# Becoming a Better Informed Citizen & Voter

OSHER LIFELONG LEARNING INSTITUTE

WILLIAM & MARY
CHARTERED 1693

Week 4

Applying Critical Thinking

Information Cutoff Date: January 2024

# CHARACTERISTICS OF POOR THINKERS

- Using intuition to jump directly to a conclusion (the "gut feeling" effect)
- Failure to complete and consider a good information search
- "Satisfice"– or settle for the first conclusion "good enough"
- Use emotions to drive thinking and decision-making
- Confuse "thinking hard & discussion" with real analysis
- Rely on imprecise analogies (one of worst analytic methods)
- Only consider a narrow range of alternatives
- Commit logic fallacies (Red Herring, Ad Hominem Attack, etc.)
- Display unmitigated/unrecognized biases

POOR-THINKING

# CHARACTERISTICS OF GOOD THINKERS

▸ **Raise vital questions and problems, formulating them clearly and precisely;**

▸ **Gather and assess relevant & accurate information, using abstract ideas to interpret it effectively;**

▸ **Come to well-reasoned conclusions and solutions, testing them against relevant criteria and standards;**

▸ **Think <u>open-mindedly</u> within alternative systems of thought, recognizing and assessing, as need be, their assumptions, implications, and practical consequences; and**

▸ **Communicate effectively with others in figuring out solutions to complex problems.**
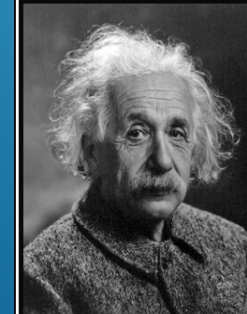
The significant problems we face today cannot be solved at the same level of thinking we were at when we created them.

(Albert Einstein)

izquotes.com

# What is Critical Thinking?

▸ Richard Paul defines critical thinking as "thinking about your thinking, while you are thinking" to improve your thinking

▸ Critical thinking entails using data (evidence), logic, and reasoning to <u>actively</u> and <u>systematically</u> seek the best answer to a question or best solution to a problem

▸ Main Uses for Critical Thinking:

   ▸ To assess, evaluate, or critique the work of others (written, oral, videos, etc.)

   ▸ As a systematic process for your own thinking leading to oral or written communications

   ▸ For decision-making and problem-solving—in both your personal and professional lives

# Elements of Critical Thought

**Richard Paul and Linda Elder**, *Critical Thinking, Tools for Taking Charge of Your Professional and Personal Life*, 2nd ed. (2014)
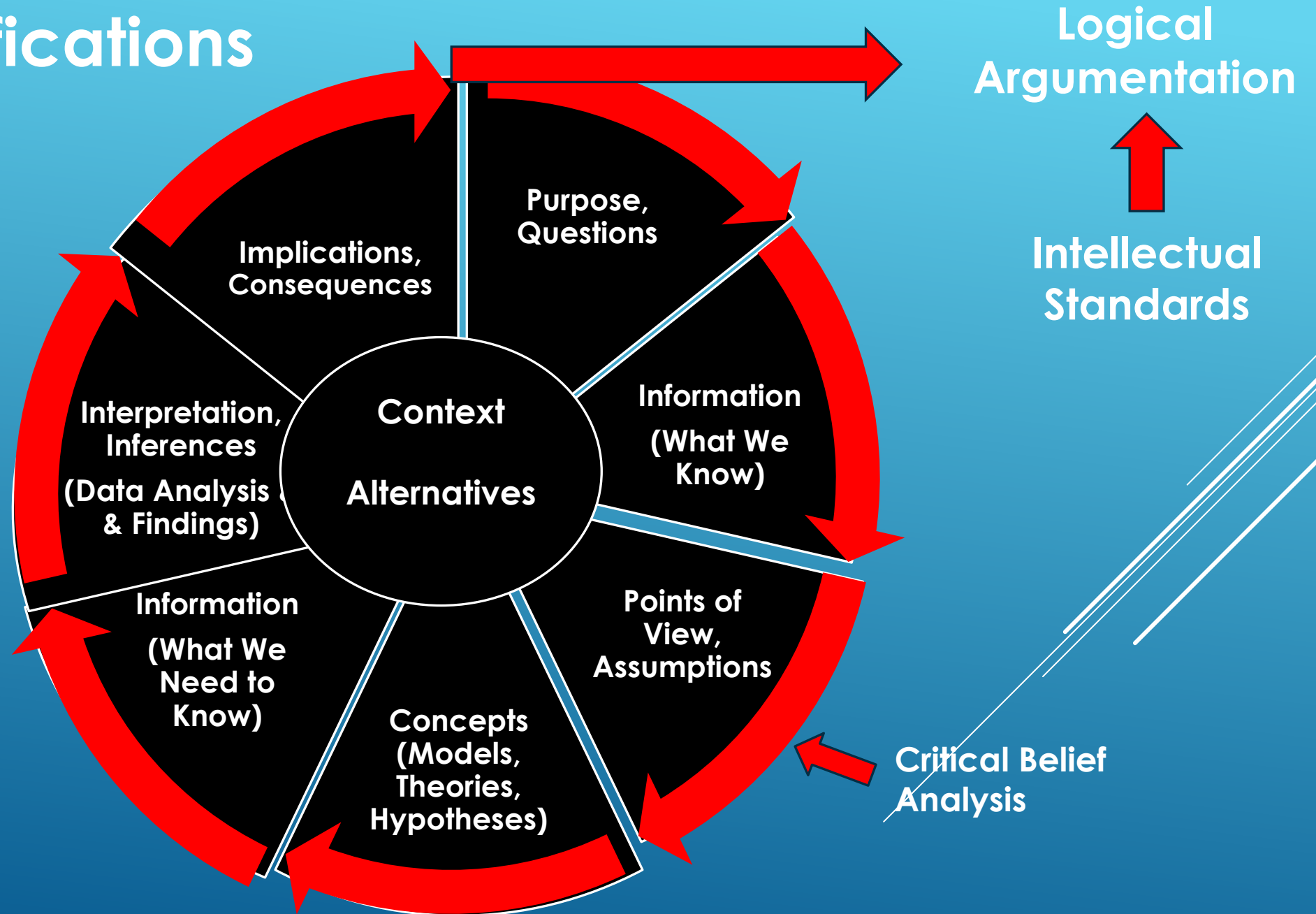
**Gerald Nosich**, *Learning to Think Things Through: A Guide to Critical Thinking Across the Curriculums* 4th ed. (2012)
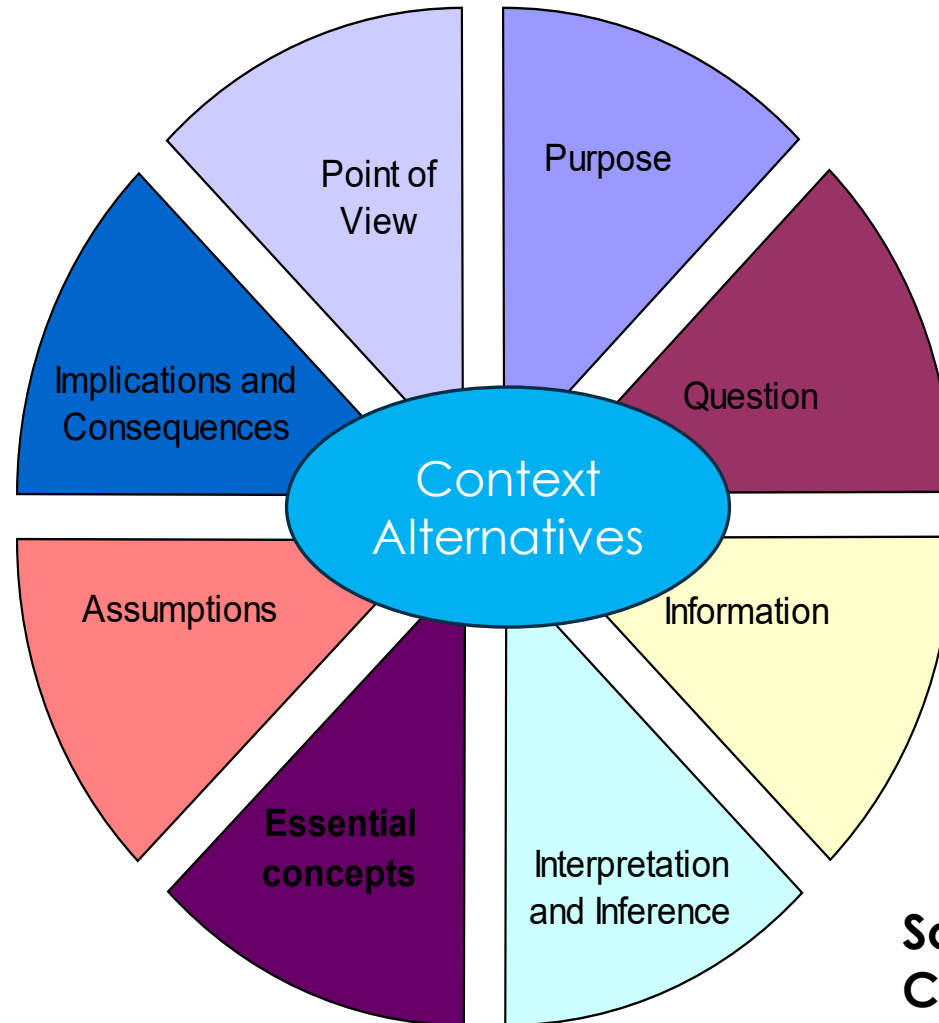
**Use of this framework helps overcome faulty information, cognitive biases, informal logic fallacies, and other thinking problems previously discussed**



