

Improving Critical Thinking in the Classroom

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SENR

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THE OHIO STATE UNIVERSITY

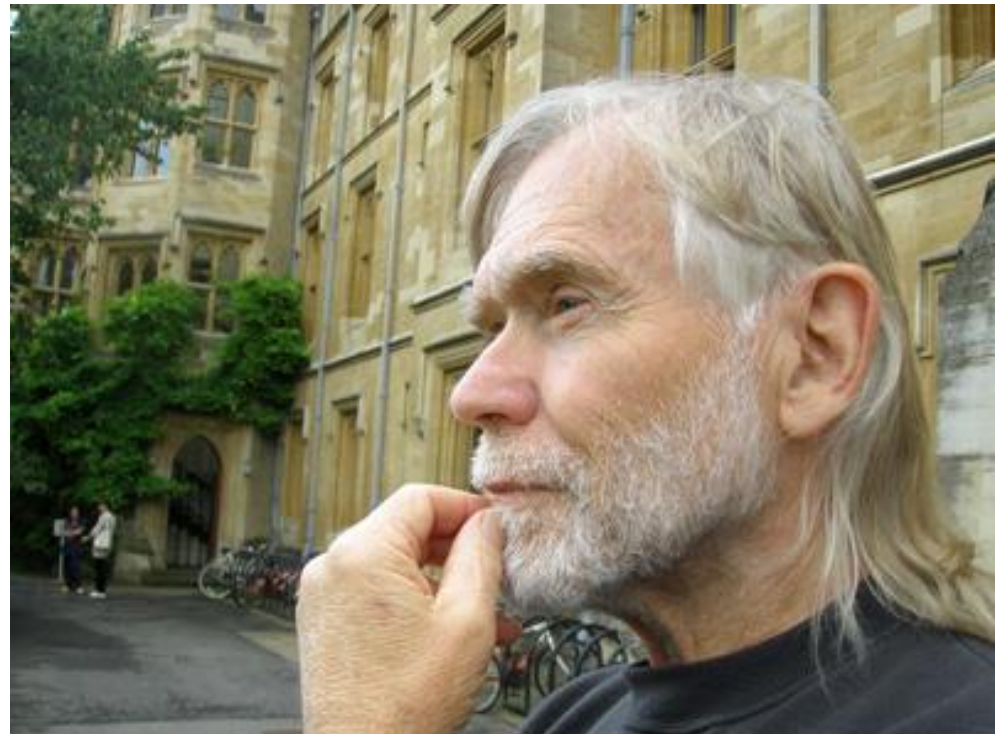
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Background

- ❑ 2019 Teaching, Learning and Advisement Enhancement Grant to attend the 39th Annual Conference on Critical Thinking.
- ❑ A requirement for the grant was for me to “spread the knowledge”.

Dr Richard Paul

- Philosopher
- Authored 8 books and over 200 articles.
- Director of Research and Professional Development at the Center for Critical Thinking.
- Chair of the National Council for Excellence in Critical Thinking.



Outline



The goal: my focus is going to be less on theory and more on practical application.



Critical thinking: definition, standards and elements.



We will apply these standards and elements to teach our students how to think critically and how to write better papers.

A general disclaimer

- ❑ I am reporting on ideas and concepts that were discussed at a conference.
- ❑ Not surprisingly, I draw heavily from writings and speeches by Drs. Paul, Elder, and Nosich.

What is
critical
thinking?

The Foundation for
Critical Thinking defines
the term as:

Critical thinking is the
art of analyzing and
evaluating thinking with
a view to improving it.

Why critical thinking?

We are humans. Left to itself, our thinking is biased, distorted, partial, uninformed, or downright prejudiced.

