Critical Thinking



an explainer from the oregon education project

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Learn to Think Critically About the World

How Do We Learn To Think **Critically**?

Critical Thinking is objective **analysis**, **evaluation**, and **synthesis** designed to form good judgment.[1] It's about discovering what is *demonstrably true* about the world — what's *observed*, not simply imagined.[2] It requires adopting a *skeptical* mindset: questioning not only the assumptions of others, but *especially* our own.[3]

It's a key capacity of our *evolved* MINDS.[4] As psychologist Steven Pinker writes,

"**We are a cognitive species** that depends on *explanations* of the world ... Since the world is the way it is regardless of what people believe about it, there is a strong *selection pressure* for an ability to develop *explanations that are true*... **We gain knowledge using reason, evidence, and arguments.**"[5]

This can be seen in the oldest known human society: the San of the Kalahari Desert.

"They reason their way from fragmentary data to remote conclusions with intuitive grasp of logic, critical thinking, statistical reasoning, causal inference, and game theory ... The San also engage in critical thinking. They know not to trust their first impressions, and appreciate the dangers of seeing what they want to see. Nor will they accept arguments from authority: anyone, including a young upstart, may shoot down a conjecture or come up with his own until a consensus emerges from the disputation."[6]

Scaled up, that is the heart of the Scientific Revolution and the Enlightenment, which gave birth to the United States as the first nation founded as a *republic of reasons*.[7] Thomas Jefferson saw critical thinking as the catalyst for republican self-government:

"In a republican nation, whose citizens are to be led by **reason** and **persuasion** and not by force, *the art of reasoning* becomes of first importance."

But we are also a tribal species. There is a competing *selection pressure* to assume non-FACTS that support surviving with others in our social environment — our tribe. We're prone to Myside Bias[8] and need to work mindfully toward being **objective**: assuming "the view from nowhere" by consciously setting aside prior beliefs and engaging in a process of *discovery* driven by intellectual curiosity and humility.[9]

Critical Thinking begins with **analysis**: a comprehensive, detailed examination of the elements or structure of what we're studying. It's a process of FINDING.

The next phase is **evaluation**: the systematic process of judging the merit, quality, or worth of what we've found. It's a process of SORTING.

Finally it involves **synthesis**: integrating different sets of FACTS and arguments into a *unified understanding* of what is demonstrably true: CONSILIENCE.[10]

Critical Thinking does not consider moral values, other than to note their presence among the findings. Only once the process of consilience has been acheived can we move from description to *prescription*: making reason-based arguments to form good judgment. That's where moral values come to play, and are often decisive.[11]

People often fail to make a sharp separation between FACTS and moral values. They assume an ethical imperative to believe what would be nice if it were true. This is a type of *motivated reasoning*: processing information in a *confirmatory* manner that suits a goal other than understanding what is demonstrably true.

People also tend to rely on *ideas* that have not been substantiated with FACTS. We see this in our politics especially, when *ideology* is offered without evidence.

[1] **re**:**enlight**: A Course for Students, Parents, and Educators by Rob Schläpfer; see **reenlight**.com.

The word "critical" comes from the greek word *krinein*: to seperate [what is true from what is false].

[2] [Scientific] **Empiricists** see the mind as a tool for discovery in a world that is observed. [Philosophical] **Idealists** see the mind as a gateway to transcendence in a world that is imagined.

[3] "The first principle is that you must not fool yourself – and *you* are the easiest person to fool."

Richard Feynman
Principles of Scientific Thinking.

[4] MINDS evolved by natural selection to behave *adaptively* in the *real* world. Universal human nature exists because our minds have certain evolved adaptive mechanisms to help us survive and flourish. Our ability to *reason* is one of them.

Biblical Christians see this as a product of God's design, marred by the ["noetic"] effects of sin.

See OEP Broadsides **Stone Age Minds** and **Feeling Machines**.

[5] **Enlightenment Now**: The Case for Reason, Science, Humanism, and Progress by Steven Pinker.

See also **The Hominid Entry into the Cognitive Niche** by H. Clark Barrett, Leda Cosmides, and John Tooby.

[6] **Rationality**: What It Is, Why It Seems Scarce, Why It Matters by Steven Pinker.

