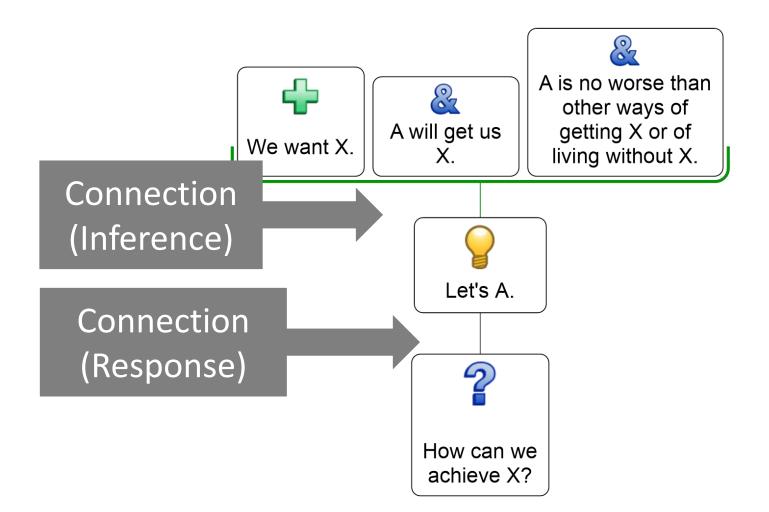
Argument Maps

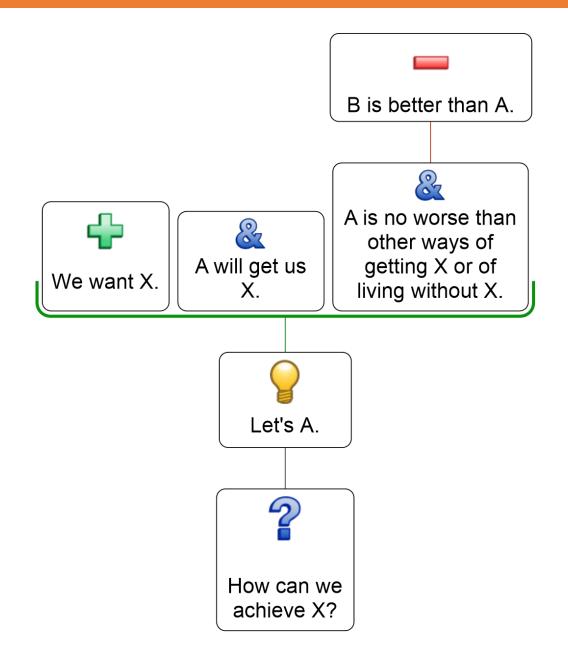
Dialogue Maps

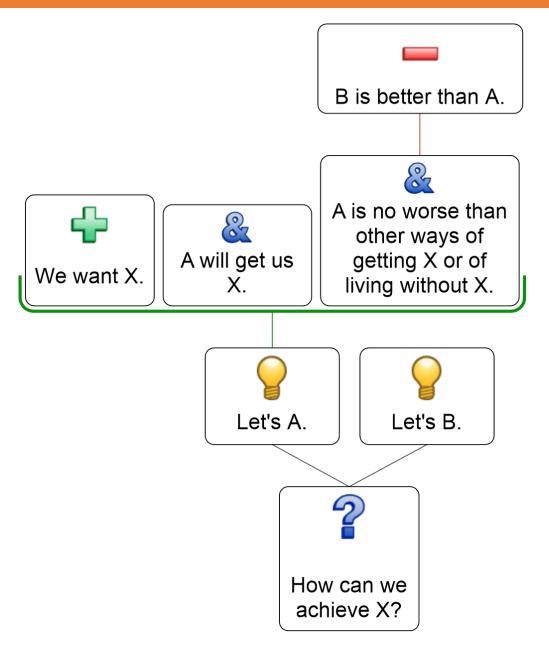


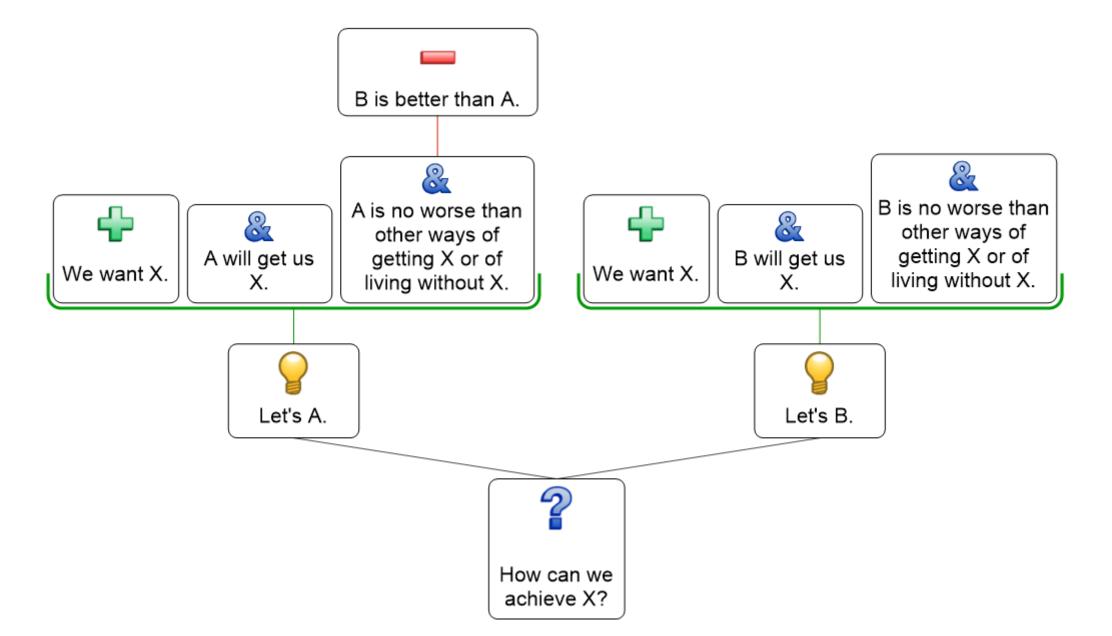


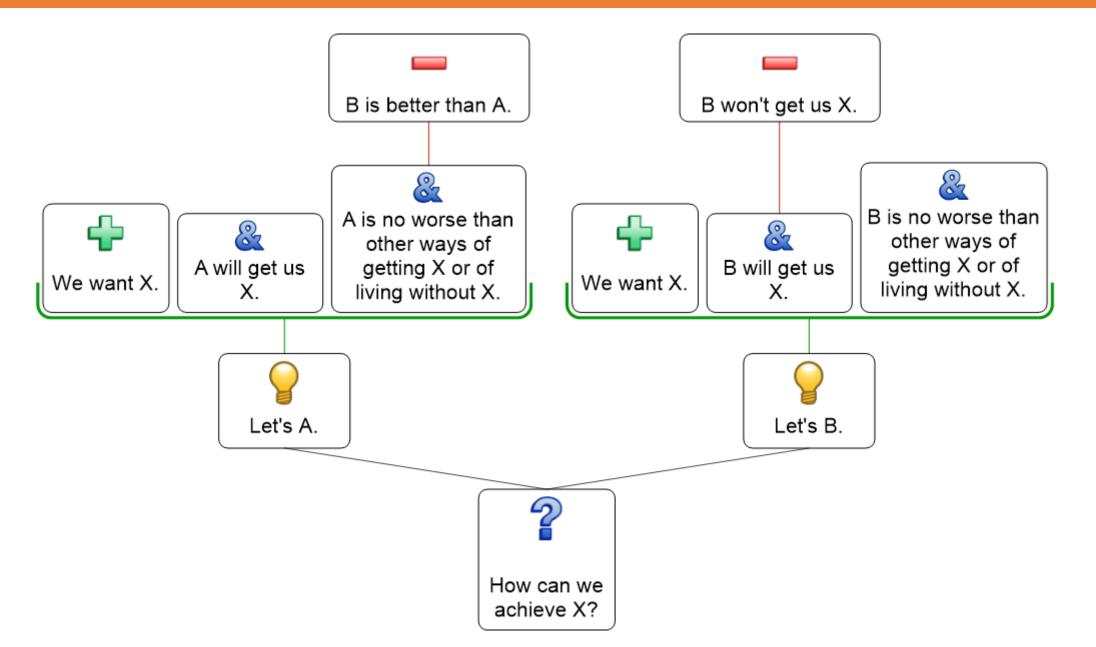


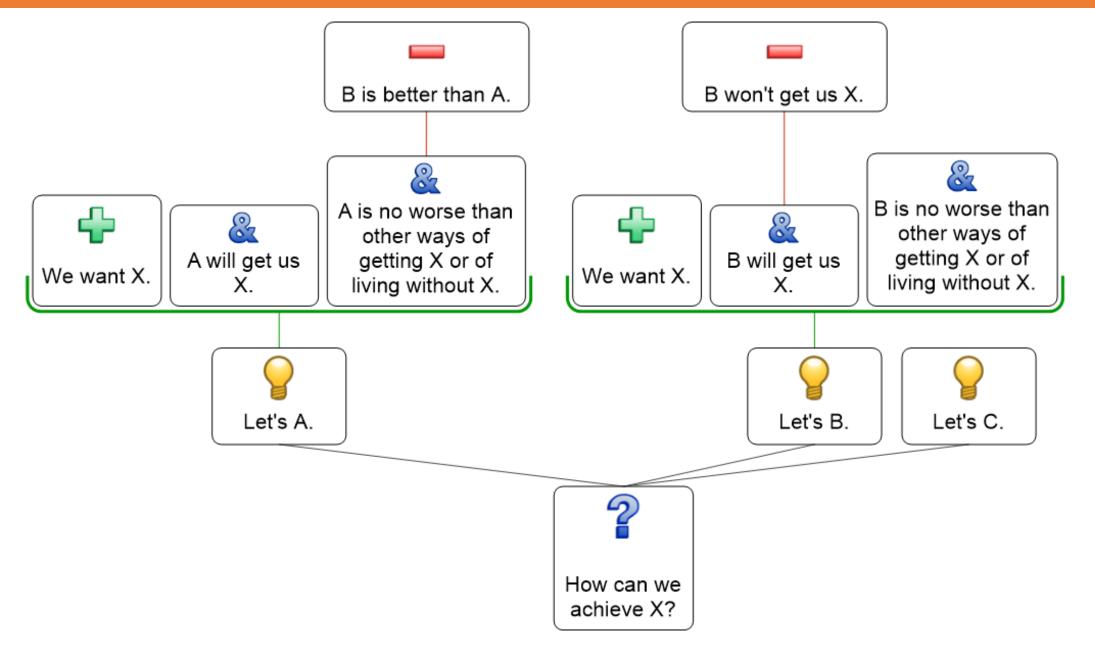












Critical Thinking and Visual Thinking in the Health Sciences

The Nursing Process

Assessment

is a process of discovering and making decisions about the nature of the client's problems or needs.
Effective assessment depends on the quality of communication with the client and family in the context of their culture and life experiences. It involves:
Data gathering about the client's present illness or situation and past health history (subjective or client-reported data)
Data gathering by physical examination (objective or directly observable data)

Review of Functional Health Patterns

Evaluation

is "the process of

determining both the client's progress toward attainment

of expected outcomes and

the effectiveness of nursing care" (American Nurses

Data gathering to confirm

that the problem has been

-Changing the

interventions

If the problem has not been

-Reassessment for the cause

Redefinition of the problem
 Redefinition of the outcomes

Association, 1991, p.7).

It involves:

resolved

resolved:

for subjective and objective data

Standards of Professional Performance

Delivering quality care based on:

- . The best of current knowledge
- · Coordination with the health care team
- · Consistency with professional ethics
- Collaboration to make the most effective use of the expertise of the health care team
- Effective use of community and client resources
- Cost-effectiveness
 - Nursing research findings

Nursing Intervention

is "any treatment, based upon clinical judgment and knowledge, that a nurse performs to enhance patient/client outcomes" (Iowa Intervention Project, 1966, p. xvii). Nursing intervention may take many forms:

- Direct care
 Coordination
 Teaching
 Collaboration
- Collaboration
 Counseling
 Health promotion
 - Health promotion
 Restoration

Disease prevention Rehabilitation

Health maintenance

Nursing Diagnosis

is a clinical judgment about individual, family, or community responses to actual and potential health problems or life processes.

