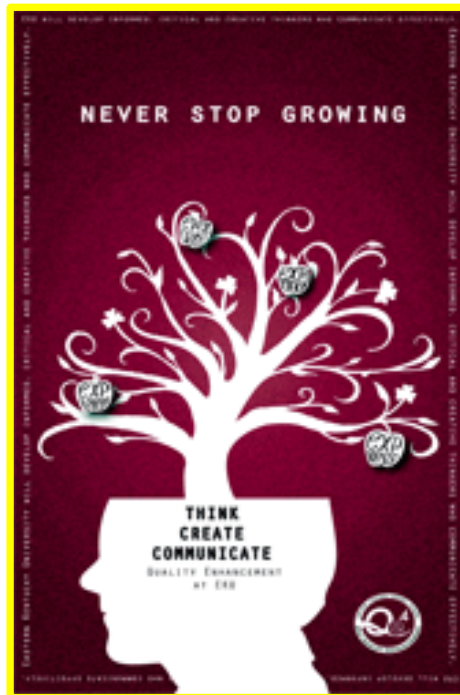


# Critical Thinking, Creative Thinking and Communication



***EKU will graduate informed, critical and creative thinkers who can communicate effectively.***



<http://qep.eku.edu/>



<https://sites.google.com/site/qepcafe/>



# Scenario, Decision, or Issue

- Group activity  
(2-4 participants, approx. 5 minutes)
- Think critically about the decision to:

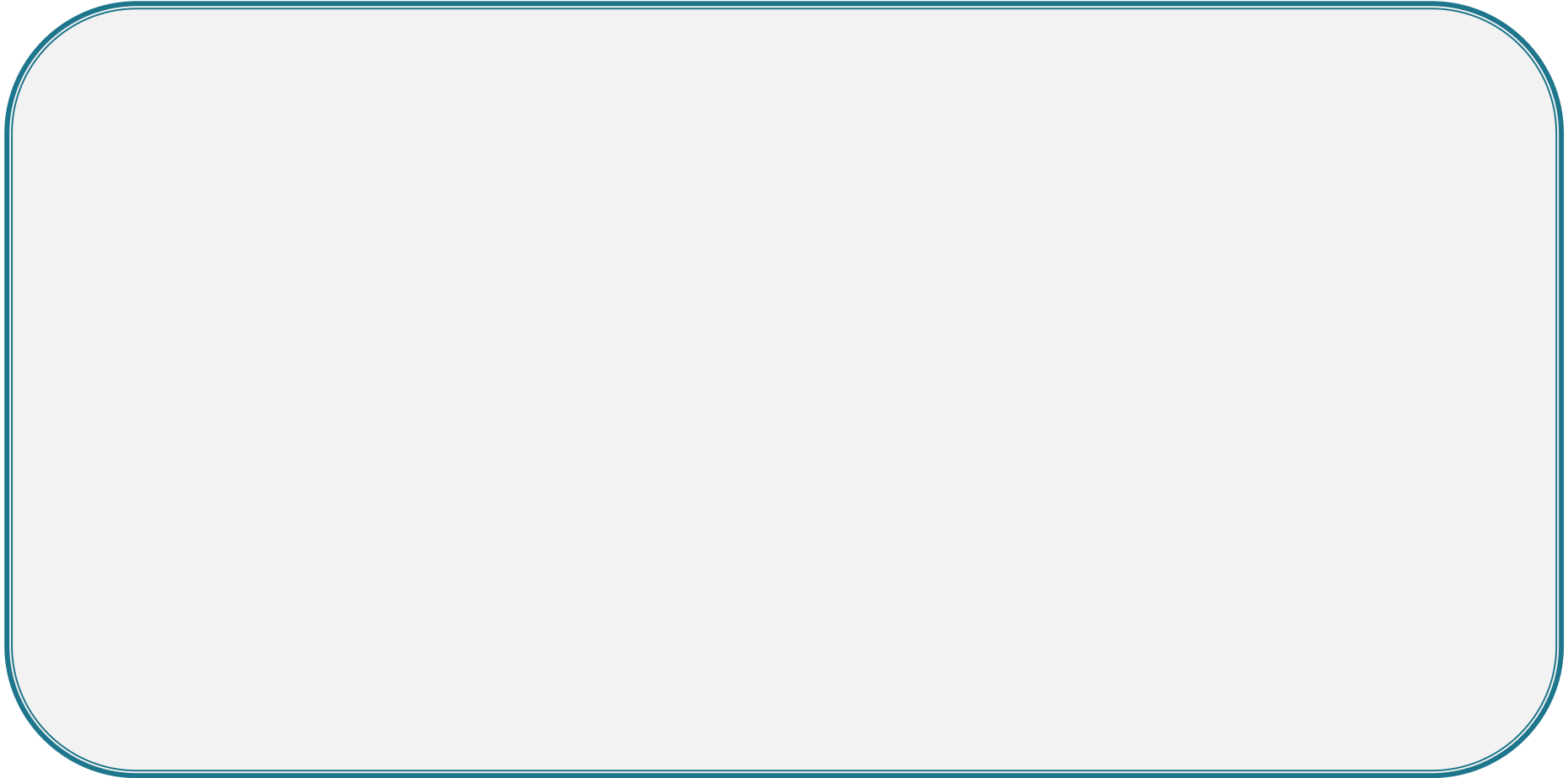
**Convince an undecided voter to participate  
in the upcoming Presidential Election.**



# Scenario, Decision, or Issue -- Revisited

## Seeking Better Ways of Doing Things

Group Activity (2-4 participants; approx. 10 minutes)

A large, empty rounded rectangle with a blue border, intended for group activity notes.



