Paul-Elder Critical thinking Model

Dr. Richard Paul was Director of Research and Professional Development at the Center for Critical Thinking, and was Chair of the National Council for Excellence in Critical Thinking.

Dr. Linda Elder is an educational psychologist and a prominent authority on critical thinking. She is President of the Foundation for Critical Thinking and Executive Director of the Center for Critical Thinking. Dr. Elder has taught psychology and critical thinking at the college level and has given presentations to more than 50,000 educators at all levels.

Useful model because "Paul-Elder framework's comprehensiveness, discipline neutral terminology and extensive high quality resources" (p.119) (Ralston, P., & Bays, C., (2013). Enhancing critical thinking across the undergraduate experience: An exemplar from Engineering. *American Journal of Engineering Education, 4* (2): 119-126.

University of Louisville selected the Paul-Elder framework "to implement, assess, and provide a common vocabulary for the QEP. Selecting a standard document such as the Paul-Elder Framework serves to streamline the quality enhancement process, since its implementation must be demonstrable and measurable as outlined by SACS" (p. 296).

McClellan, S. (2016). Teaching critical thinking skills through commonly used resources in course-embedded online modules. *College & Undergraduate Libraries, 23* (3): 295-314.

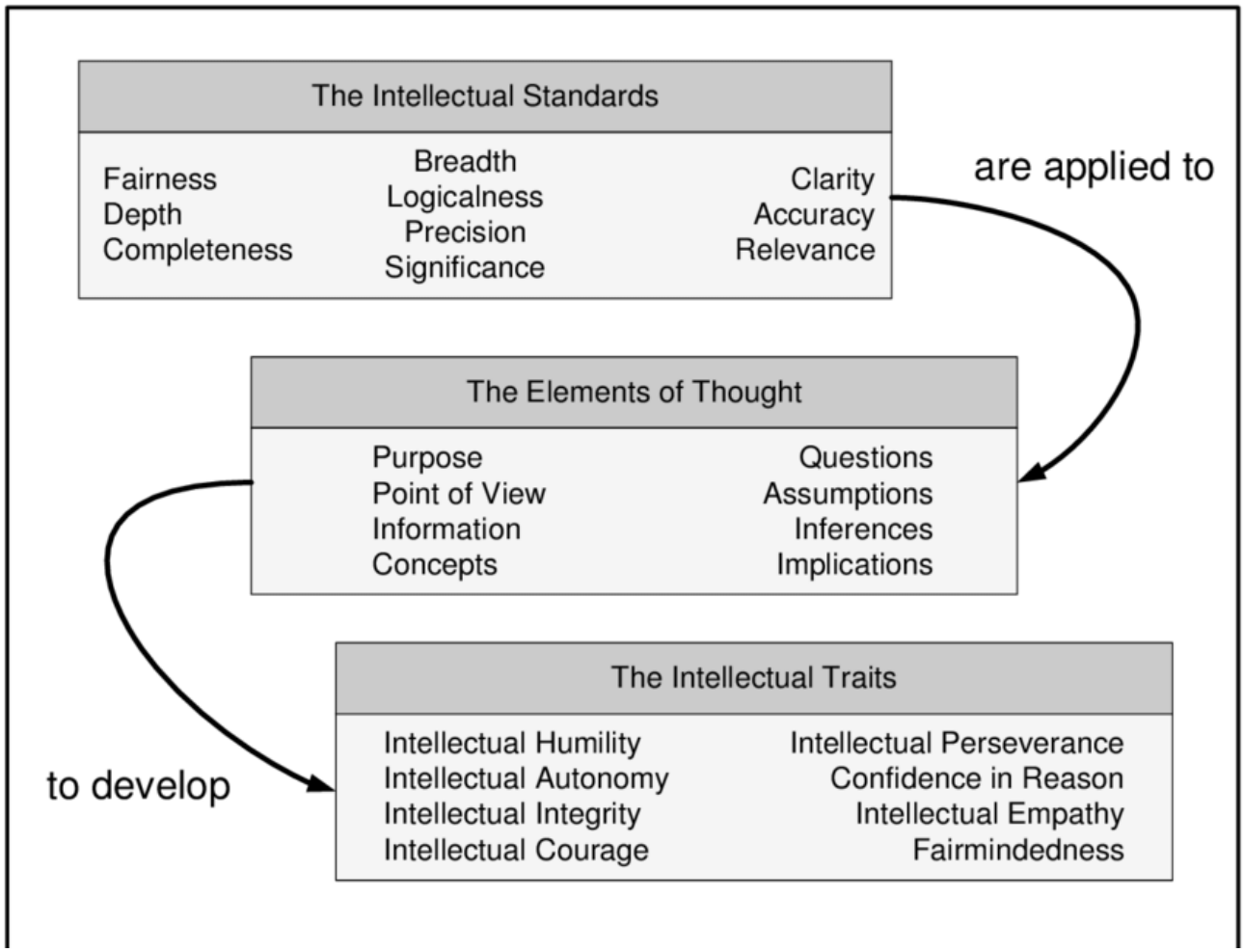

Image from https://www.researchgate.net/figure/The-Paul-Elder-model-of-critical-thinking-adapted-from-4_fig4_232956580

Intellectual Standards – aim is for these standards to be infused in students to guide reasoning (judging, feedback, coaching, practice rounds)

Clarity forces the thinking to be explained well so that it is easy to understand. When thinking is easy to follow, it has Clarity.

Accuracy makes sure that all information is correct and free from error. If the thinking is reliable, then it has Accuracy.

Precision goes one step further than Accuracy. It demands that the words and data used are exact. If no more details could be added, then it has Precision.

Relevance means that everything included is important, that each part makes a difference. If something is focused on what needs to be said, there is Relevance.

Depth makes the argument thorough. It forces us to explore the complexities. If an argument includes all the nuances necessary to make the point, it has Depth.

Breadth demands that additional viewpoints are taken into account. Are all perspectives considered? When all sides of an argument are discussed, then we find Breadth.