> There are three types of nursing diagnoses:

> > Wellness diagnoses
> > Risk diagnoses
> > Actual diagnoses,
> > with etiologies and related
> > factors specified

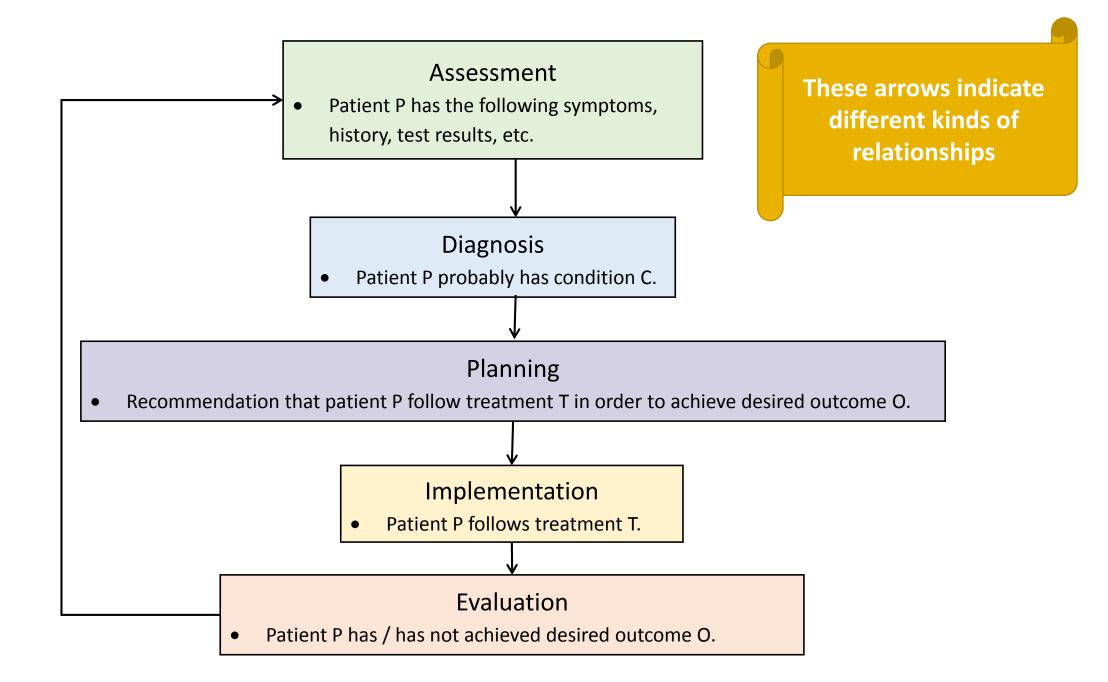
Planning

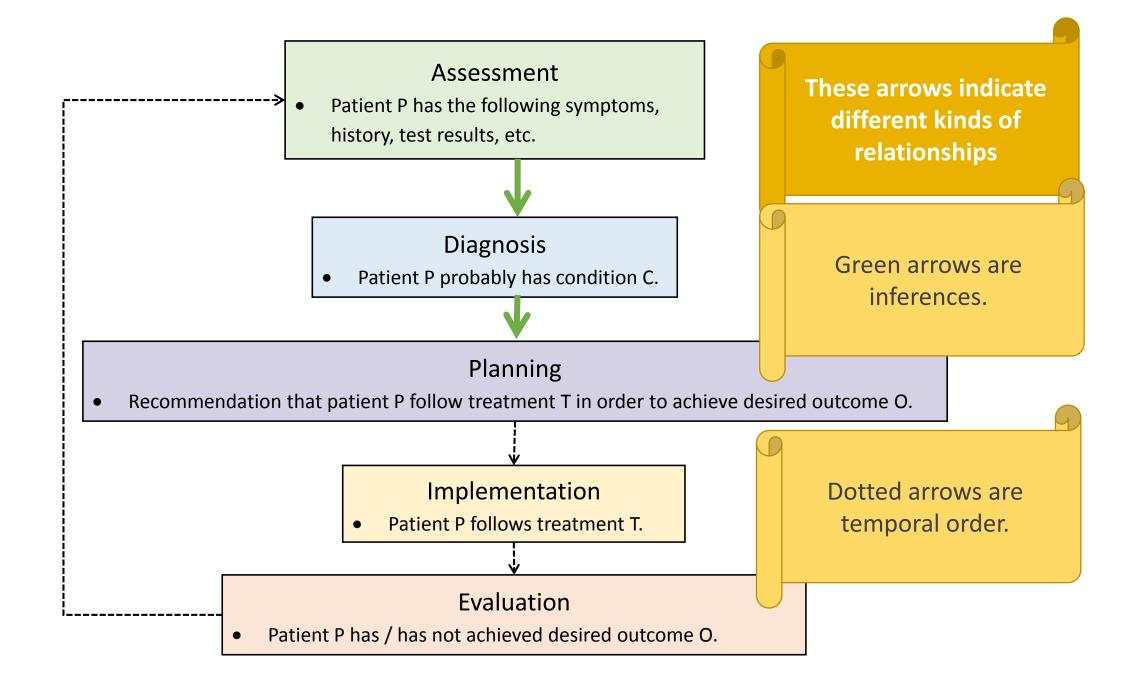
is essential to providing nursing care that meets the needs of the client in a timely fashion because it provides direction to nursing care and identifies nursing interventions that are logically expected to meet the goals of care.