# Scenario -- Revisited

## Seeking Better Ways of Doing Things



# Critical Thinkers.....

- Formulate the problem clearly
- Work on significant problems or issues
- Examine their assumptions
- Use concepts and logic while solving problems
- Gather relevant information
- Consider multiple viewpoints and possible implications
- Reach reasonable solutions and conclusions

... Seek better ways of doing things and rely on intellectual standards (such as clarity, accuracy) for guiding their thinking



# EKU's Definition of Critical Thinking

*Critical and creative thinking are dynamic and deliberate processes where learners are active participants in intellectual activities in which they explore, evaluate, expand and express in relation to problems, scenarios, and arguments in order to reach sound and innovative solutions, decisions, and positions.*



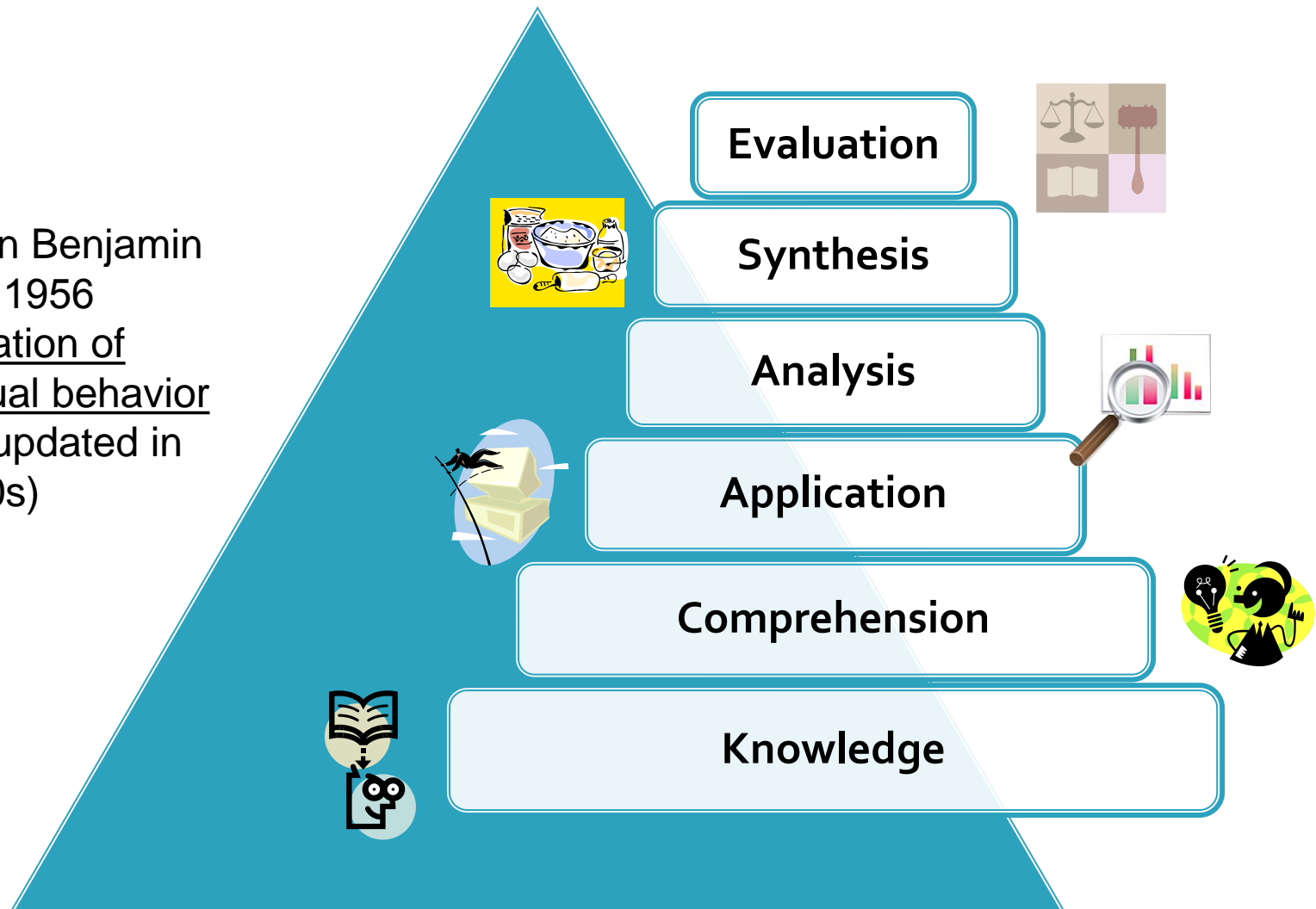
# Explore, Evaluate, Expand, Express while Thinking Critically/Creatively

- **Explore** and use relevant *information* in order to gain knowledge and solve problems
- **Evaluate** *information and ideas* using appropriate methods
- **Expand** and generate their own *ideas* and express them effectively
- **Express** a *point of view* and develop it with awareness of alternatives