**Source: Foundation for Critical Thinking, www.criticalthinking.org**

# PURPOSE

**Definition:**

The **purpose** is your aim, goal, objective, i.e., what you are trying to accomplish. This term can also consider strategies, motives, intentions, functions, etc., that lead to a critical thinking process.
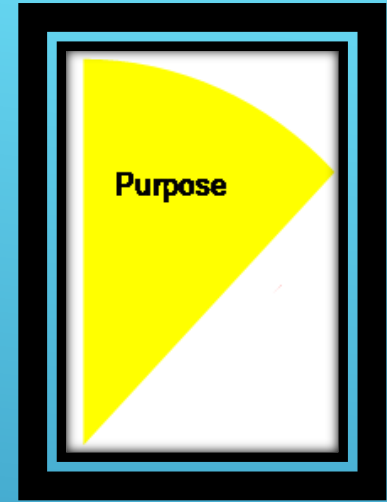
**Example: How do I decide who to vote for?**

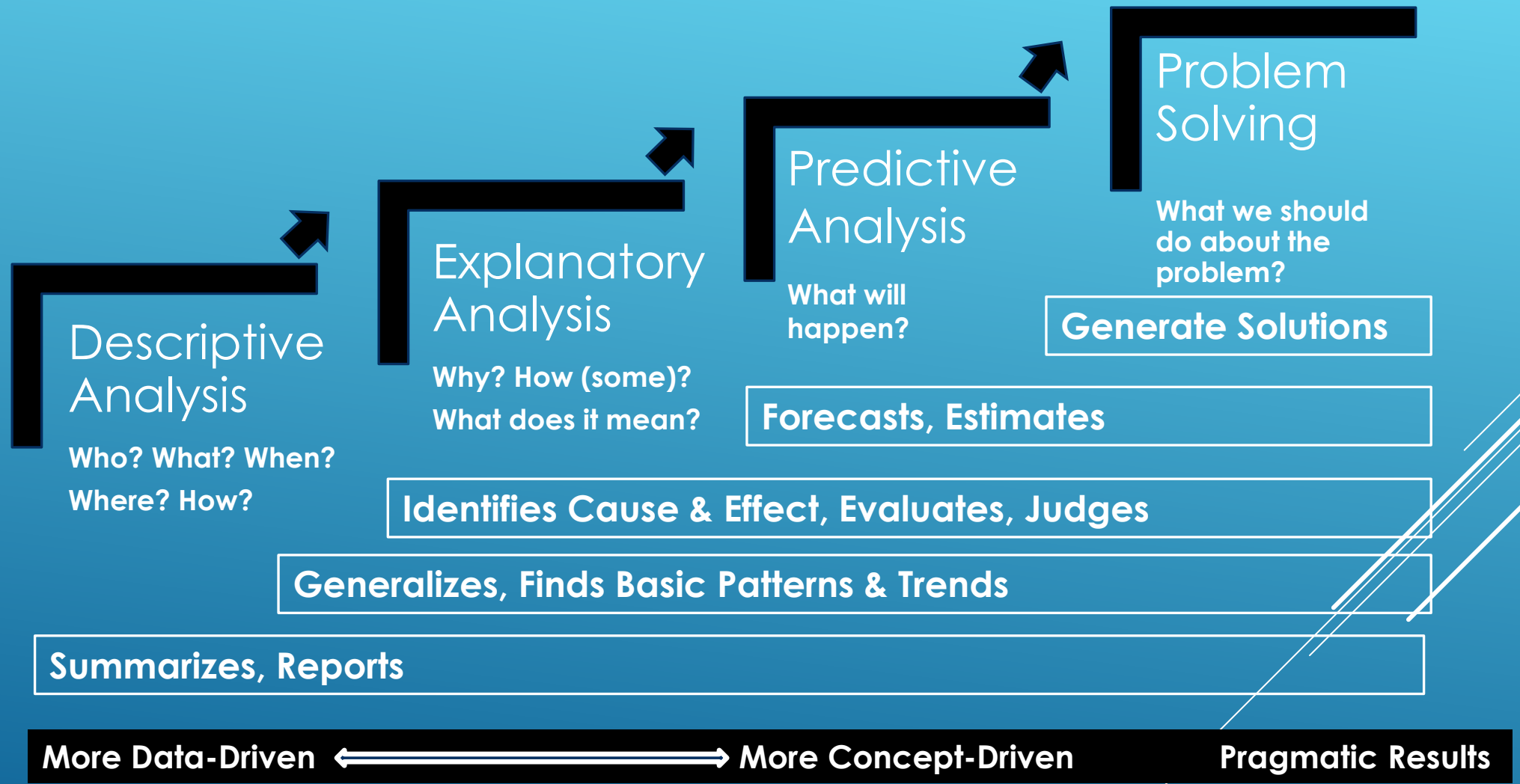This usually includes reflection on the type of analysis:

Descriptive

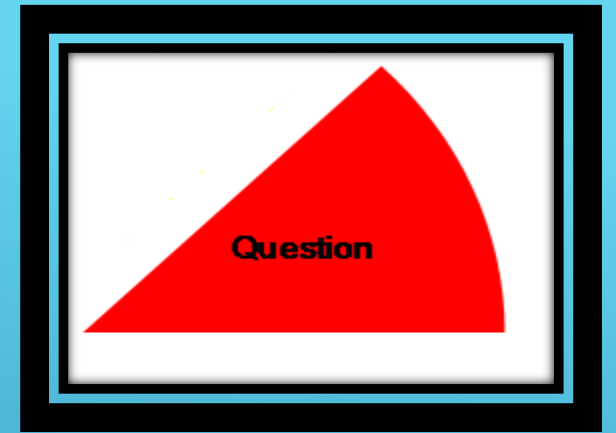Explanatory/Evaluative

Predictive/Estimative

Policy or Programmatic

Purpose

# The Research Spectrum

**Problem Solving**

What we should do about the problem?