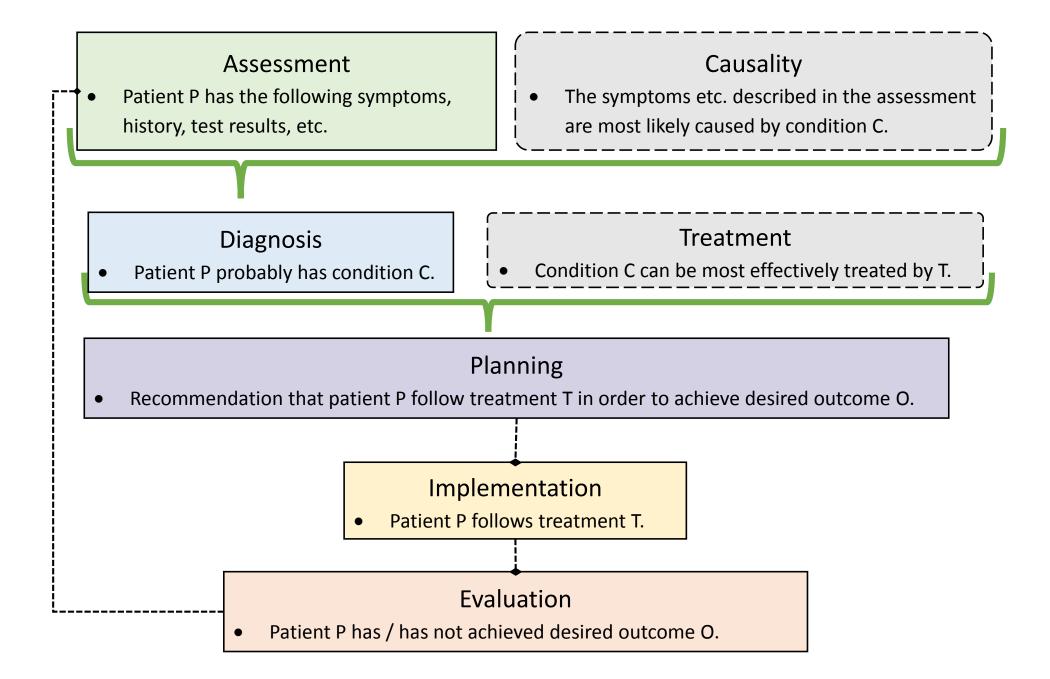
It involves:

 Establishment of desired and acheivable outcomes
 Validation of expected outcomes with the client
 Selection of interventions to achieve the outcomes