# Critical Thinking in the Thinking Skills Pyramid

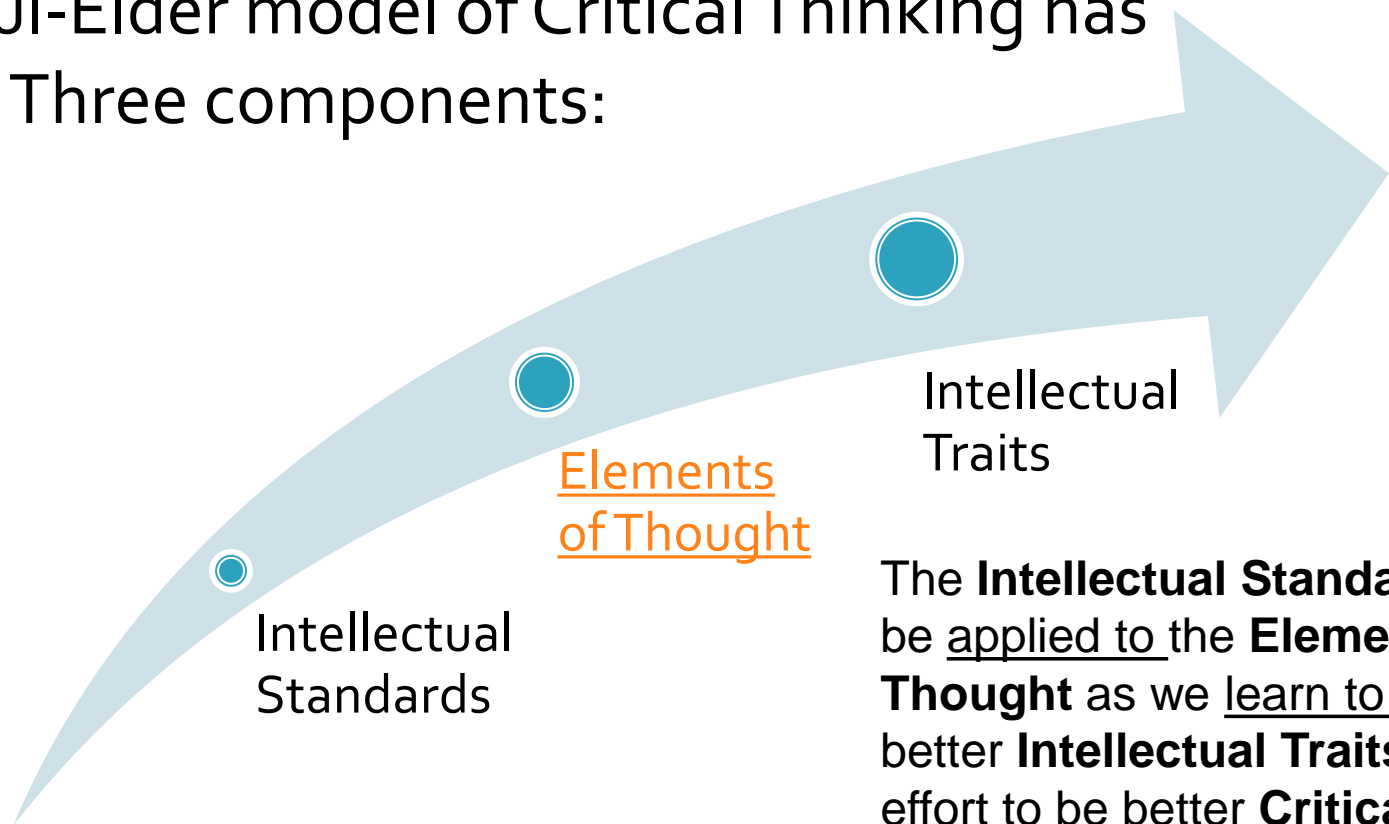
Based on Benjamin Bloom's 1956 classification of intellectual behavior (further updated in the 1990s)





# Model of Critical Thinking Emphasized at ECU

- Higher-order thinking used in all disciplines of study
- Paul-Elder model of Critical Thinking has Three components:

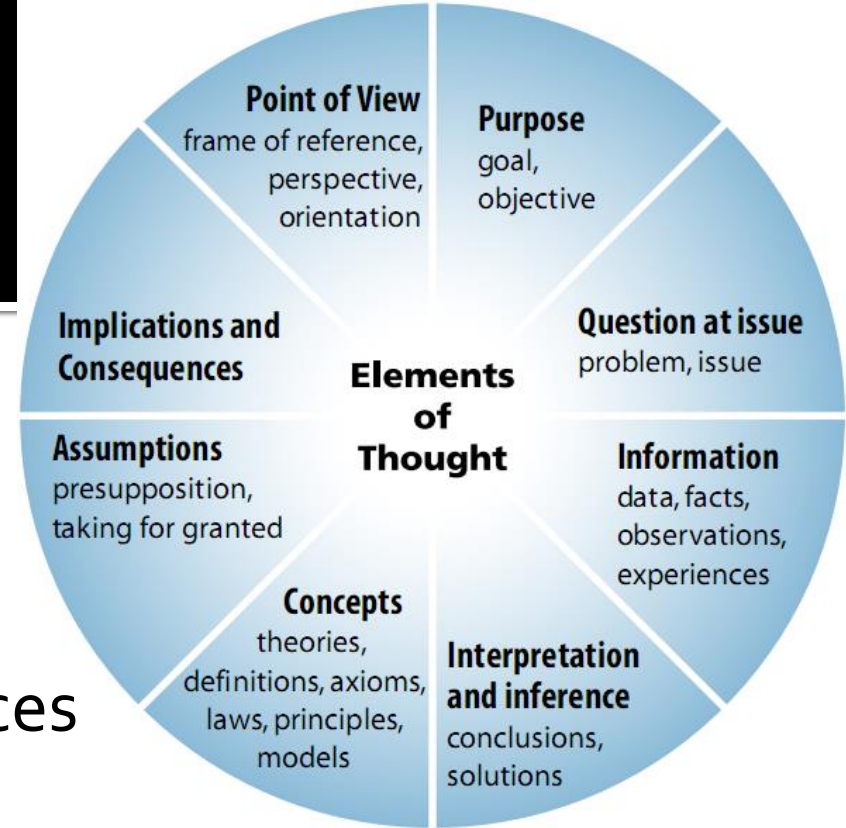


The **Intellectual Standards** can be applied to the **Elements of Thought** as we learn to develop better **Intellectual Traits** in an effort to be better **Critical and Creative Thinkers!**