**Predictive Analysis**

What will happen?

**Explanatory Analysis**

Why? How (some)?
What does it mean?

**Descriptive Analysis**

Who? What? When?
Where? How?

Generate Solutions

Forecasts, Estimates

Identifies Cause & Effect, Evaluates, Judges

Generalizes, Finds Basic Patterns & Trends

Summarizes, Reports

More Data-Driven ⟷ More Concept-Driven    Pragmatic Results

# QUESTION DEVELOPMENT

- **Start with:**
    - **Who, what, where, when, or how—descriptive research**
    - **Why or how—explanatory/evaluative research**
    - **What/where/who/when will…(something happen)—predictive/estimative research**
    - **What should Agency X (or Person X) do about problem Y?—policy & programmatic analysis, problem-solving, general decision-making**
- **End with the identification of the <u>phenomenon</u> you want to describe, explain, predict, evaluate, address, or solve (be specific).**
- **Examples of specific research questions:**
    - **How do U.S. political parties stand on specific societal Issues (list) affecting me? (Descriptive)**
    - **Why should I vote for a specific political candidate in the next election?  (Explanatory)**
    - **Which U.S. Political Party(ies) is(are) most likely to best support my interests? (Predictive)**
    - **Which political candidate should I vote for? (Decision)**

- **Definition: Information (media) literacy refers to a constellation of competencies revolving around information searching, use, and practice across all occupations and professions.**

- **This means—finding information, assessing information, using information, and documenting information sources.**

- **Information (Media) literacy is the foundation for life-long learning.**

- **See Week 3 Slides for more on information literacy.**
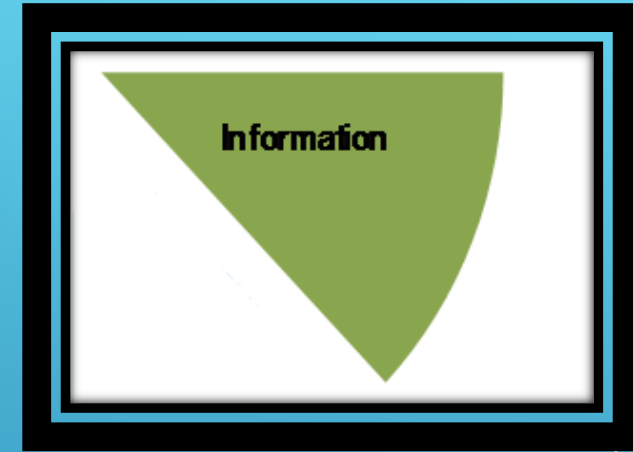
# INFORMATION (MEDIA) LITERACY: THE BASIS FOR GOOD THINKING
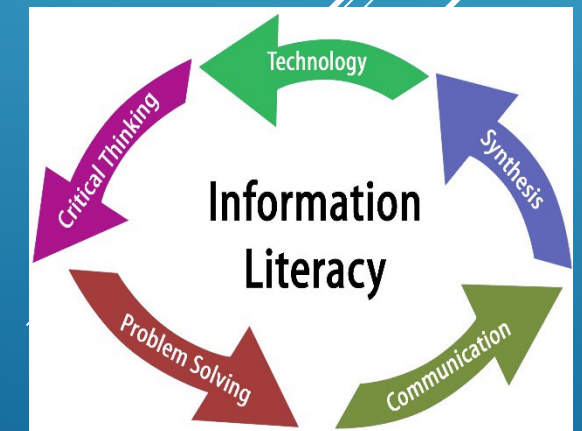
# CONTEXT

**Definition**

Context includes the historical, political, social, economic, cultural, linguistic, scientific, and/or personal setting or background that directly relates to the issue at hand.

Context

Two or more cases seldom have the same surrounding context.  Through your information search, you must find the detailed circumstances surrounding a case before you can make comparisons and seek insights. Those who use analogies to support their thinking often do no consider the context of the current and past situations. There are big pitfalls into trying to use the past to understand and predict the future.

- Review systematically all sources for accuracy (use the critical thinking elements of thought to help analyze material)
- Identify information that appears the most critical or compelling.
- Check for sufficient and strong corroboration of critical reporting (try to triangulate sources, i.e., look for multiple sources with the same or similar evidence).
- Consider whether ambiguous information has been interpreted and caveated properly.
- Indicate a confidence level (high, medium, low) that can be placed on sources used in the ongoing project.

| Source* | Critical Information (Data, Evidence, Facts) | Corroboration of Information | Confidence Level (H, M, L) | Comments |
|---------|---------------------------------------------|-----------------------------|----------------------------|----------|
|         |                                             |                             |                            |          |
|         |                                             |                             |                            |          |

\* Add additional rows as needed

# ASSESSING QUALITY OF INFORMATION

# POINT OF VIEW

**Definition**

Point of view is literally "the place" from which you view something. It includes what you are looking at and the way you are seeing it.

Assessing Points of View requires an investigation of the subject's, author's or analyst's political, economic, religious, cultural, and social backgrounds—it means uncovering their "belief systems."

Critical Belief Analysis invented by Osher Instructor Barnet Feingold is an advanced method for evaluating beliefs.



Point of View
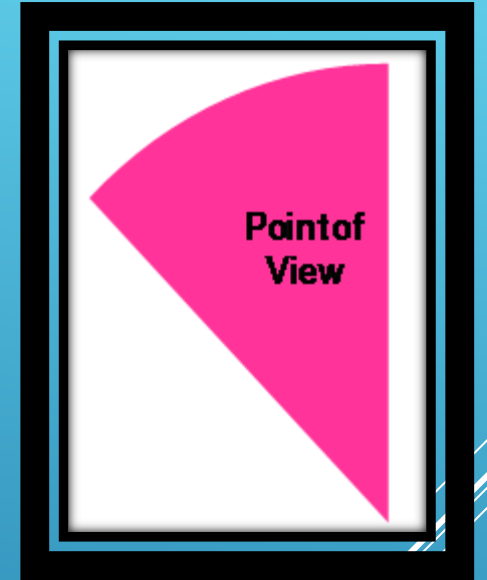
# ASSUMPTIONS (EMERGE FROM BELIEF SYSTEMS)

**Definition**

Assumptions are theoretical or other propositions you take for granted. They usually operate at the subconscious or unconscious level of thought.