http://nursection.com/nursing-process/



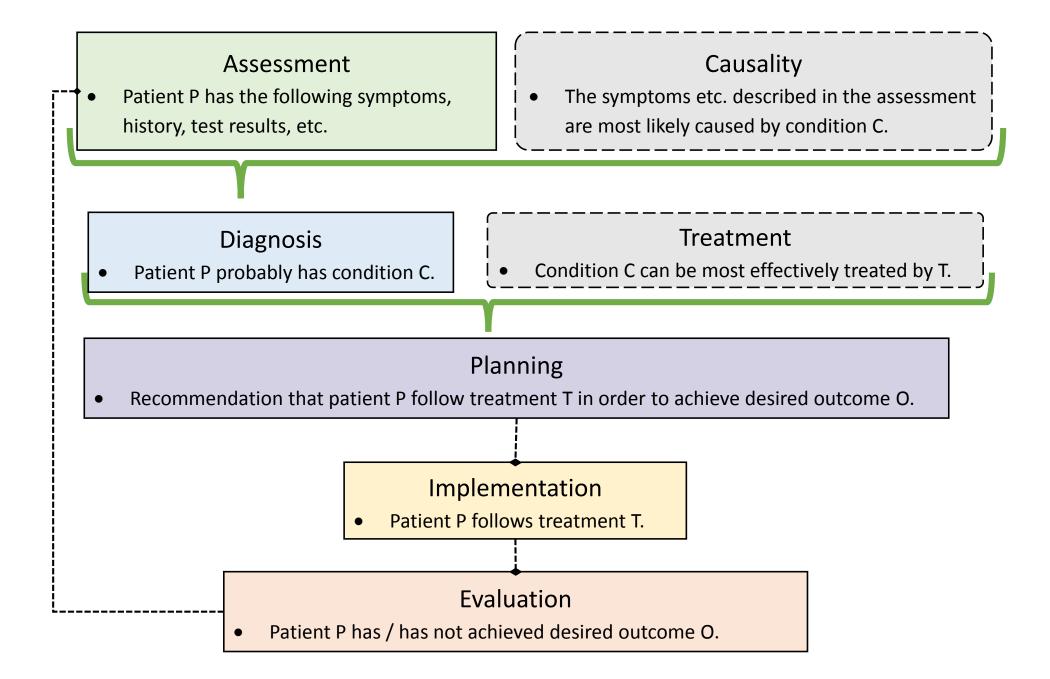


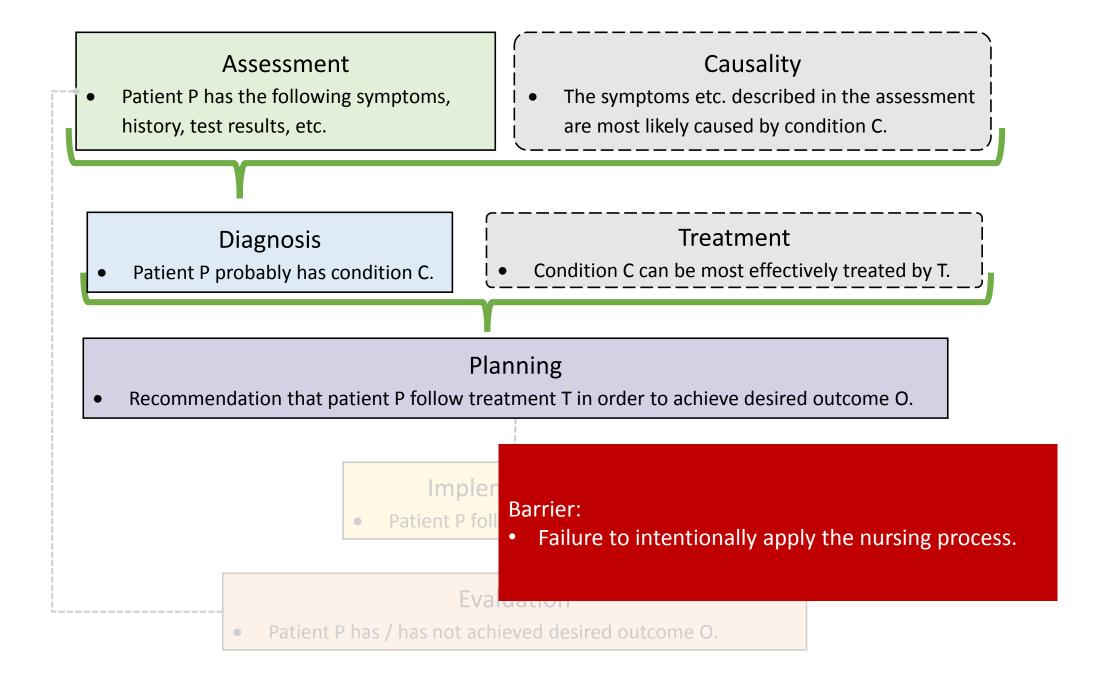


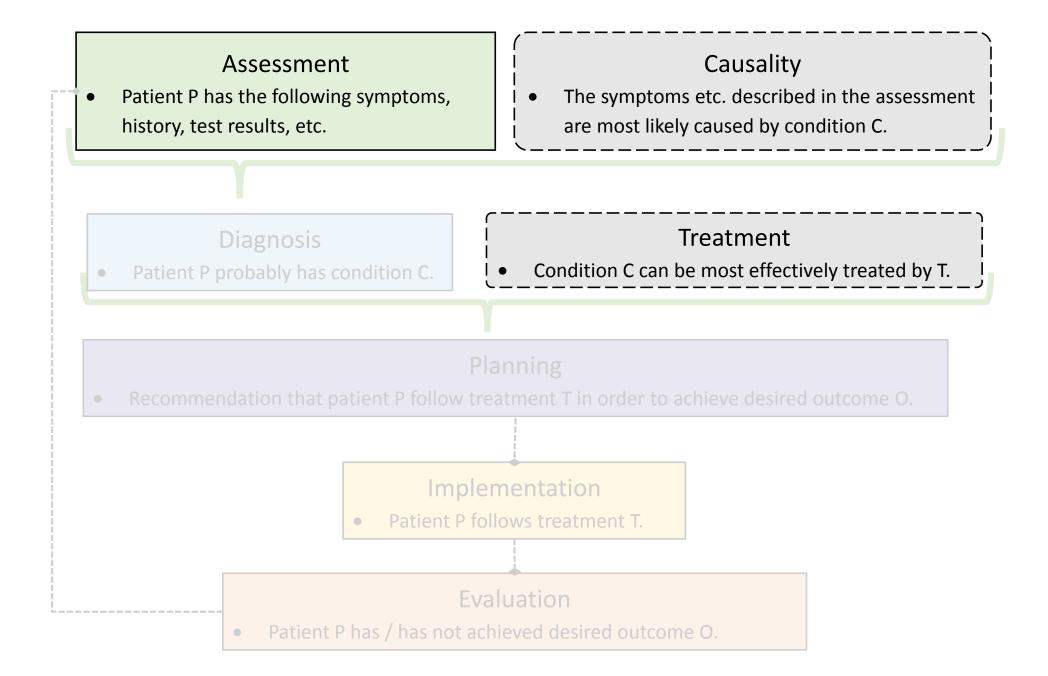
Critical Thinking and Visual Thinking in the Health Sciences