# Elements of Thought

1. Purpose of the Thinking
2. Point of View
3. Assumptions
4. Implications and Consequences
5. Data, facts, and Experiences
6. Inferences and Judgments
7. Theories and Concepts
8. Answer a Question or Solve a Problem

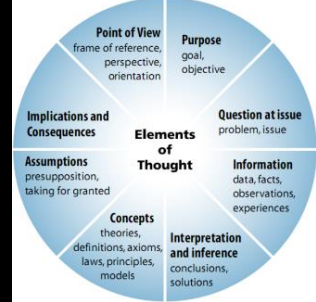


Source: The Miniature Guide to Critical Thinking: Concepts and Tools, by Drs. R. Paul and L. Elder

Apply the Elements of Thought while analyzing reading and writing assignments, lab activities, or projects



# Elements of Thought & Problem Solving



## Formulate questions or problems

- Define/express/state the problem or issue
- Sub-issues
- Consider questions linked to issue

## Purpose

- Goal
- A closer view
- Deeper or broader reason it should be solved?
- Consider personal or social stake in solving or tackling the issue

## Point of view

- Perspectives
- Thinking hats
- Walk in somebody else's shoes
- Outsider's or non-specialist viewpoint
- Multiple views exist concurrently

## Assumptions

- Background information
- What can we take for granted
- Initial conditions
- Reasonable assumption based on context
- Presupposition

## Concepts

- Theories
- Definition
- Principles
- Models
- Axioms
- Theorems
- Rules
- Hypothesis
- Key words

## Information

- Data
- Facts
- Observations
- Experiences
- Evidence
- Search for valid and external sources

## Solutions

- Judgments
- Conclusions
- Interpretations
- Discussion
- Must follow from the information and concepts under the stated assumptions

## Consequences

- If solved then what?
- If not solved then what?
- Implications
- Potential positive, negative, and unexpected future outcomes
- Directions for future work



# Intellectual Standards

1. Clarity
2. Accuracy
3. Precision
4. Relevance
5. Depth
6. Breadth
7. Logic
8. Significance
9. Fairness

## Clarity

Could you elaborate further?  
Could you give me an example?  
Could you illustrate what you mean?

## Accuracy

How could we check on that?  
How could we find out if that is true?  
How could we verify or test that?

## Precision

Could you be more specific?  
Could you give me more details?  
Could you be more exact?

## Relevance

How does that relate to the problem?  
How does that bear on the question?  
How does that help us with the issue?

## Depth

What factors make this a difficult problem?  
What are some of the complexities of this question?  
What are some of the difficulties we need to deal with?

## Breadth

Do we need to look at this from another perspective?  
Do we need to consider another point of view?  
Do we need to look at this in other ways?

## Logic

Does all this make sense together?  
Does your first paragraph fit in with your last?  
Does what you say follow from the evidence?

## Significance

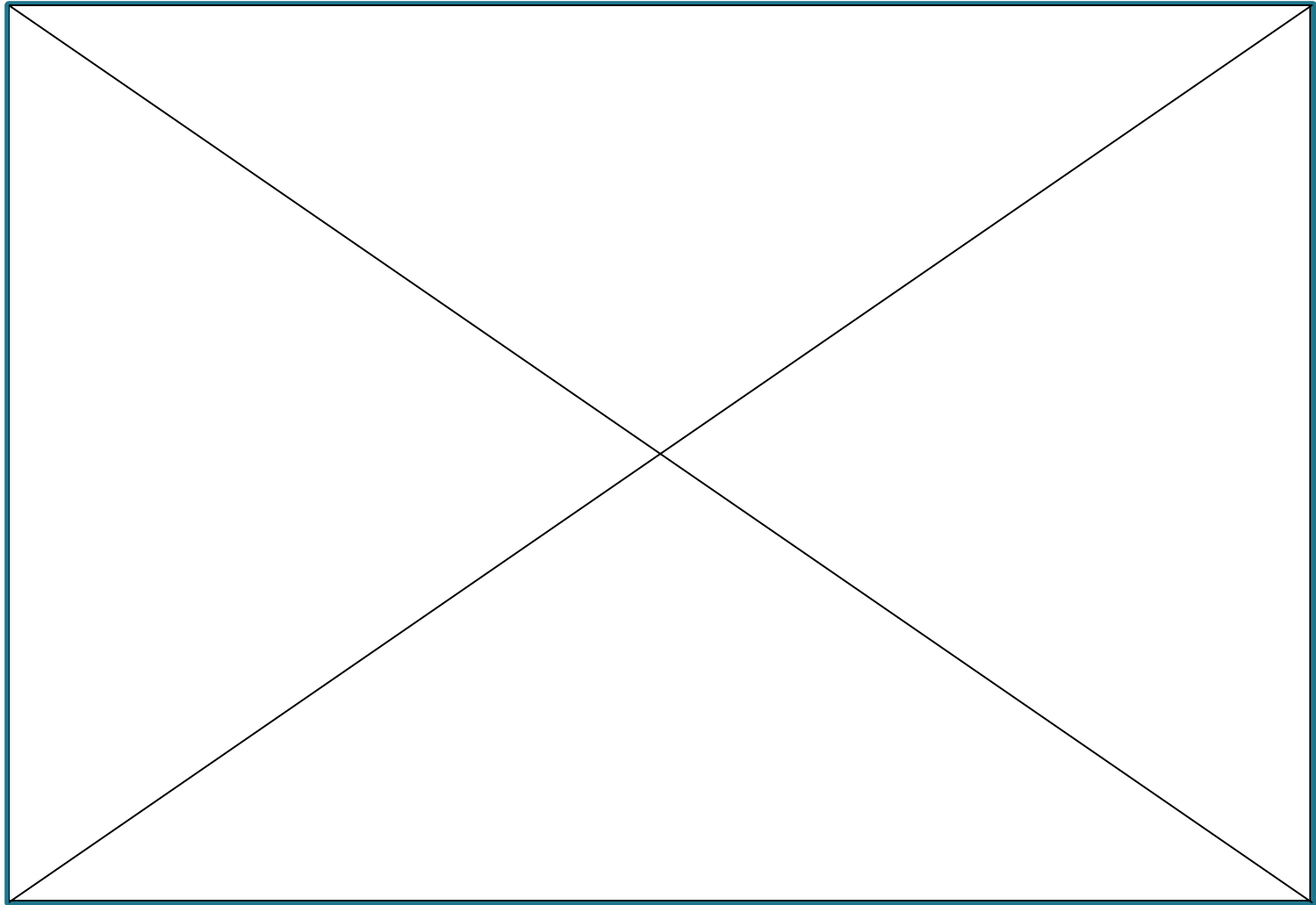
Is this the most important problem to consider?  
Is this the central idea to focus on?  
Which of these facts are most important?