Assumptions usually fall into one of 3 categories:

Paradigmatic – core belief systems

Prescriptive – how it "ought" to be

Causal – cause & effect
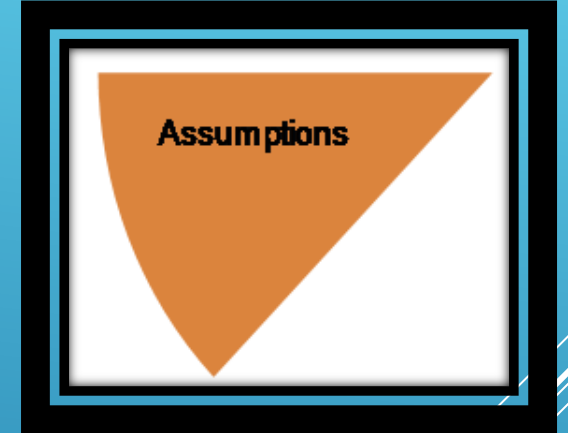
- Concern the deeply held assumptions framing how a person views the way the world works (i.e., their belief system).

- Go to the heart of a person's points of view and include political, economic, religious, cultural and social aspects of how the person views the way the world works.

- These beliefs usually spring from dominant ideologies (political, economic, religious, social, etc.).

- These assumptions are often never questioned in analyses.

- Are often hard to uncover, especially by those whose thinking is also influenced by the same paradigmatic assumptions.

# PARADIGMATIC ASSUMPTIONS

- Concern those assumptions defining desirable ways of thinking or acting.

- Define what "ought" or "should" be the desirable ways of thinking or acting (we call these normative).

- Tend to flow from a person's paradigmatic assumptions of how the world should work.

- Also result from the structure of laws, regulations, policies, rules, etc., applying to the situation under study. There are many social rules (both formal and informal) that influence thinking and behavior that are prescriptive assumptions.
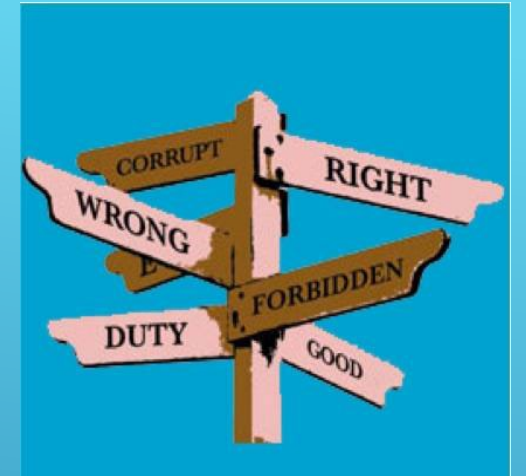
# PRESCRIPTIVE ASSUMPTIONS

- ▸ Concern the causal linkages that make the world work and conditions under which the causal linkages might change.

- ▸ In the behavioral or social sciences, causal conditions are often elusive due to the complexity of human behavior and the lack of valid research in many aspects of human behavior.

- ▸ Also include the quality of <u>evidence</u> used to support an argument based in causal linkages

- ▸ Causal assumptions related to behavioral or social science are often deemed invalid because of the poor evidence resulting in use of poor logic and reasoning and anecdotal data or small sample size of cases governing the proposed causal linkages.
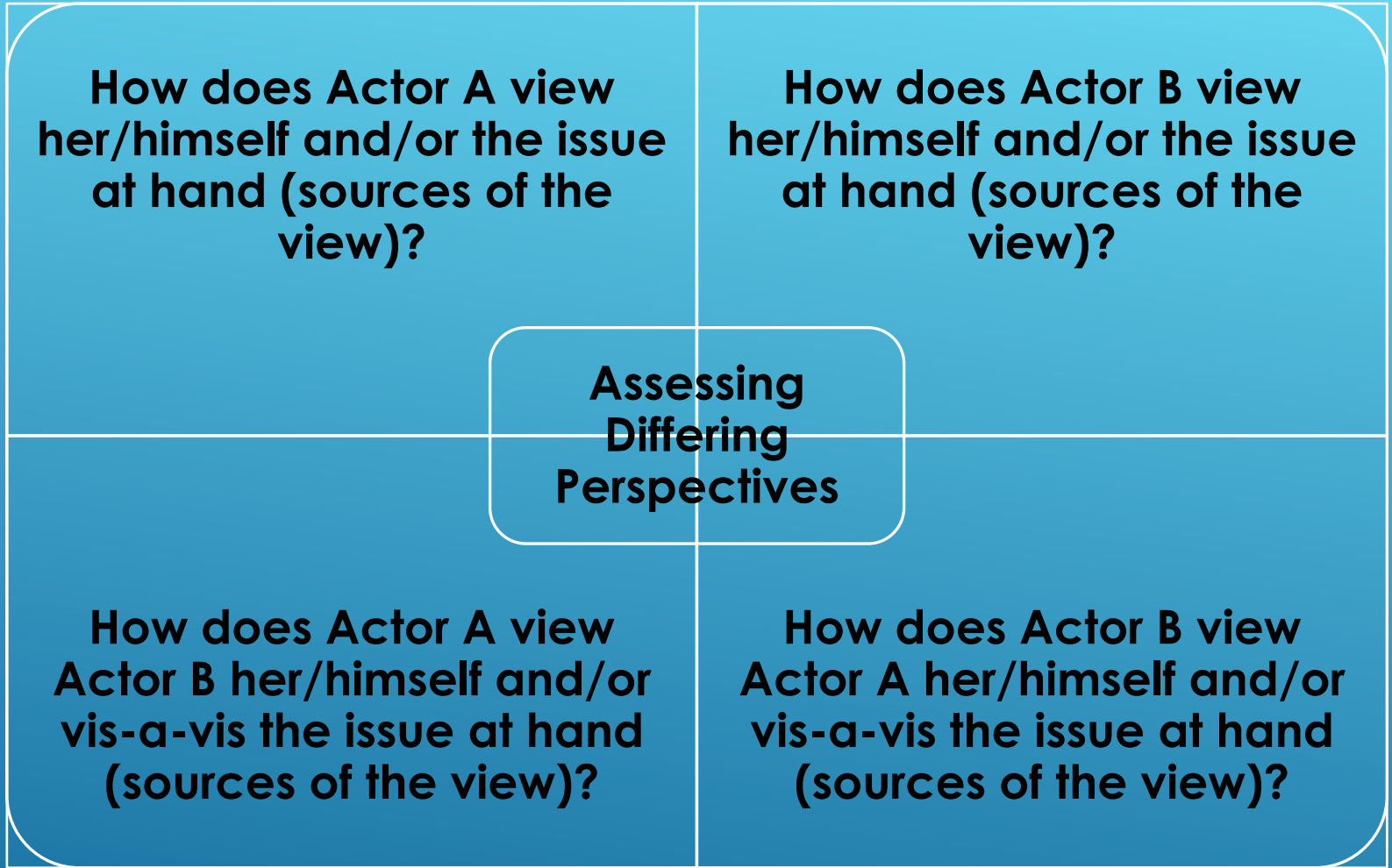
EVIDENCE