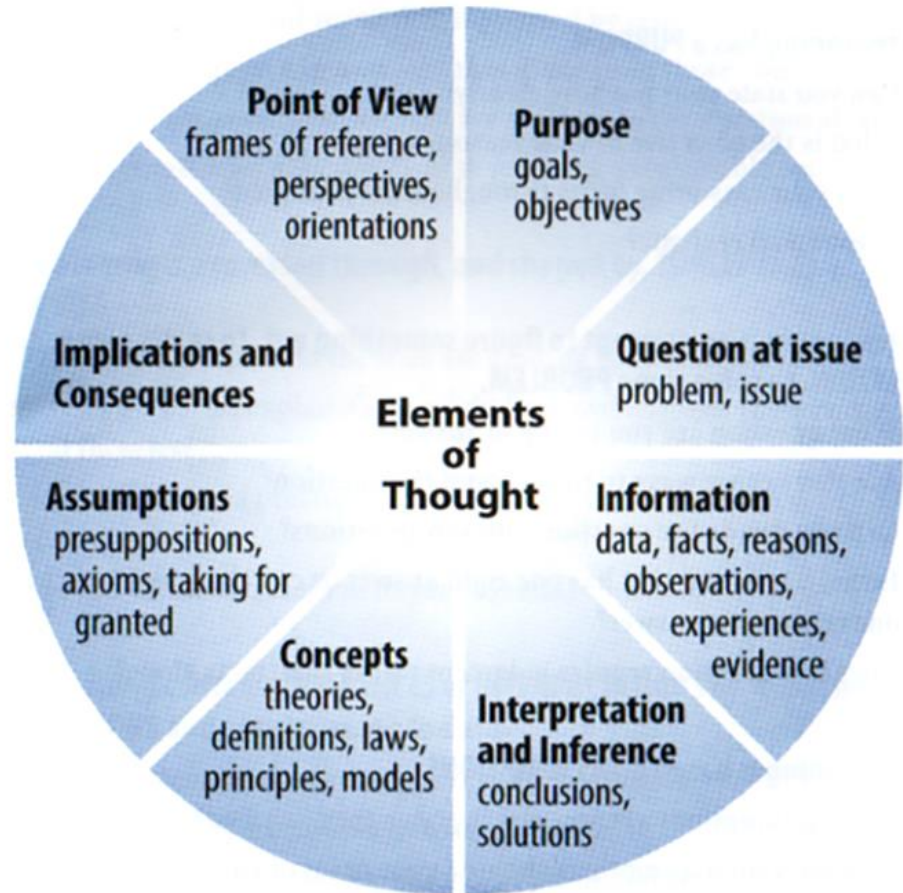
But a lot of what we do everyday, whether personal or professional, depends on the quality of our thought.

Lower order thinking, therefore, is expensive in terms of money, time, resources, and quality of life.

Critical thinking, however, is not automatic, it must be cultivated.

The elements of thought

The Elements of Thought



The elements of thought

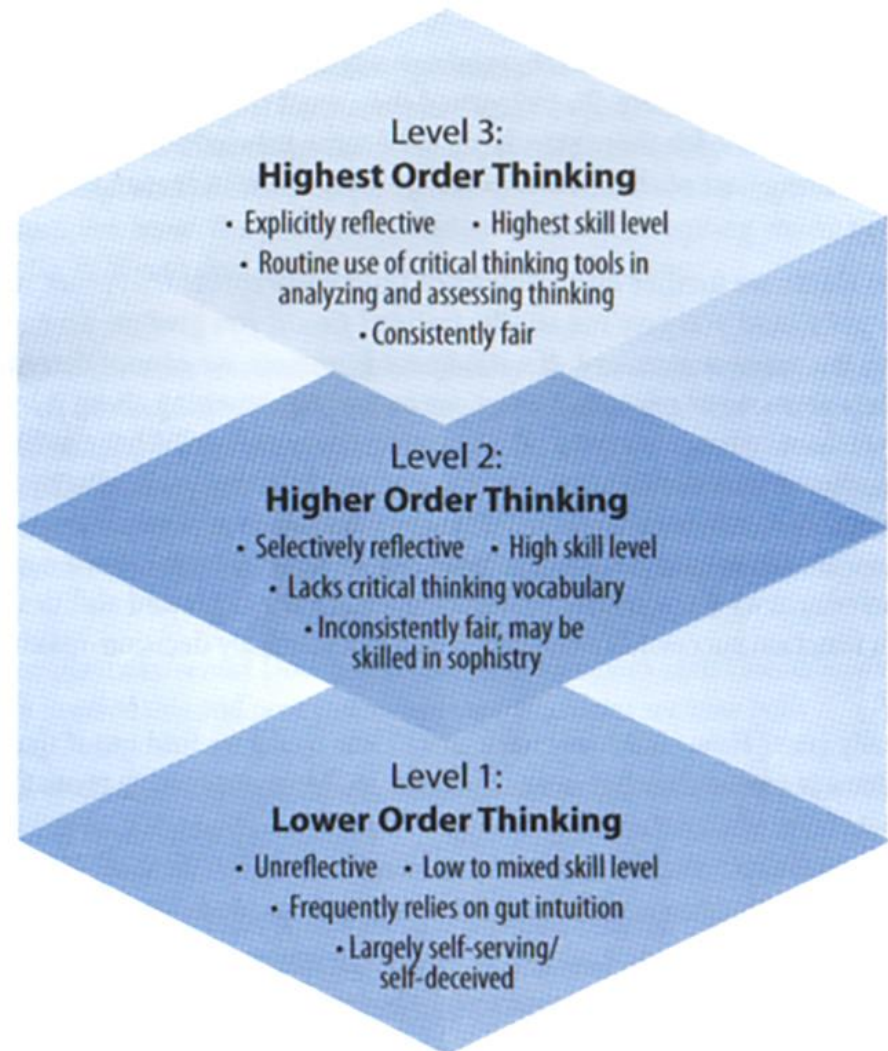
We can use these elements to analyze pretty much anything—a discipline, major concepts in a discipline, a topic of discussion in a course, even issues in our personal lives.