The Nursing Process

Barriers to Implementing Nursing Process





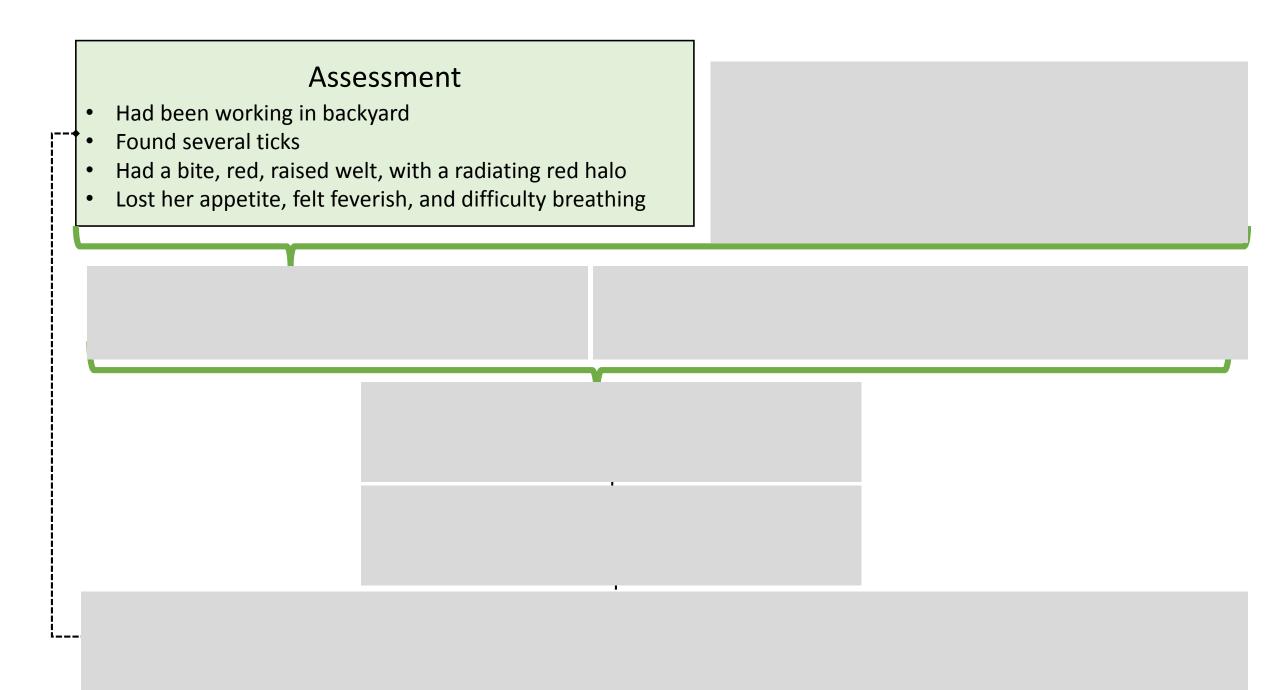


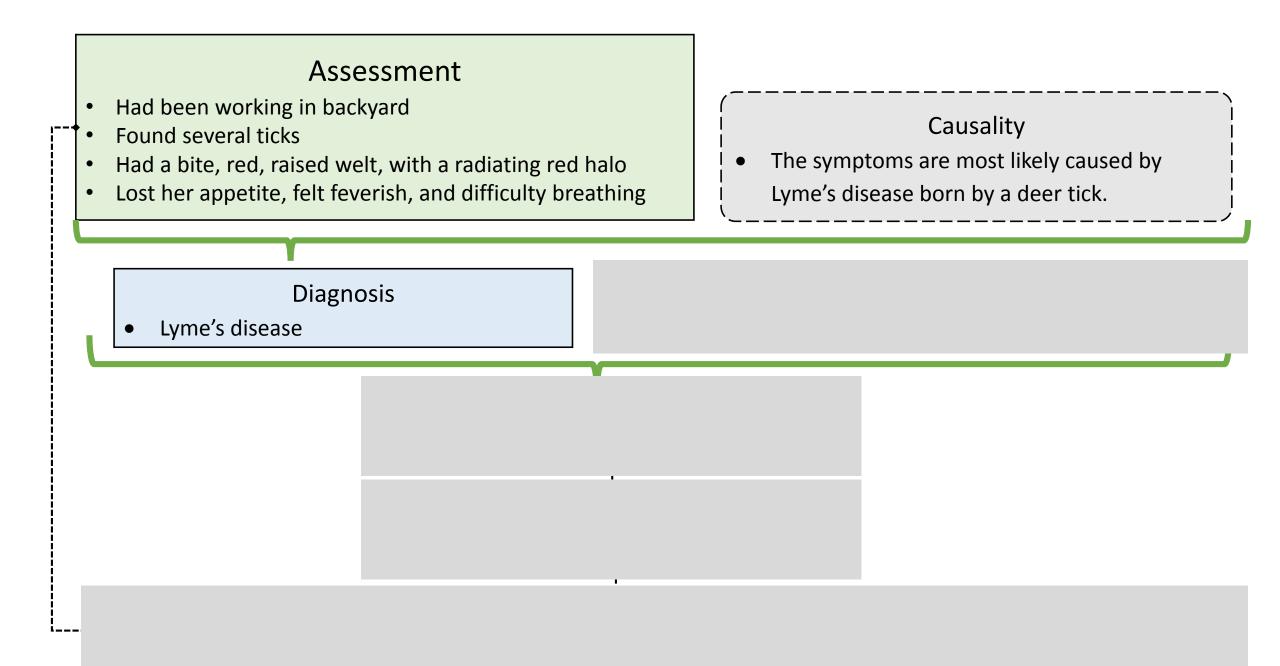
| Assessment • Patient P has the following symptoms, history, test results, etc. | Information gathered by asking questions, reviewing documentation, etc. Knowledge that may be represented in a concept map can generate new questions. | Lack of time. Incomplete knowledge. Incomplete attention. Assuming that you already know. Not asking enough questions. Not asking the right questions. Others? |
|--|---|--|
| Causality The symptoms etc. described in the assessment are most likely caused by condition C. | Determined by applying knowledge that may be represented in a concept map. | Lack of time. Incomplete knowledge. Failure to consider other options (and so run other tests). Fallacy of assuming the conclusion. Others? |
| Treatment Condition C can be most effectively treated by T. | Determined by applying knowledge that may be represented in a concept map. | Lack of time. Incomplete knowledge. Failure to consider other options. Failure to consider consequences of treatment. Failure to consider patient preference. Others? |