# CAUSAL ASSUMPTIONS

X ⟶ Y
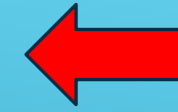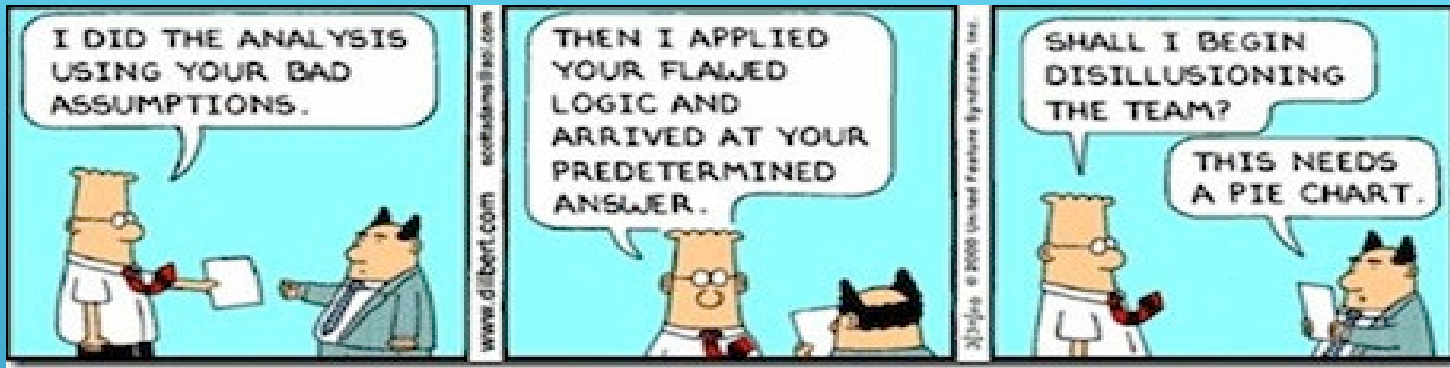
Not Good
Critical Thinking

▸ 4-Ways of Seeing (2 actors)

▸ Key Assumption Checks

▸ Critical Belief Analysis (Feingold)

# TECHNIQUES FOR ASSESSING POINTS OF VIEW AND ASSUMPTIONS

How does Actor A view her/himself and/or the issue at hand (sources of the view)?

How does Actor B view her/himself and/or the issue at hand (sources of the view)?

Assessing Differing Perspectives

How does Actor A view Actor B her/himself and/or vis-a-vis the issue at hand (sources of the view)?

How does Actor B view Actor A her/himself and/or vis-a-vis the issue at hand (sources of the view)?

What are sources of differing perspectives (views): theoretical, political, economic, cultural, social, religious, linguistic, historical, etc.?

# FOUR WAYS OF SEEING

| Key Assumption | Category/Comments On Influence | Solid | With Caveats | Unsup-ported |
|---|---|---|---|---|
| Actor A | | | | |
| 1. | Paradigmatic, Prescriptive, or Causal | | | |
| 2. | | | | |
| 3. | | | | |
| 4…. | | | | |
| Actor B | | | | |
| 1. | | | | |
| 2. | | | | |
| 3. | | | | |
| 4…. | | | | |

# KEY ASSUMPTION CHECKS

# TIME FOR A
# 10 MINUTE BREAK!

# CONCEPTUALIZING YOUR THINKING IS MAINLY ABOUT MODELING—THERE ARE THREE MAIN TYPES OF MODELS

- **<u>Structural causal models</u>** – posit that one or more <u>independent variables</u> cause or lead to changes in a <u>dependent variable</u>

- **<u>Process models</u>** – identify process steps leading to an <u>outcome</u> (Systems & Network Analysis included here)

- **<u>Agency models</u>** – <u>decision-making</u> models based on psychology theories of cognition, motivation, emotions, and rational choice

**All types of modeling also include defining concepts and generating alternatives (hypotheses, scenarios, etc.) that the analyst will later test using data, logic, and reasoning (i.e., critical thinking)**

Essential concepts
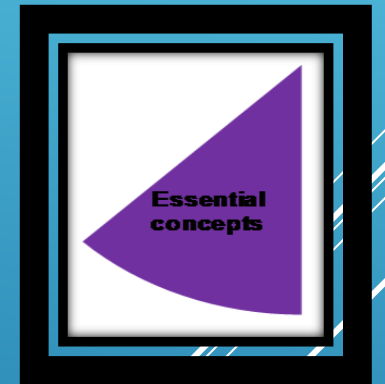
# SAMPLE STRUCTURAL CAUSAL MODEL

## QUESTION: WHAT FACTORS AFFECT PERSONAL INCOME?

Where:

