## Connections between FMU’s Critical Thinking Components, Paul-Elder Model and Bloom’s Taxonomy

<table>
<thead>
<tr>
<th>FMU’s Critical Thinking Component</th>
<th>Paul-Elder Model of Critical Thinking</th>
<th>Bloom’s Taxonomy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conceptualizing</td>
<td>Concepts or Key Ideas</td>
<td>Knowledge</td>
</tr>
<tr>
<td>Analyzing</td>
<td>Point of View</td>
<td>Analysis</td>
</tr>
<tr>
<td>Synthesizing</td>
<td>Inferences or Conclusions, and Questions</td>
<td>Synthesis</td>
</tr>
<tr>
<td>Evaluating</td>
<td>Implications and Consequences</td>
<td>Evaluation</td>
</tr>
<tr>
<td>Applying</td>
<td>Purpose, and Assumptions</td>
<td>Application</td>
</tr>
<tr>
<td>Communication</td>
<td>Information</td>
<td>Comprehension</td>
</tr>
</tbody>
</table>
The Elements of Thought

Elements of Thought

Point of View
frame of reference, perspective, orientation, world view

Purpose
goal, objective, function

Implications and Consequences
that which follows logically, effects

Question at Issue
problem, issue

Assumptions
presuppositions, axioms, taking for granted

Information
data, facts, evidence, observations, experiences, reasons

Concepts
theories, definitions, laws, principles, models

Interpretation and Inference
conclusions, solutions

Used With Sensitivity to Universal Intellectual Standards

Clarity → Accuracy → Depth → Breadth → Significance

Precision

Relevance

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We Take Our Thinking Apart to Find Problems in Our Thinking – and Solve Them

Here are the parts:

- Points of View we need to consider
- Purpose of our thinking
- Implications and Consequences of our thinking
- Questions we are trying to answer
- Assumptions we are taking for granted
- Information needed to answer the question
- Concepts or key ideas we are using in our thinking
- Inferences or conclusions we are coming to
To Analyze Thinking We Must Learn to Identify and Question its Elemental Structures

Universal Structures of Thought

1. Whenever we think we think for a purpose
   - Based on concepts and theories
   - Within a point of view

2. We use data, facts, and experiences
   - Leading to implications and consequences

3. We make inferences and judgements
   - Based on assumptions

4. What assumptions am I using in my reasoning?

5. What information do I need to answer my question?

6. What are my most fundamental inferences or conclusions?

7. What is the key question I am trying to answer?

8. What is the most basic concept in the question?
Critical Thinkers Routinely Apply Intellectual Standards To The Elements Of Reasoning In Order To Develop Intellectual Traits

**The Standards**

- Clarity
- Accuracy
- Relevance
- Logicalness
- Breadth
- Precision
- Significance
- Completeness
- Fairness
- Depth

**The Elements**

- Purposes
- Questions
- Points of view
- Information
- Inferences
- Concepts
- Implications
- Assumptions

**Intellectual Traits**

- Intellectual Humility
- Intellectual Autonomy
- Intellectual Integrity
- Intellectual Courage
- Intellectual Perseverance
- Confidence in Reason
- Intellectual Empathy
- Fairmindedness

As we learn to develop

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Intellectual Standards Are Used to Assess Critical Thinking

<table>
<thead>
<tr>
<th>Intellectual Standards</th>
<th>Questions</th>
</tr>
</thead>
</table>
| 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? |