## Fairness

Do I have any vested interest in this issue?  
Am I sympathetically representing the viewpoints of others?



# Critical Thinking & Standards



Source: DigitalSplashMedia's YouTube Video, <http://youtu.be/-85-j7Nr9i4>



# Intellectual Traits

## Consequences ...

### Positive Traits

Fair Mindedness

Intellectual Empathy

Intellectual Perseverance

Confidence in Reason

Intellectual Independence

Intellectual Courage

Intellectual Humility

Intellectual Integrity

### Negative Traits

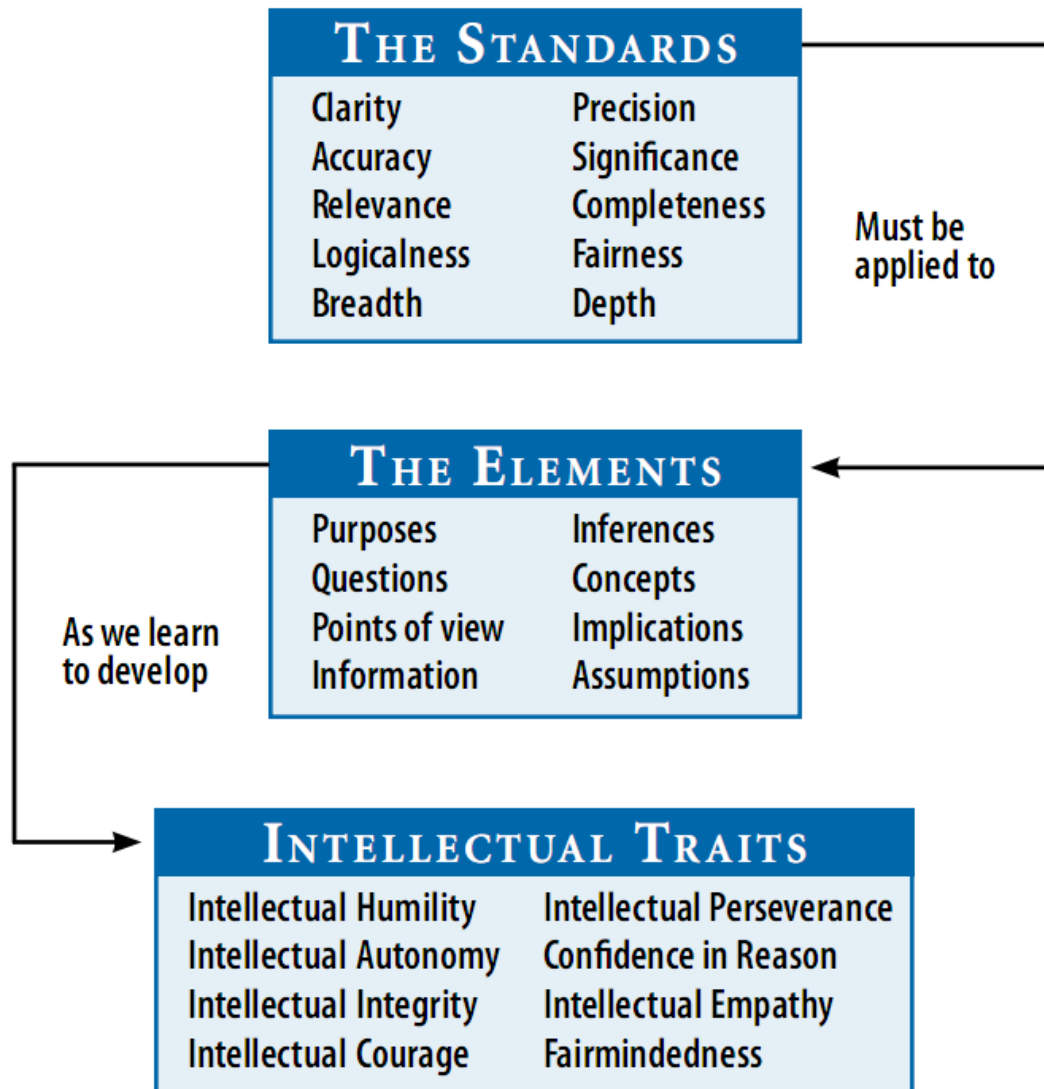
How can analyzing the mental activities we do promote development of intellectual traits?

As the branch is bent, the tree will grow?