Y1 = income

X1 = education

X2 = age

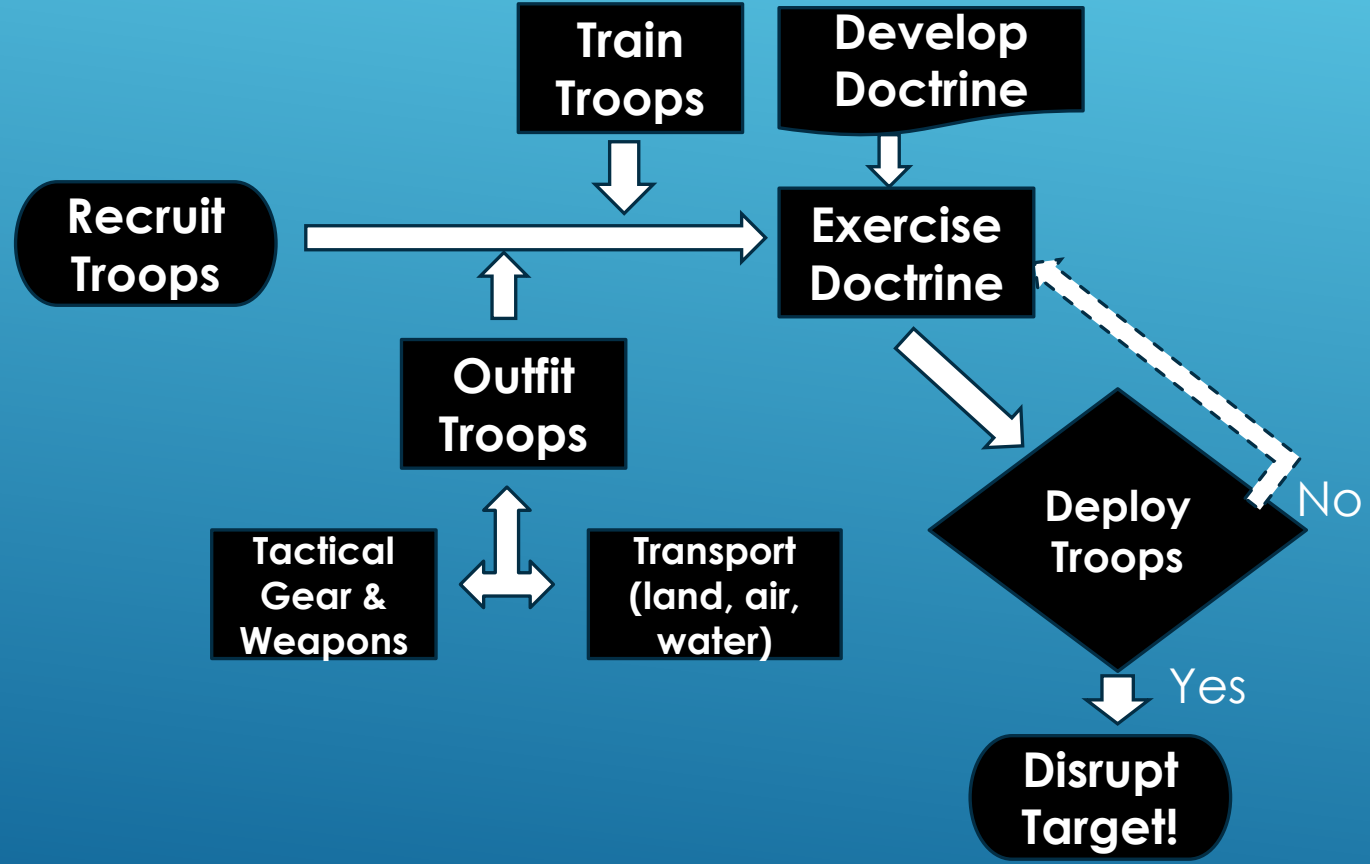X3 = type job

X4 = location

X1

X2        Y1    Dependent Variable

X3

X4
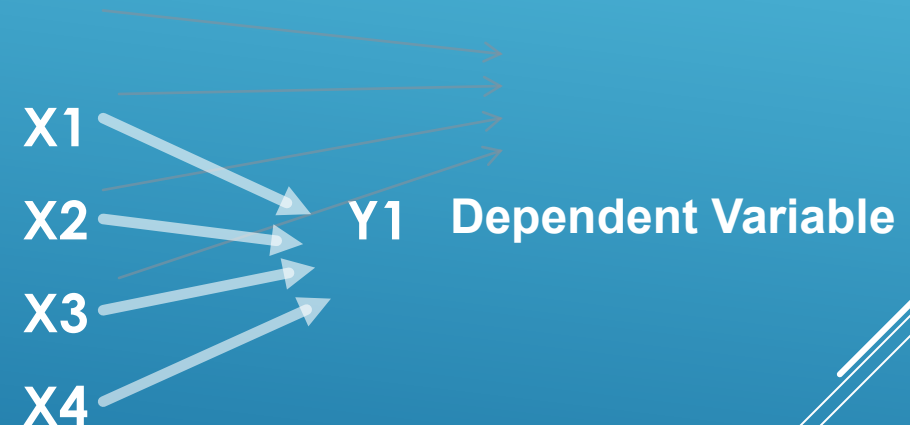
Independent Variables

# Counter-Narcotics Troop Deployment Process Flowchart (Process Model)
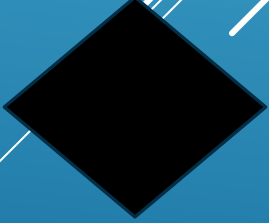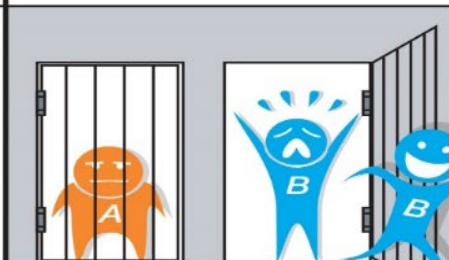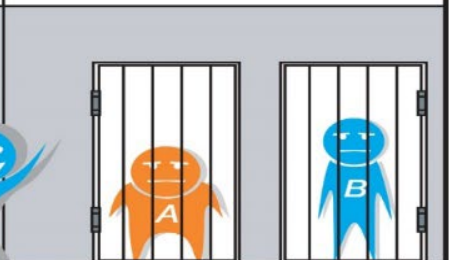
# SAMPLE AGENCY MODEL: PRISONERS' DILEMMA



Prisoner's Dilemma is a frequently used Game Theory model that emerges from Rational Choice Theory. This model has a number of uses as the "prisoners" may be people in a number of situations.

# OUTCOME MATRIX ANALYSIS

| Evaluation Factor | Alternative 1 | Alternative 2 | Alternative 3 |
|---|---|---|---|
| Evaluation Factor 1 (Cost/Benefit, etc.) | + | + | - |
| Evaluation Factor 2 (Equity/Practicality , etc. ) | + | - | - |
| Evaluation Factor 3 (Legal/Ethical, etc.) | - | + | + |
| Evaluation Factor 4 (Politically Accept., etc.) | + | - | — |
| Total Scores | 1 inconsistency (best solution) | 2 inconsistencies | 3 inconsistencies |

**Alternative with least inconsistencies (evaluation of -) usually best solution. Instead of a +/- evaluation you can also use a scale of C (consistent), CC (very consistent), I (inconsistent) or II (very inconsistent), ordinal scales (High/Medium/Low, etc.), or numerical evaluations (as best fits the analysis).**

# Outcome Matrix for "Which Political Candidate to Vote For"

## Perspective: Voter

| Evaluation Factors, Evidence, Assumptions | Options/Alternatives | | |
|---|---|---|---|
| | Candidate A | Candidate B | Candidate C |
| Party Legacy—Ideology, Political Culture | | | |
| Candidate Character/Personality | | | |
| Appeals to: Well Being, Fear, Anger, etc. | | | |
| Has Plan for Addressing Societal Issues: | | | |
| Threats to Democracy | | | |
| Jobs & Economy | | | |
| Cost of Living (Inflation) | | | |
| Abortion Rights | | | |
| Immigration & Border Control | | | |
| Crime | | | |
| Climate Change | | | |
| Other: | | | |
| Decision | | | |

# DEVELOPING ALTERNATIVES

▸ How have others addressed the same or similar problem or decision (from information search)

▸ From your Conceptual Modeling

▸ Brainstorming (from information search, points of view & assumptions analyses)

▸ Status quo  or "do nothing" is always an alternative

# ALTERNATIVES GENERATED THROUGH CREATIVE THINKING TECHNIQUES

▸ **Goal is to find alternatives that are <u>novel</u> (new, unique) and <u>useful</u> (practical, workable)**

▸ **Creative thinking activities include: Dimensional Thinking, Observing, Imaging, Abstracting, Emphasizing, Body Thinking, Playing, Pattern Recognition, and more.**
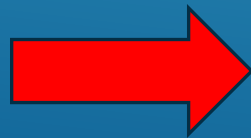
Novel, Useful Alternatives

# CREATIVE TECHNIQUE: SCAMPER

- **S**ubstitute—can I replace the process, procedure, approach, product service, materials, ingredients, place, people or design?

- **C**ombine—can I mix ideas, products, resources, materials or functions?

- **A**dapt—can I copy, emulate, or incorporate ideas, processes, concepts or features?

- **M**agnify—can I add, increase, duplicate or exaggerate the value, idea, feature, function, size or frequency?

- **P**ut to other uses—can I use the product, service or idea for something else, for other people, other occasions, other markets, other industries or in new ways?

- **E**liminate—can I divide, decrease, subtract, delete, compact or omit the process, situation, function, or idea?

- **R**earrange—can I change the arrangement, process, sequence, order, pace, pattern, schedule, or components?

# CREATIVE TECHNIQUE: 5W'S+1H (STARBURSTING)

- May use as a fine-tuning technique after using other creative thinking techniques (SCAMPER)—but is also useful in other thinking situations.

- Determine your best ideas.

- Use what is known as the "Probing Six Questions" by asking of each idea: What? When? Where? Who? Why? How? Example questions:

  - What can we change?

  - When will it be offered?

  - Where will it be offered?

  - Who will it be for?

  - Why should we change?

  - How will it work?