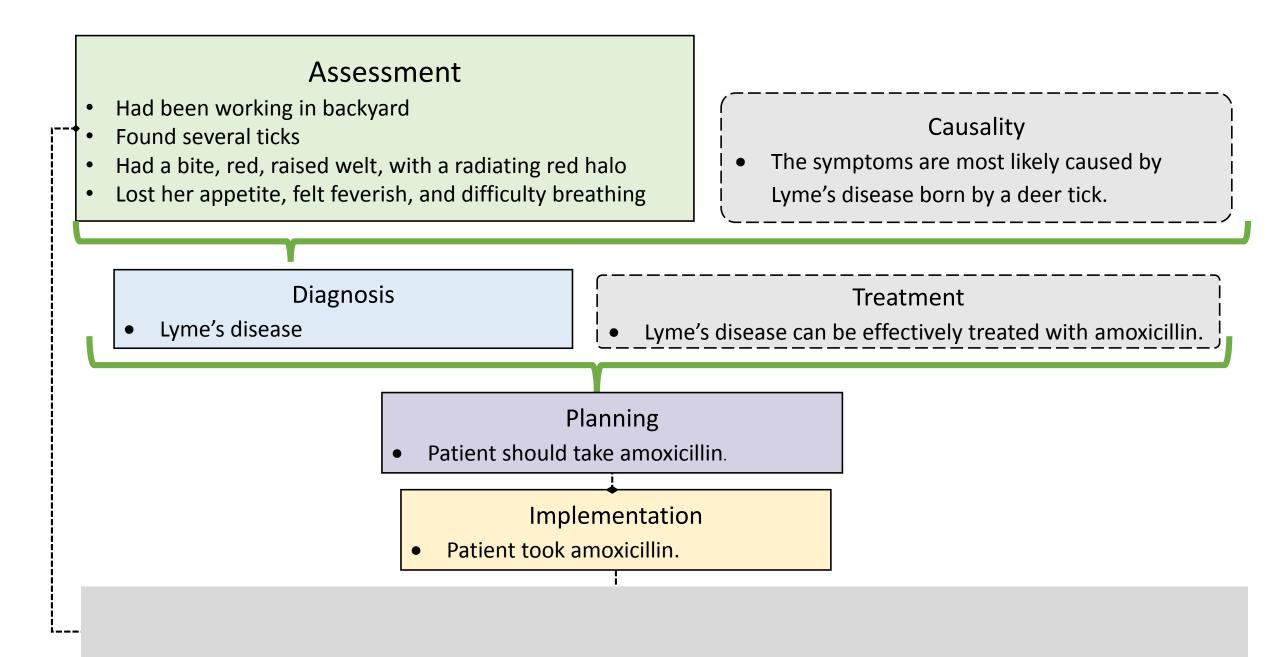
EXAMPLE

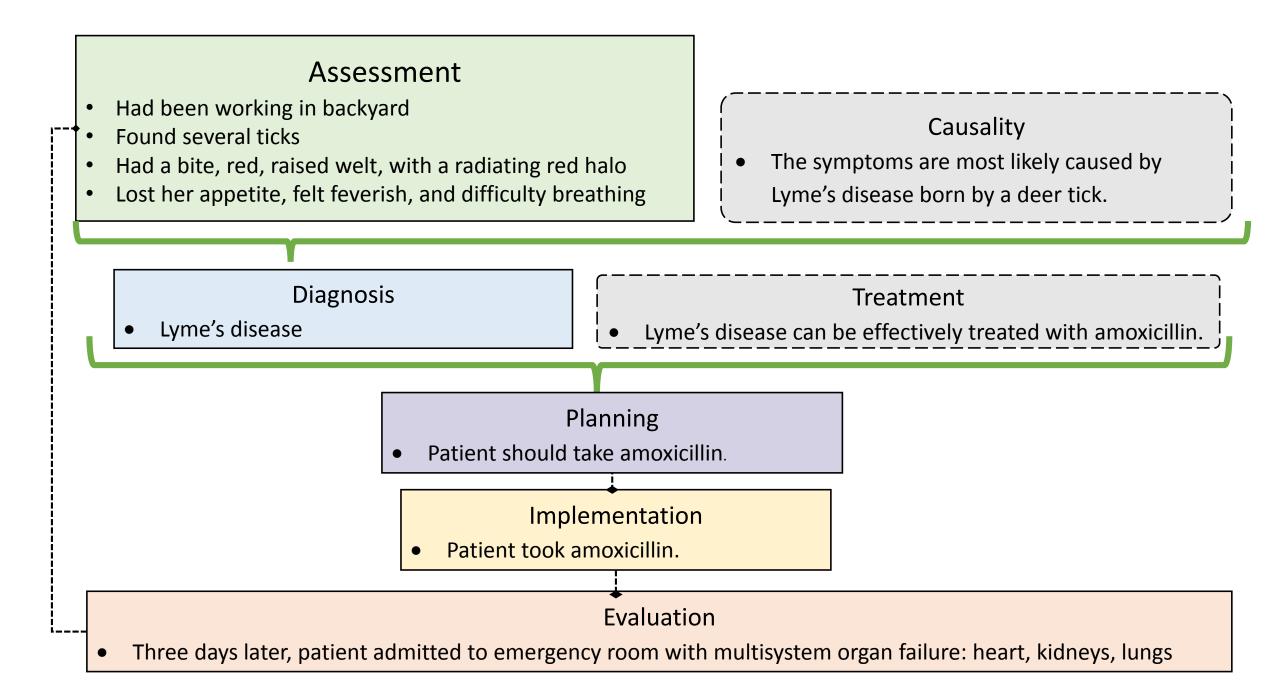
The patient had been working in backyard and found several ticks. A few days later, she noticed a bite, which appeared as a red, raised welt, with a radiating red halo. The patient had lost her appetite, felt feverish, and experienced difficulty breathing.











Hospitalist sought causation for organ failure by running an tests and asking more thorough questions (including questions about travel).

Diagnostic bloodwork identified ehrlichiosis rather than Lyme's, contacted from a rocky mountain spotted tick during a visit to an area where those ticks are common.

This generated a different treatment plan using doxycycline.

Patient left hospital under own power 7 days later.

Evaluation

Three days later, patient admitted to emergency room with multisystem organ failure: heart, kidneys, lungs

Assessment

- Had been working in backyard
- Found several ticks
- Had a bite, red, raised welt, with a radiating red halo Lost her appetite, felt feverish, and difficulty breathing
- Lack of time.
- Incomplete knowledge.
- Incomplete attention.
- Assuming that you already know.
- Not asking enough questions.
- Not asking the right questions.
- Others?

Causality

• The symptoms are most likely caused by Lyme's disease born by a deer tick.

• Lack of time.

- Incomplete knowledge.
- Failure to consider other options (and so run other tests).
- Fallacy of assuming the conclusion.

Others?

Evaluation

Patient took amoxicillin.

Patient snould take amoxicillin.

• Three days later, patient admitted to emergency room with multisystem organ failure: heart, kidneys, lungs