# Putting it all together ...



Intellectual Standards are applied to our thinking using the Elements of Thought so that these eventually become part of our regular thought process, as we develop constructive Intellectual Traits



[illegible]

<https://sites.google.com/site/qepcafe>

- Website offering free, self-paced training devoted to improving critical thinking
- Content is designed for anyone who needs to:
  - understand issues at a deep level
  - solve problems effectively
  - create a environment for this kind of learning
- Option of receiving a Certificate of Course Audit or of Course Completion



# qepCafe's Sample Critical Thinking Techniques and Activities

**EXPLORE** and use relevant information in order to gain knowledge and solve problems.

**EVALUATE** information and ideas using appropriate methods.

**EXPAND** and generate our own ideas and express them effectively.

**EXPRESS** a point of view and develop it with awareness of alternatives.

- **Explore – Compass Points**

<https://sites.google.com/site/qepcafe/modules/explore/compass-points>

- **Evaluate – Tug-of-War**

<https://sites.google.com/site/qepcafe/modules/evaluate/tug-of-war>

- **Expand – Reverse Brainstorming**

<https://sites.google.com/site/qepcafe/modules/expand/reverse-brainstorming>

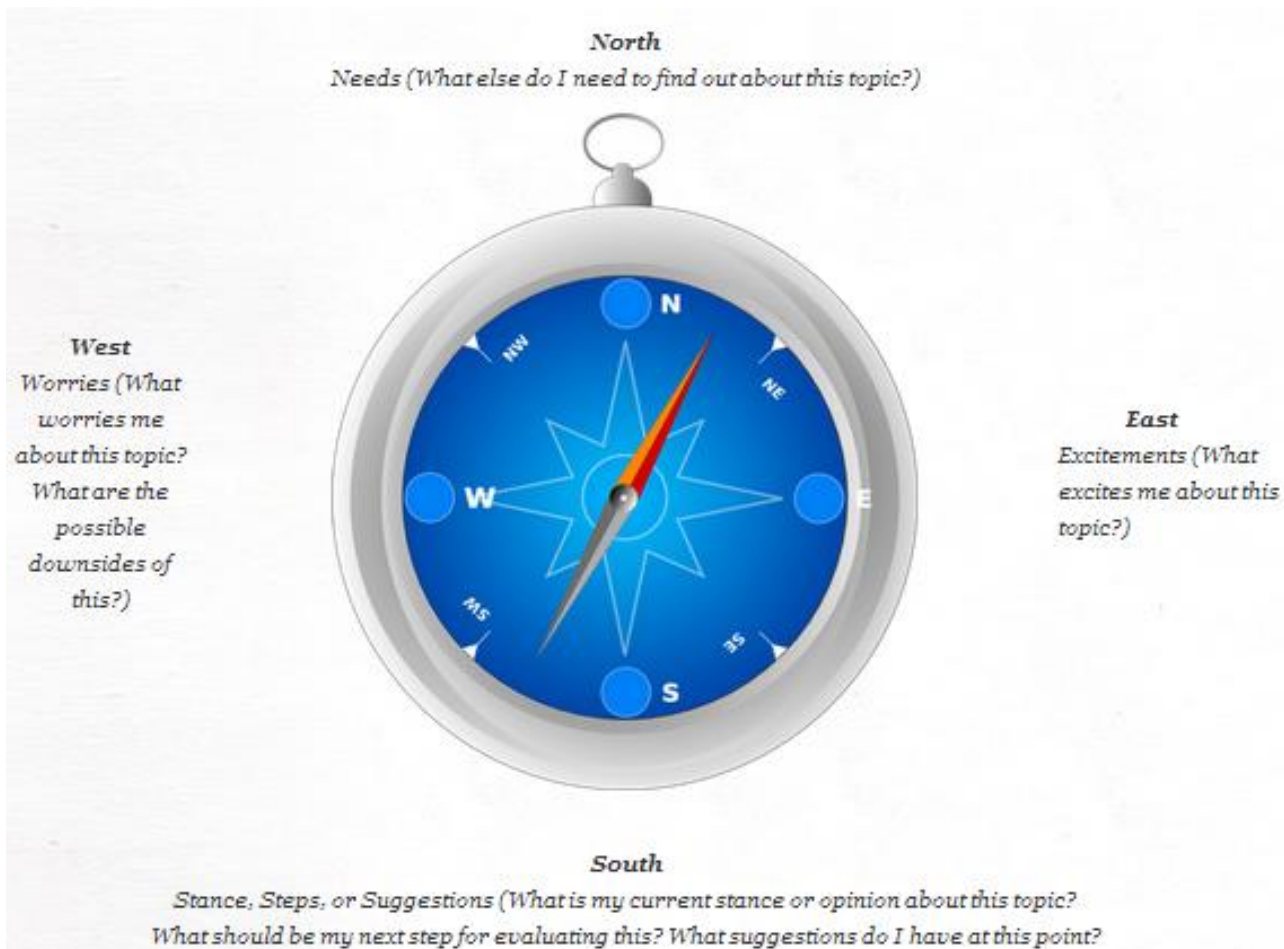
- **Express – SEE-I**

<https://sites.google.com/site/qepcafe/modules/express/state-elaborate-exemplify-illustrate-see-i>