Figure 1.3 ▶ Starbursting Template
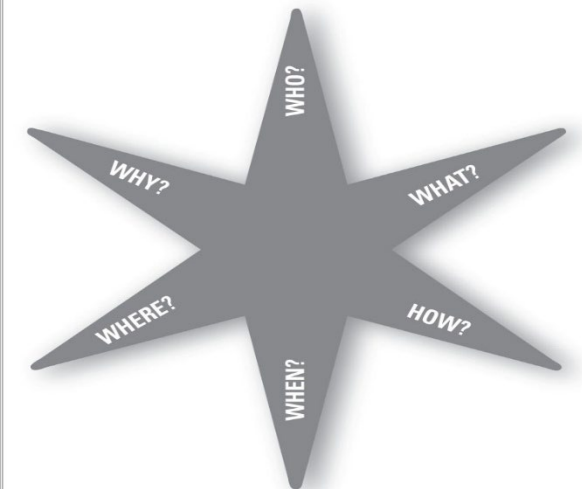
# INTERPRETATION AND INFERENCES

**Definition**

Interpretations and inferences are the findings you come to in your analysis. <u>Inferring is what the mind does in figuring something out.</u>

Techniques for developing interpretations and inferences range from qualitative (e.g., basic logical argumentation) to quantitative (e.g., mathematical, statistical) methods.

Interpretation and Inference

# Outcome Matrix for "Which Political Candidate to Vote For"

## Perspective: Voter

| Evaluation Factors, Evidence, Assumptions | Options/Alternatives | | |
|---|---|---|---|
| | Candidate A | Candidate B | Candidate C |
| Party Legacy—Ideology, Political Culture | C | I | I |
| Candidate Character/Personality | I | C | C |
| Appeals to: Well Being, Fear, Anger, etc. | C | C | I |
| Has Plan for Addressing Societal Issues: | | | |
|     Threats to Democracy | I | C | I |
|     Jobs & Economy | I | I | I |
|     Cost of Living (Inflation) | I | I | I |
|     Abortion Rights | I | C | C |
|     Immigration & Border Control | I | C | C |
|     Crime | C | I | I |
|     Climate Change | I | C | C |
|     Other: Gun Safety | 1 | c | c |
| Decision | 8 inconsistencies | **4 inconsistencies (Winner)** | 6 inconsistencies |

# IMPLICATIONS AND CONSEQUENCES

Definition

Implications and Consequences are claims or truths that <u>logically</u> follow from your findings or conclusions.
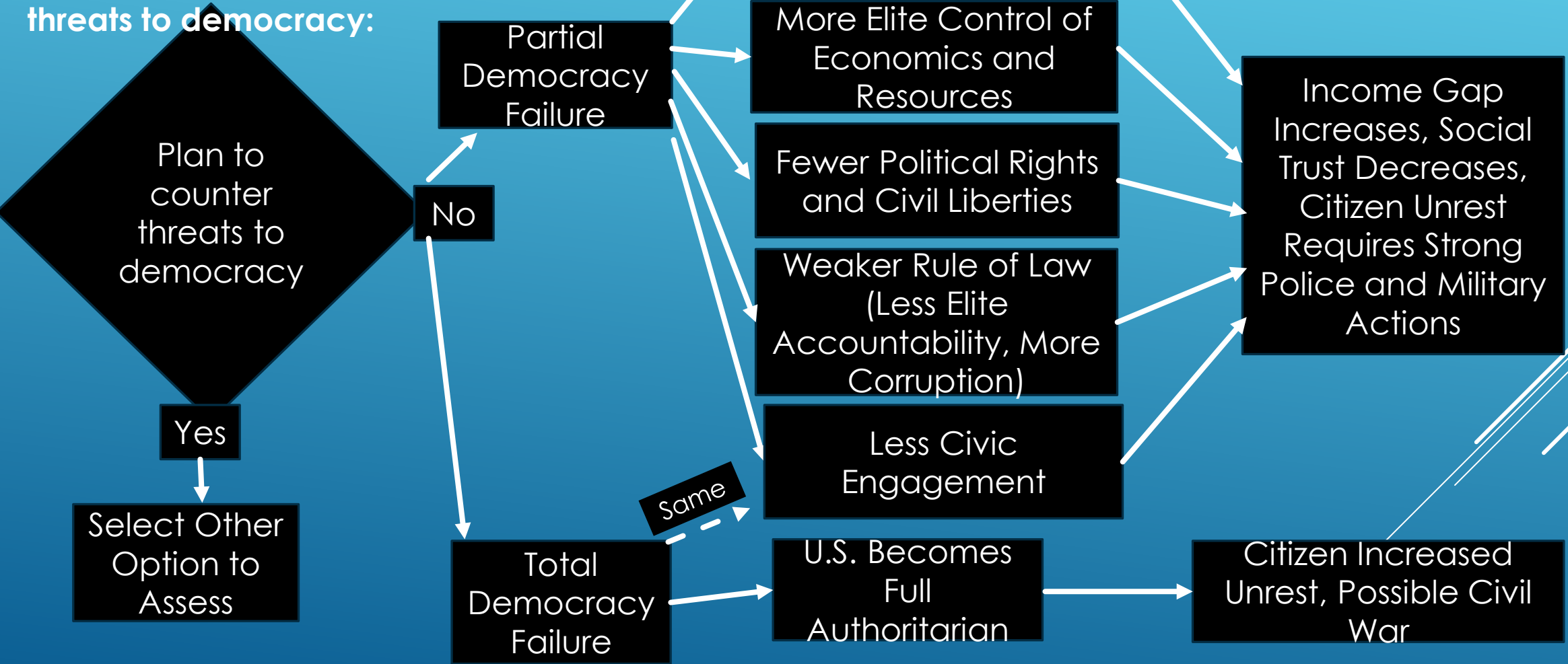
Implications follow from thoughts.

Consequences follow from actions.