As we continue to use these elements, they become second nature to our thinking, and we continue to move toward higher order thinking.

let's examine this through some exercise.

Three levels of thought

Three Levels of Thought



Intellectual standards: Clarity

Understandable, the meaning can be grasped; to be free from confusion or ambiguity, to remove obscurities.

Clarity is the 'gateway' standard. If a statement is unclear, we cannot determine whether it is accurate or relevant. We cannot tell anything because we simply do not know what the statement is really saying.

"What can be done about the education system in America?" vs "What can educators do to ensure that students learn the skills and abilities to function successfully on the job and in their daily lives?"

Clarity questions

Questions that focus on clarity include:

Could you elaborate on that point?

Could you express that point in another way?

Could you give me an illustration?

Could you give me an example?

I hear you saying “_____”. Am I hearing you correctly, or have I misunderstood you?

Intellectual standards: Accuracy

**Free from errors,
mistakes, or
distortions; true,
correct.**

**A statement can be clear, but
not accurate.**

**“Most Americans are over 75
years old.”**

Accuracy questions

Questions that focus on accuracy in thinking include:

How could we check to see if it is true?

How could we verify these alleged facts?

Can we trust the accuracy of these data, given the source from which they come?

Intellectual standards: Precision

Exact to the necessary level of detail, specific.

A statement can be both clear and accurate, but not precise.

“Jack is overweight”.

Precision questions



Questions that focus on precision in thinking include:



Could you give me more details about that?



Could you be more specific?



Could you specify your allegations more fully?

Intellectual standards: Relevance

Bearing upon or relating to the matter at hand; implies a close logical relationship with, and importance to, the matter under consideration.

A statement can be clear, accurate, and precise, but not relevant to the question at issue.

"I put a week's worth of effort on this paper but still received a 'C'."

Did his efforts help him learn enough so he could write at a level that deserved a higher grade? If not, then his effort is irrelevant to the grade.

Relevance questions

Questions that focus on relevance in thinking include:

I don't see how what you said bears on the question. Could you show me how it is relevant?

How does this fact bear upon the issue?

How does your question relate to the issue we are dealing with?

Intellectual standards: Depth

Containing complexities and multiple interrelationships, implies thoroughness in thinking through the many variables in the situation, context, idea, question.

A statement can be clear, accurate, precise, and relevant, but lack depth, i.e. superficial.

The statement “Just say no” has been used to discourage children and teens from using drugs. However, the statement fails to recognize the true complexities of the problem.

Depth questions



Questions that focus on depth in thinking include:



Is this question complex or simple?



What makes this a complex question?



How are we dealing with these complexities?

Intellectual standards: Breadth

Encompassing multiple viewpoints, comprehensive in view, wide-ranging and broadminded in perspective.

A line of reasoning may be clear, accurate, precise, relevant, and deep, but lack the breadth of viewpoints on the issue at hand.

A rousing political speech may very well satisfy all the standards mentioned above, but it is highly likely that the speech will only include one viewpoint.

Breadth questions

Questions that focus on breadth in thinking include:

What points of view are relevant to this issue?

What relevant points of view have I ignored?

I have considered a liberal position on the issue. What would conservatives say?

Intellectual standards: Logic

The parts make sense together, no contradictions; in keeping with the principles of sound judgement and reasonability.

In the process of thinking, we bring a variety of thoughts together into some order. When the combination of thoughts is mutually supporting, the thinking is logical.

Logic questions

Questions that focus on logic include:

Does this really make sense?

Does that follow from what you said?

Before you implied this and now you are saying that, I don't see how both can be true. What exactly is your position?

Intellectual standards: Significance

Having importance, being of consequence; having considerable or substantial meaning.

When we reason through an issue, we want to concentrate on the most important information and take into account the most important ideas or concepts.

Too often we fail to recognize that, though many questions may be relevant to the issue, they may not be equally important.

Significance questions

Questions that focus on significance include:

What is the most significant information we need to address this issue?

Which of these questions is the most significant?

Which of these ideas or concepts is the most important?

Intellectual standards: Fairness

Free from bias,
dishonesty, favoritism,
selfish-interest,
deception or injustice.

We naturally think from our own
perspective, from a point of view
which tends to privilege our
position

Fairness implies the treating of all
relevant viewpoints alike, without
reference to one's own feelings or
interests.

Fairness questions

Questions that focus on fairness include:

Do I have a vested interest in this issue that causes me to distort other relevant viewpoints?

