

Interweaving 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/qepcate/>

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Scenario

- Group activity
(2-4 participants, approx. 10 minutes)
- Think critically about the following scenario:


**Notice that water supply in the area has
been contaminated.**

Source: <http://people.eku.edu/chandrav/QEP/CriticalThinkingScenario-init.pdf>

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Scenario -- Revisited Seeking Better Ways of Doing Things

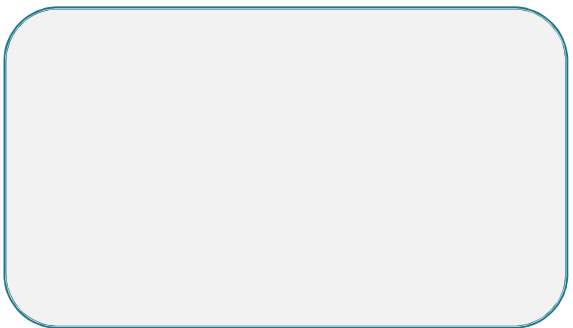
Group Activity (2-4 participants; approx. 10 minutes)



Source: <http://people.eku.edu/chandrav/QEP/CriticalThinkingScenario-structured.pdf>

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Scenario -- Revisited Seeking Better Ways of Doing Things



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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

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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.

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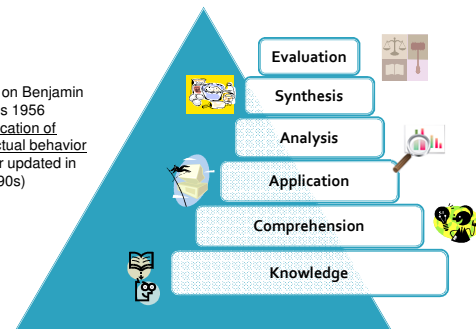
Explore, Evaluate, Expand, Express while Thinking Critically/Creatively

- **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

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Critical Thinking in the Thinking Skills Pyramid

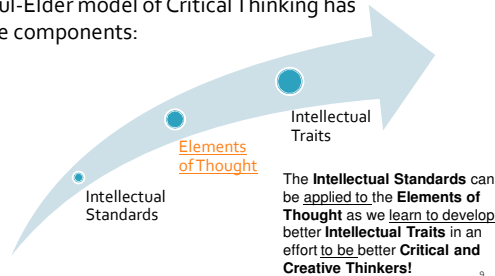
Based on Benjamin Bloom's 1956 classification of intellectual behavior (further updated in the 1990s)



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Model of Critical Thinking Emphasized at ECU

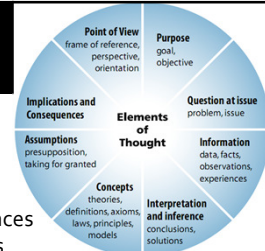
- Higher-order thinking used in all disciplines of study
- Paul-Elder model of Critical Thinking has Three components:



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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

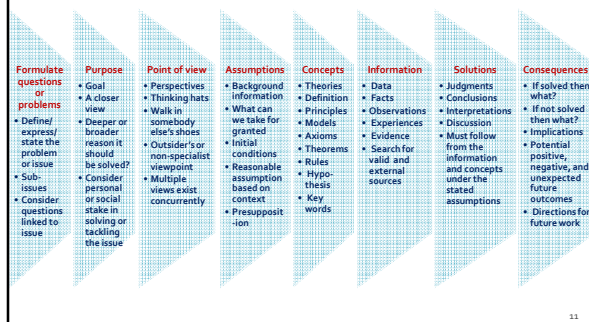


Source: The Miniature Guide to Critical Thinking: Concepts and Tools, by Drs. R. Paul and L. Elder

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

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Elements of Thought & Problem Solving



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

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

Critical Thinking & Standards



Source: DigitalSplashMedia's YouTube Video: <http://youtu.be/85-17N9d4>

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Intellectual Traits

Consequences ...

Positive Traits

Fair Mindedness
Intellectual Empathy
Intellectual Perseverance
Confidence in Reason
Intellectual Independence
Intellectual Courage
Intellectual Humility
Intellectual Integrity

Negative Traits

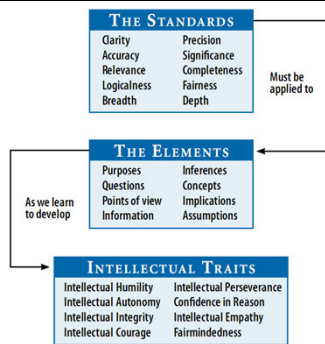
Self-Interest
Intellectual Laziness
Intellectual Passivity
Intellectual Arrogance
Intellectual Egocentrism
Intellectual Dogmatism
Intellectual Prejudice
Intellectual Bias

As the branch is bent, the tree will grow?



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Putting it all together ...



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

Whew, that's a lot to taken in ... Time for a Café break @ qepCafe

<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

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qepCafe's Sample Critical Thinking Techniques and Activities

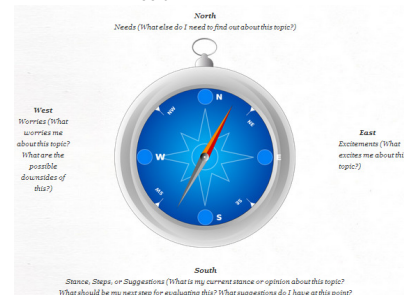
EXPLORE and use relevant information in order to gain knowledge and solve problems.
EVALUATE information and ideas using appropriate methods.
EXPAND and generate our own ideas and express them effectively.
EXPRESS a point of view and develop it with awareness of alternatives.

- 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>

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Compass Points

Use the Compass Points technique to Explore topic further:
"Notice that water supply in the area has been contaminated."



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Tug-of-War

Use the Tug-of-War technique to Evaluate possible responses for:
"Notice that water supply in the area has been contaminated."



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

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Reverse Brainstorming

Use the Compass Points technique to Expand list of responses for:
"Notice that water supply in the area has been contaminated."



Generating ideas for doing the opposite of what is needed ("break" instead of "fix", "raise costs" instead of "decrease costs")

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SEE-I

Use the Compass Points technique to Express some aspect of:
"Notice that water supply in the area has been contaminated."

	Comment
S	State. Say or write about the thing (topic, idea, fact, concept, etc.) succinctly.
E	Elaborate. Paraphrase, providing additional details, using a phrase such as "In other words..."
E	Exemplify. Provide a specific instance or representative member of a larger class of things. Counter examples of the concept may be provided as well.
I	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

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The "Five Minute University"



Source: media18azurina's YouTube video. <http://www.youtube.com/watch?v=4C8d6edL844>

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