Consequences are often classified as first, second, or third order effects
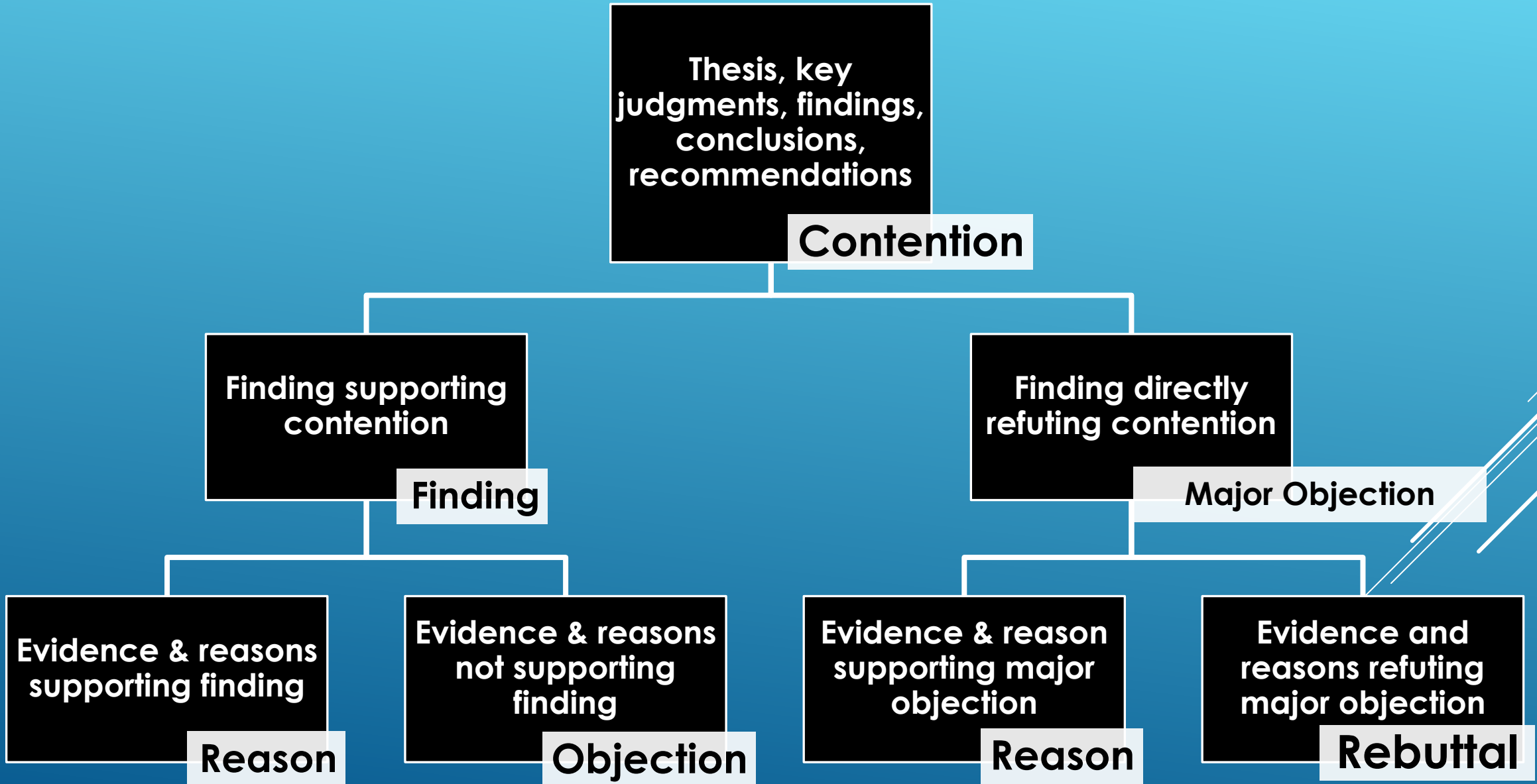
Implications and Consequences

# TO EVALUATE THE QUALITY OF CRITICAL THINKING, WE MUST APPLY STANDARDS.



Standards ensure quality of the oral or written communication of your analysis.

# INTELLECTUAL STANDARDS TO ASSESS THINKING AND PREPARE WRITTEN/ORAL REPORTS

▶ Clarity – Could you give an example?

▶ Accuracy – How could we verify that?

▶ Precision – Could you give more details?

▶ Relevance – How does that relate to the problem?

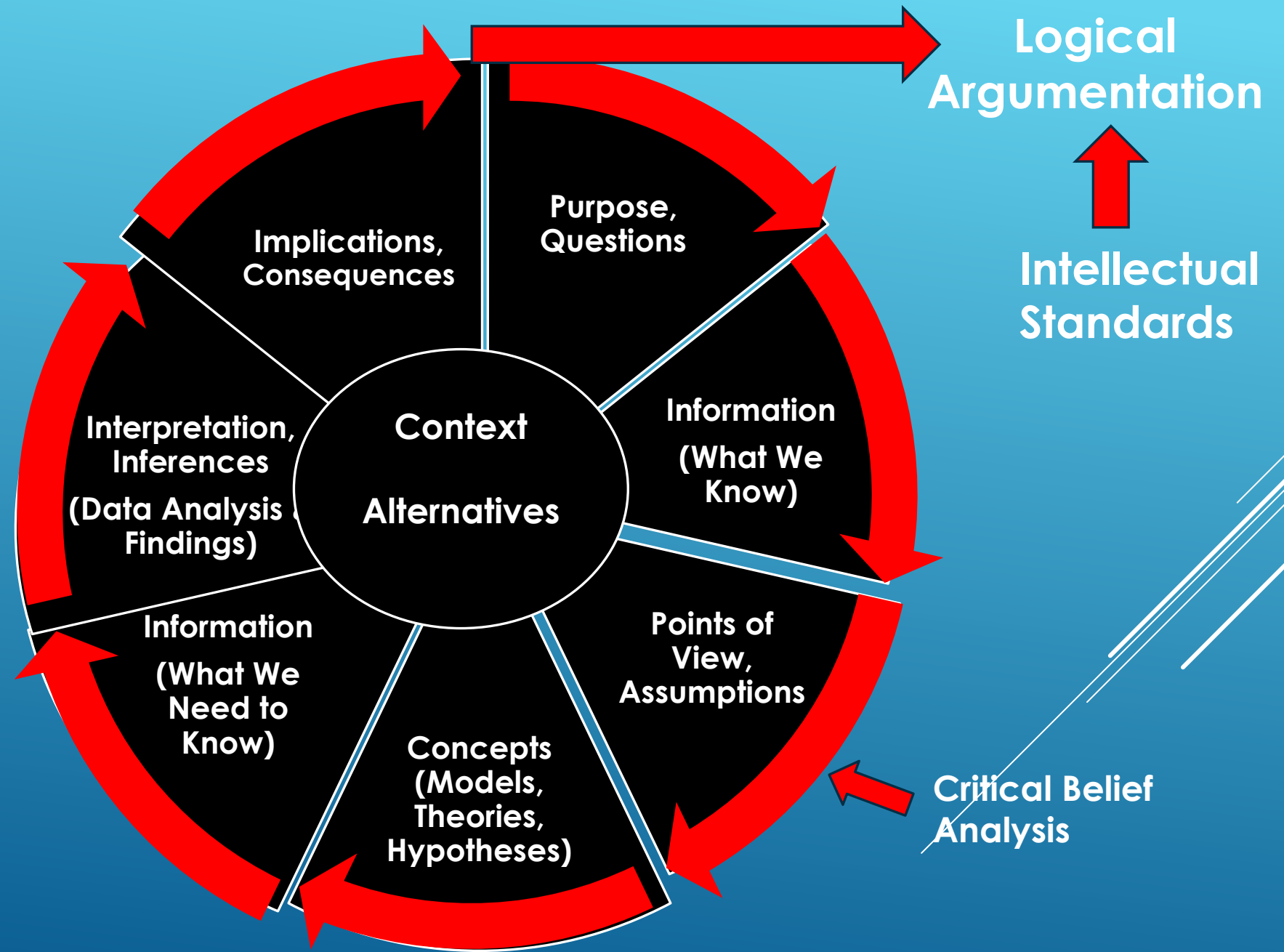# INTELLECTUAL STANDARDS TO ASSESS THINKING AND PREPARE WRITTEN/ORAL REPORTS

▶ **Depth – What are some of the complexities of this problem?**

▶ **Breadth – Do we need to consider**
   **another point of view?**

▶ **Logic – Does this all make sense together?**

▶ **Significance – Which of these facts/problems is the most important?**

▶ **Fairness – Do I have a vested interest in the issue?**

To become proficient at critical thinking you must use the Elements of Critical Thought in all your significant thought processes, in both your personal and professional lives.

Being a better citizen/voter means knowing the topic (civics) and using critical thinking in your related activities.

# PLEASE GIVE OUR CLASSROOM ASSISTANTS A BIG HAND!

# I HOPE YOU ENJOYED THE COURSE!