## Use the Compass Points technique to Explore the topic:

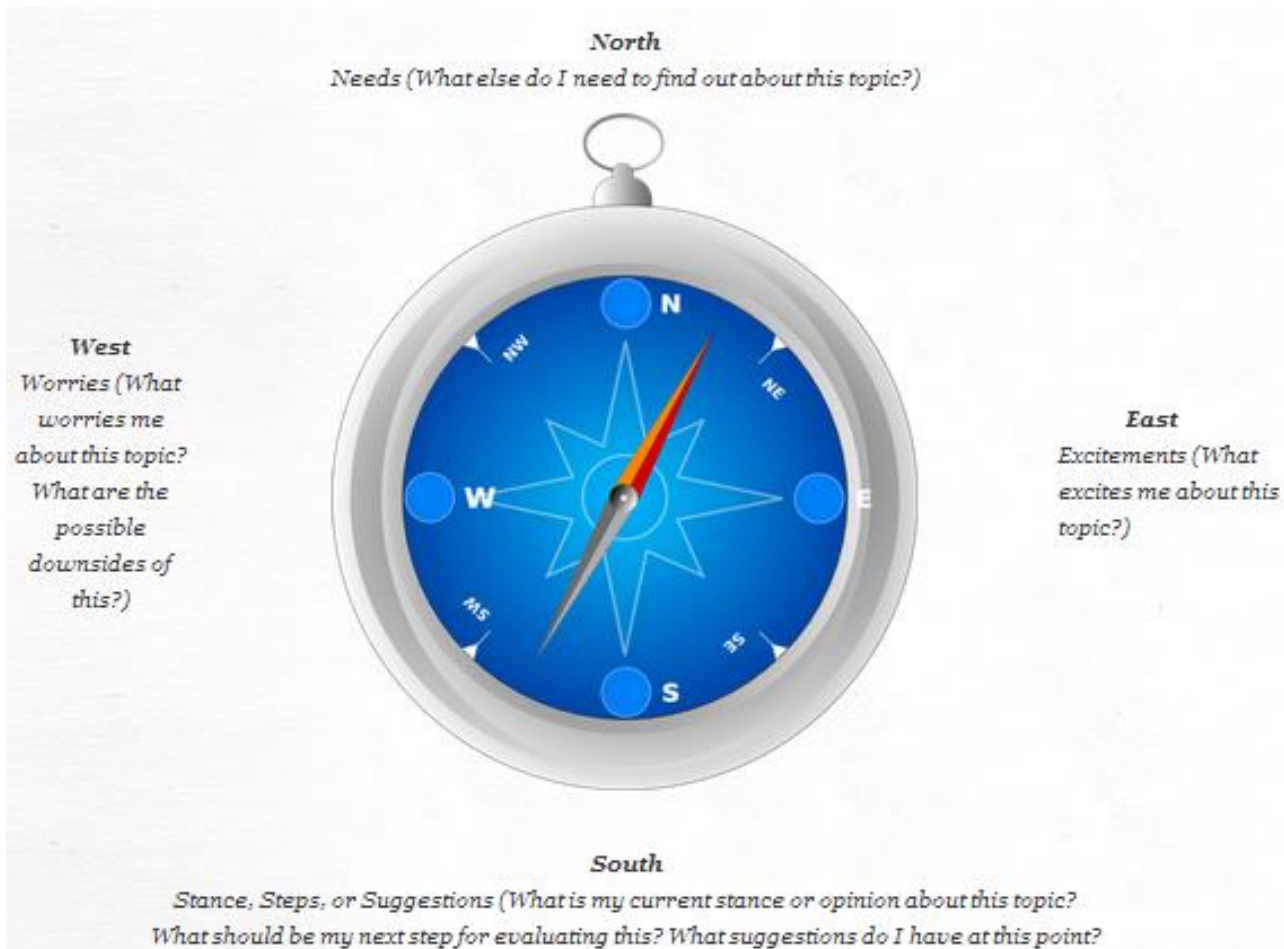
**“Email received that the water supply in the area has been contaminated.”**





# Compass Points

**Use the Compass Points technique to Explore the topic:  
“Convince an undecided voter to participate in the upcoming Presidential Election.”**





# Tug-of-War

**Use the Tug-of-War technique to Evaluate possible responses for:  
“Email received the water supply in the area has been contaminated.”**



*Identify and weigh the different thoughts, ideas, or information regarding to a dilemma*



[illegible]



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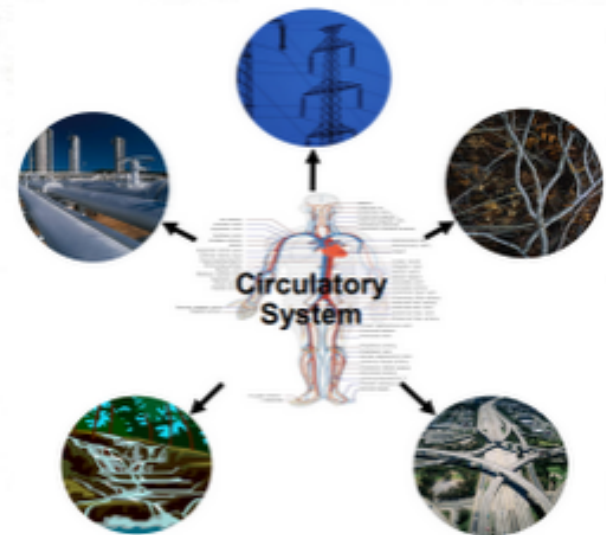


# SEE-I



**Use the SEE-I technique to Express ones thoughts more effectively:  
“Notice received that the water supply in the area has been contaminated.”**

	Comment
<b>S</b>	State. Say or write about the thing (topic, idea, fact, concept, etc.) succinctly
<b>E</b>	Elaborate. Paraphrase, providing additional details, using a phrase such as "In other words ... "
<b>E</b>	Exemplify. Provide a specific instance or representative member of a larger class of things. Counter examples of the concept may be provided as well.
<b>I</b>	Illustrate. Draw, act, depict, sketch, provide a word-picture, simile (compare often using "like" or "as"), metaphor, analogy