Logical means that an argument is reasonable, the thinking is consistent and the conclusions follow from the evidence. When something makes sense step-by-step, then it is Logical.

Significance compels us to include the most important ideas. We don't want to leave out crucial facts that would help to make a point. When everything that is essential is included, then we find Significance.

Fairness means that the argument is balanced and free from bias. It pushes us to be impartial and evenhanded toward other positions. When an argument is objective, there is Fairness.

(intellectual standards explained at https://theelementsofthought.org/the-intellectual-standards/)

The Elements of Thought (what intellectual standards are applied to)
(https://theelementsofthought.org/the-elements-of-thought-one-by-one/)

Point of View: who we are, what we value (frames, perspectives, orientations) (K, CP)

Purpose: Why in the world am I thinking about this? (winning or improvement as goal-oriented – practice, judge feedback, et)

Question at Issue that we're trying to answer. (debating a topic, switch-side debating, cross examination, CP, K, Disads/Advantages, stock issues, topic paper writing)

Information (data) to make a decision - preseason research, refutation.

Interpretation and Inferences - argument construction, rebuttals

Concepts (common language to understand a problem) disad/advantage structure, stock issues

Assumptions – K debate, topicality, CP

Implications and Consequences – advantages/disadvantages, rebuttals, refutation)

The Intellectual Traits (Product of applied standards to reasoning/thought):

- Intellectual Humility – Students acknowledge biases and the limits of their knowledge.
- Intellectual Courage – Dare to question and challenge popular or long-held beliefs in the face of new information or evidence.
- Intellectual Empathy – Consider others' perspectives in order to accurately reconstruct their viewpoints.
- Intellectual Autonomy – independently think through questions and problems.
- Intellectual Integrity - students hold themselves to same rigorous standards of thinking and behavior by which they hold others.
- Intellectual Perseverance – struggle with confusion, frustration, and uncertainty to gain understanding.
- Confidence in Reasoning – Rely on critical thinking process and trust its results.
- Fair-mindedness - – Strive to treat every viewpoint in an unbiased way without reference to students' own vested interests.