Implementation

Lyme

ng

Critical Thinking and Visual Thinking in the Health Sciences

The Nursing Process

Barriers to Implementing Nursing Process

Responses to Barriers

Metacognition



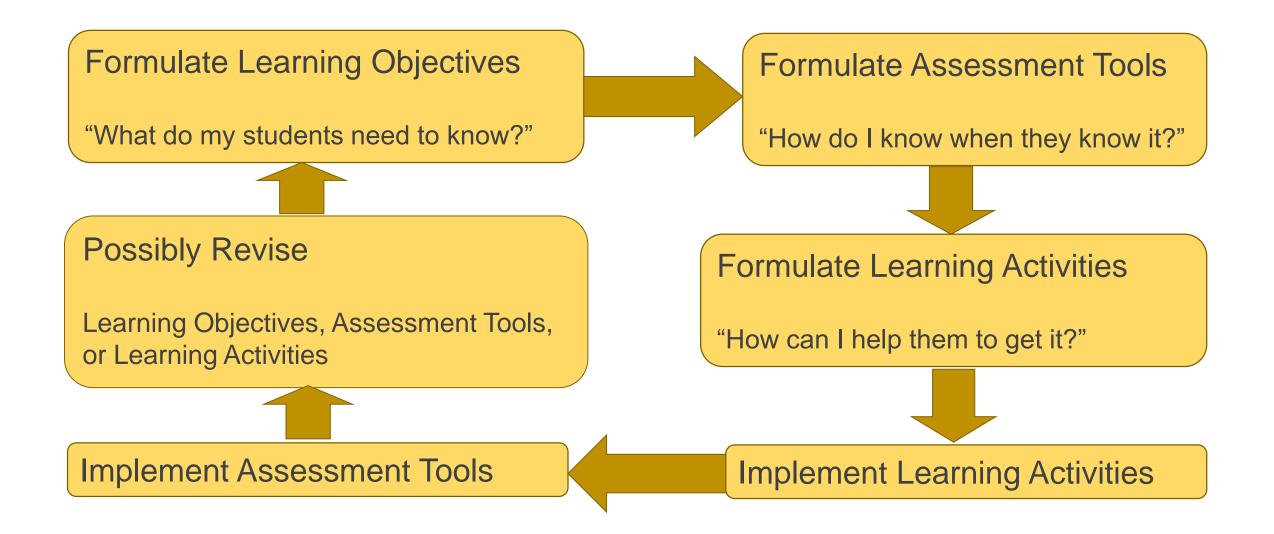
What this Means for You

Learning Outcomes in your Classroom

Assessment Tools in your Classroom

Learning Activities in your Classroom

The Backward Design Cycle



Discussion

What challenges might you face?

How can you use this methodology in your classes?

Some Assembly Required

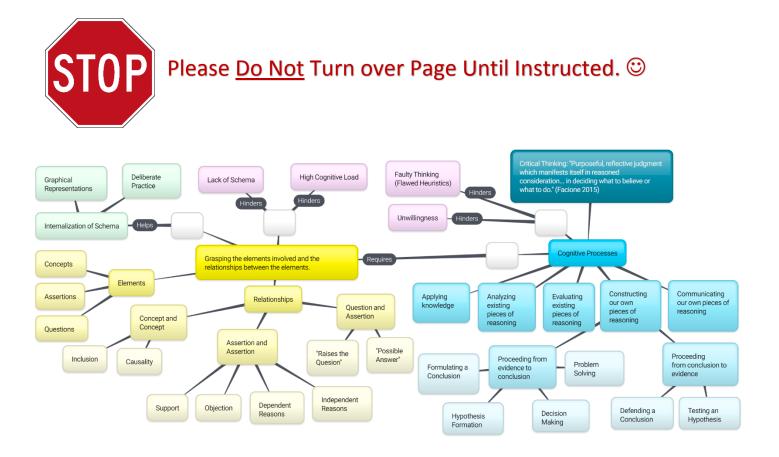
Working on your Courses

Reporting Back

- Bubbl.us <u>https://bubbl.us/</u>
- MindMup https://www.mindmup.com/
- bCisive <u>https://www.bcisiveonline.com/</u>
- Rationale <u>https://www.rationaleonline.com/</u>
- TruthMapping https://www.truthmapping.com/#cat=3

Critical Thinking in the Nursing and Allied Health Classroom

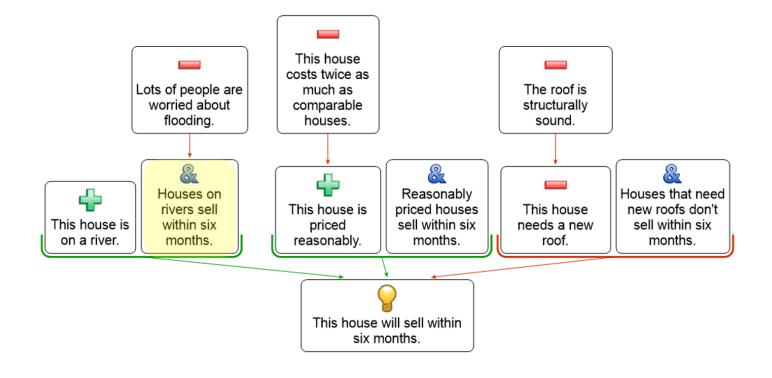
Vera Klekovkina, Wade Mahon, Jodi Olmsted, Dona Warren The University of Wisconsin-Stevens Point

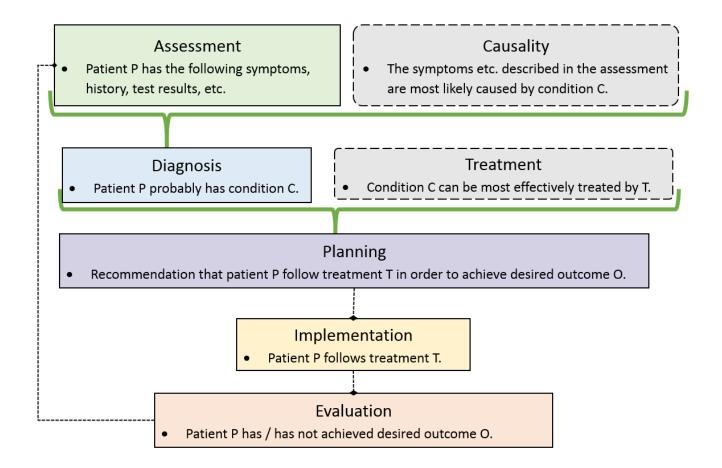


"I think my house will sell within six months. After all, it's on a river. Of course, lots of people are worried about flooding. My nasty neighbor thinks that my house is priced twice as high as comparable houses, but I think it's priced reasonably, and reasonably priced houses always sell quickly. My husband claims that our house needs a new roof, and of course houses that need new roofs stay on the market longer, but as far as I can see, our roof is structurally sound."



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- Bubbl.us <u>https://bubbl.us/</u>
- MindMup <u>https://www.mindmup.com/</u>
- bCisive <u>https://www.bcisiveonline.com/</u>
- Rationale https://www.rationaleonline.com/
- TruthMapping https://www.truthmapping.com/#cat=3