Am I sympathetically representing the viewpoints of others?

Are these laws justifiable and ethical, or do they violate someone's rights?

Intellectual standards

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

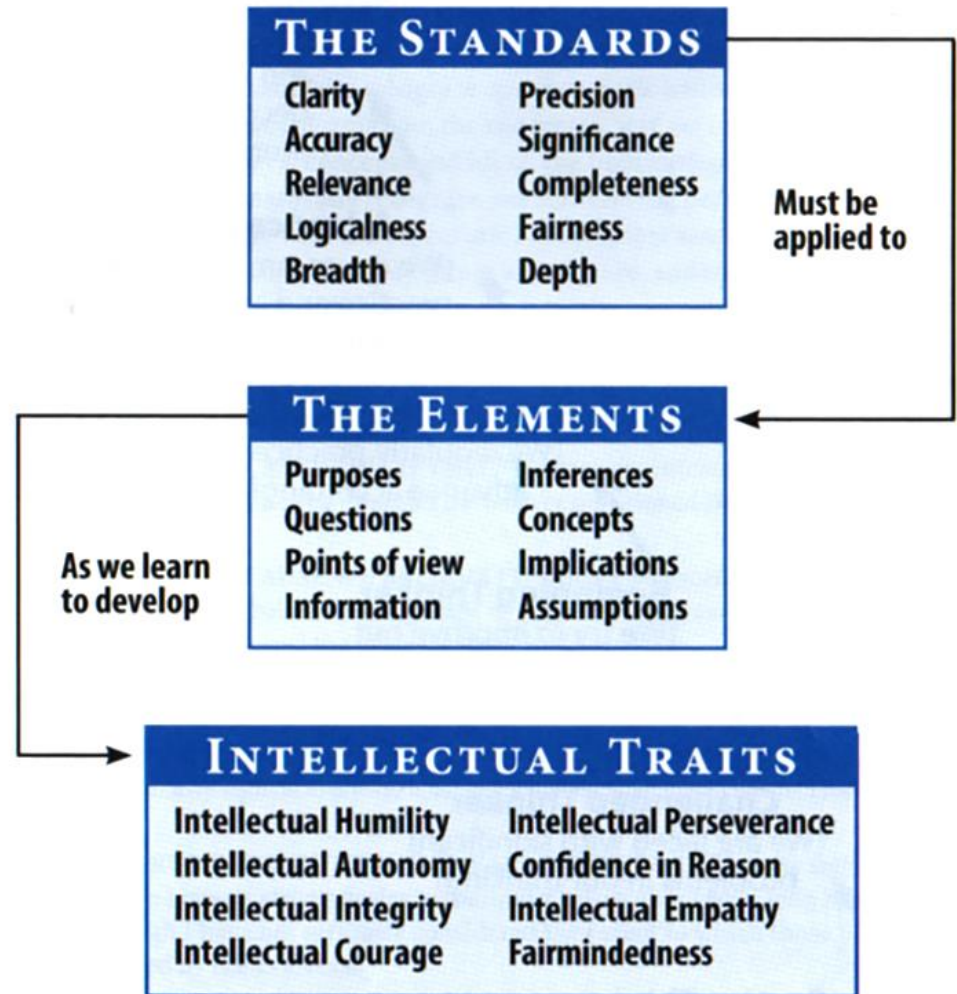
Is this the most important problem to consider?
Is this the central idea to focus on?
Which of these facts are most important?


Fairness

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

Application of intellectual standards

Critical thinkers routinely apply intellectual standards to the elements of reasoning in order to develop intellectual traits.





Application: How to teach students to write better papers

❑ Different parts of writing a paper:

- Topic
 - Thesis statement
 - Main and supporting points
 - Structure/outline
-
- Introduction
 - Body
 - Conclusion

Framework for critical writing

Reasoned analysis of the topic

Structure

- Main points of the paper
 - - Outline
 - - Thesis statement

Other views

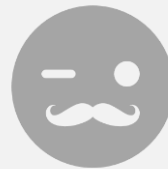
Write

- * The body
- * The introduction
- * The concluding section

Two useful techniques



Analyzing around
the circle of
elements



SEE-I

SEE-I

☐ S: State

☐ E: Elaborate

In other words....

☐ E: Exemplify

For example....

☐ I: Illustrate

It's like.....

Two useful techniques

Analyzing around the circle of elements

- Your plan:
 - thesis/structure/outline

SEE-I

- Translating your “plan” into paragraphs

Making the paper better

- ☐ Once you go through the initial SEE-I, revise
- ☐ Look in your elaboration for important aspects or ideas that would benefit from further clarification
- ☐ Use the circle of elements and SEE-I to clarify and elaborate on these ideas
- ☐ Revise
- ☐ Before you know it, much of the paper is already done!



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