*Tabular representation of the State, Elaborate, Exemplify-Illustrate (SEE-I) technique*

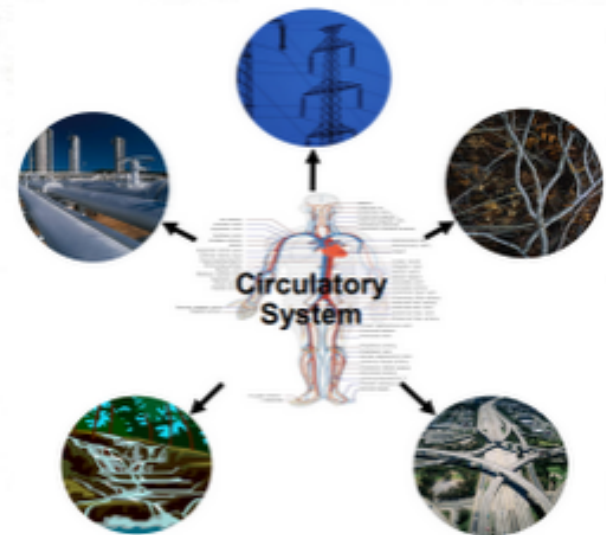


# SEE-I



Use the SEE-I technique to Express ones thoughts more effectively:  
“Convince an undecided voter to participate in the upcoming Presidential Election.”

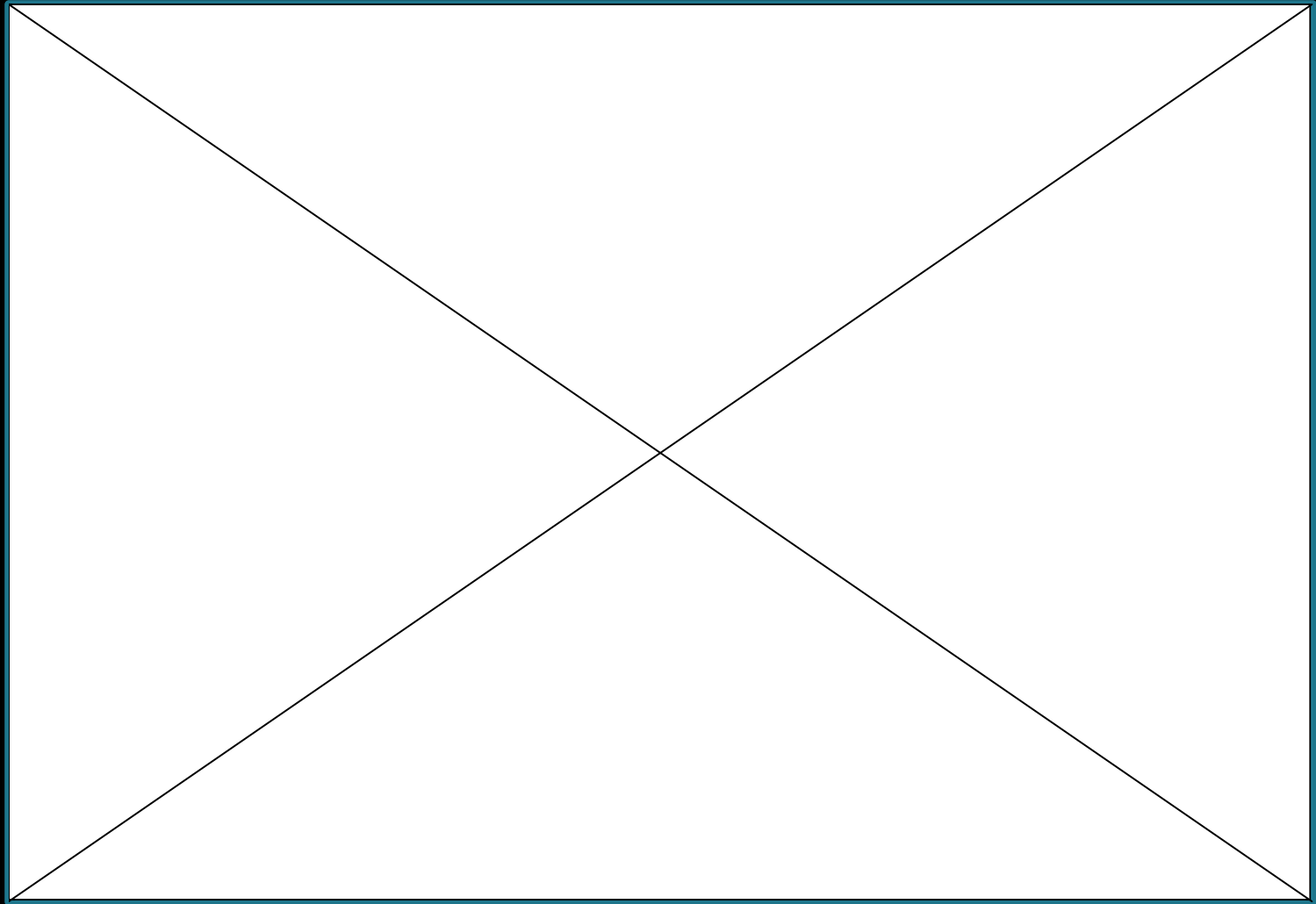
	Comment
<b>S</b>	State. Say or write about the thing (topic, idea, fact, concept, etc.) succinctly
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*Tabular representation of the State, Elaborate, Exemplify-Illustrate (SEE-I) technique*



# The “Five Minute University”



Source: messi19azzurtina's YouTube video, <http://www.youtube.com/watch?v=kO8x8eoU3L4>



# Contact for Additional Information

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