[7] **#Republic** by Cass Sunstein.

[8] We evaluate, generate evidence, and test hypotheses in a manner biased toward our own prior beliefs, opinions, and attitudes.

See OEP Explainer **Myside Bias**.

[9] See OEP Explainer **How Do You Know?**

[10] See OEP Broadside **Concilience & Cooperation**.

[11] Descriptive claims merely describe the state of the world. Prescriptive claims suggest what might or should be done — based on moral values or other principles.

There are no pure solutions. Trade-offs are always essential.

The Difference Between Critical **Thinking** and Critical **Theorizing**

Critical **Thinking** is objective analysis, evaluation, and synthesis designed to form good judgment. The operative goal is understanding what is *demonstrably true*. This often gets confused today with Critical **Theorizing**:[12]

"**Theorizing** about the world with the goal of liberating human beings from the circumstances that enslave them."[13]

This is the method of **critical theory**: an interpretive "lens" through which we *imagine* the world as a conflict between **oppressor** and **oppressed**. It's a "lens of grievance" for those *victimized by systems of power*, used as an analytical framework to explain or examine facts or events.[14] Critical **Theorizing** frames the Oregon Department of Education's recent Social Science Curriculum Standards — not Critical **Thinking**.[15]

Comparing a Grade 3 Social Science student goal from 2018 with the 2021 revision (where critical theorizing was first introduced) demonstrates the key difference:

3.18 Identify and compare different ways of looking at an event, issue, or problem with an emphasis on multiple perspectives.[16] [Critical **Thinking**]

3.18 Identify how *systems of power*, including white supremacy, institutional racism, racial hierarchy, and oppression affect the perspectives of different individuals and groups when examining an event, issue, or problem with an emphasis on multiple perspectives.[17] [Critical **Theorizing**]

Critical **Theorizing** has been substituted for Critical **Thinking**. Students are to ***assume*** *a set of ideas about systems of power* — which "begs the question": it asserts something is true that has not first been *proved* by means of critique. This then *anchors*[18] discussion of multiple perspectives.[19] Students can't possibly think *critically* when an imagined framework is *assumed*. That's **indoctrination**.[20]

Critical **Theorizing** is another example of *motivated reasoning*: if you go looking for something specific you're highly motivated to find it — if only in your imagination. Critical **Thinking** is exploratory, not confirmatory: an even-handed consideration of *many differing ideas*. Critical **Theorizing** is a one-sided attempt to rationalize *a single set of ideas*. One is about seeking truth, the other about being right.[21]

Critical **Thinking** demands we consciously practice active open-mindedness[22] — considering evidence that goes *against* our beliefs and entering a zone of *discovery*. That means learning to accept we might be wrong and need to *change* our minds.

FACTS hold ideas accountable. This is why Critical **Thinking** is so important in our decision-making. It keeps us tethered to *reality,* not wandering in our imaginations. It's the method of science that has bettered life everywhere: we understand the world by formulating possible explanations and *testing* them against reality.



[12] See the Oregon Department of Educations **2024 Social Science Standards**, which are framed with Critical Theorizing. See OEP Investigation **Ethnic Studies**.

[13] **Eclipse of Reason** by Max Horkheimer.

[14] See OEP Investigations **Critical Theory** and **Victim Culture**.

[15] **Ethnic Studies**.

[16] 2018 Oregon K-12 Social Sciences Academic Content Standards.

[17] 2021 Social Science Standards Integrated with Ethnic Studies [emphasis added].

[18] Anchoring Bias is the human tendency to rely on the first piece of information offered when making judgements or decisions.

[19] Another student example is from Grade 4 Economics:

4.4 Examine the consequences of *power and privilege* on issues associated with poverty, income, and the accumulation of wealth.

There are *many* factors that might bear on these issues, not simply *power and privilege* — assuming they are demonstrable factors at all.

[20] Indoctrination is the process of teaching a person to accept a set of ideas or beliefs *uncritically*.

[21] See OEP Explainer **Myside Bias**.

[22] See Jonathan Baron on this.

Explainers Learn to Think Critically About the World

Brief primers providing basic information about a particular topic, point of view, or "doctrine". They include links to online references and resources (in the digital versions).



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