Rebooting Critical Thinking

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Helen Lee Bouygues. Credit: The Reboot Foundation.

Helen Lee Bouygues is a world-renowned misinformation and critical thinking expert. In 2018, she founded the Paris-based Reboot Foundation, whose mission is to promote richer, more reflective forms of thought in schools, homes, and businesses—especially in the face of our vastly changing technology. The foundation also funds efforts to better integrate critical thinking into the daily lives of people around the world. It conducts surveys and opinion polls, leads its own research, and supports the work of independent scholars. Bouygues is also a columnist for Forbes *and is working on a book on critical thinking. Recently, she answered a few questions for* Skeptical Inquirer.

Skeptical Inquirer magazine is published by the Committee for Skeptical Inquiry (CSI), whose mission is "to promote scientific inquiry, critical investigation, and the use of reason in examining controversial and extraordinary claims." As an advocate of critical thinking, do you also consider yourself a skeptic?

Being a good critical thinker means questioning your assumptions, walking through problems logically, and then reflecting on your thinking to better understand it. I think it's important to read widely and not rely on any one source for your information. Anyone can be a better critical thinker if they question assumptions, reason through logic, and seek out diversity of thought. Most of the time, I believe it's better to ask good questions than to have all the answers. Does that make me a skeptic? Perhaps.

When did you first become aware that critical thinking is an important life skill?

Growing up in South Korea in the 1970s and 1980s, I learned how important issues around information literacy and the spread of information are. During that time, South Korea was not the stable and open democratic society it is today. Growing up, I witnessed the prevalence of government propaganda. For example, I recall making anti-communist propaganda posters during "arts and crafts" time for the military-led government. The experience was disquieting; children know intuitively that something is wrong with this kind of coerced expression. It was also completely antithetical to the liberal education I received at home from my parents and grandparents.

You came up with the acronym SHARP as a valuable component for any critical thinker's toolkit. Can you tell me a little about it?

SHARP thinking[1] is a step-by-step approach to reasoning to engage in better decision making. Part reflection, part reasoning, part creativity, SHARP thinking can empower people at school, at home, and at work.

SHARP stands for: Stop, Hone, Accumulate, Reason, and Perspectivize.

These steps can be applied to any scenario or problem—either in professional or personal life—that requires deep, reflective, and creative thinking. Using them can help improve decision-making and reasoning habits.

1. Stop. Before we can improve thinking, we have to slow it down. In order to engage in rational thought, it's necessary to first resist conclusions based on automatic responses or raw emotions.

2. Hone. Once we begin looking at our thinking from the outside, we can start refining it by asking lots of questions. What reasons do I have for thinking what I think? How do other people approach this issue? What evidence could I acquire to better back up or refine my position?

3. Accumulate. We need to "go deep" and start accumulating evidence. Effective thinking requires experience with a given subject matter, including exposure to well-researched ideas and facts.

4. Reason. Once we have accumulated and analyzed evidence, we need to draw and refine conclusions on the basis of it. This is reasoning, and it is vital to learn the basics of formal logic. These rules of reasoning determine how conclusions can be drawn legitimately from premises.

5. Perspectivize. Only by subjecting our ideas and arguments to the critiques

of others can we determine whether they succeed or fail and how they can be improved. A key part of critical thinking is, therefore, perspectivizing: opening up our thinking to outside perspectives.

As you said in a recent *Forbes* article, the Reboot Foundation doesn't advocate stand-alone critical thinking courses for students. Why? What is the best way to foster critical thinking in young students?

Reboot's Teachers' Guide to Critical Thinking[2] was developed with teachers in different subject areas and grade levels around the country. We don't advocate stand-alone critical thinking courses. We believe the best approach is to have a critical thinking focus throughout the curriculum. For example, we advocate for science labs that afford students the opportunity to design their own experiments and test their own hypothesis about how to gain knowledge—rather than simply following recipes to duplicate results already known. We advise teachers to facilitate in-class debates where students are made responsible for researching topics like the death penalty, developing a knowledge base, and using it to argue for particular positions.

Throughout the process, teachers should also give students the opportunity to reflect on their progress in articulating and refining their viewpoints, through explicit journaling projects or in-class discussions. The goal is to develop students' abilities to reflect on their own learning and begin to develop interests self-consciously and intentionally that will stay with them when they leave the classroom.

To best foster the development of natural curiosity into a genuine and abiding interest in learning and knowledge, schools need to give students room to pursue their own interests, develop their own views, and struggle with open-ended questions. Schools need, in other words, to prioritize critical thinking for teens.[3]

Recent research partially funded by the

Reboot Foundation looked at methods of "prebunking." What is prebunking, and how does it differ from a debunking approach?

We helped fund research at the University of Cambridge and médialab Sciences Po in Paris to study this idea of "prebunking."[4] "Prebunking" teaches people about various disinformation techniques so that they'll know it when they see it in their social media feeds. This research looks at scalable ways to guard against misinformation in our society. (See Nick Tiller's article in this issue, p. 40.)

The study found that teaching people about how misinformation campaigns operate can help them recognize them. Significantly, this research points to an important educational tool—one that is inexpensive, accessible, and highly scalable—in the ongoing fight against misinformation. It is a promising step in what unfortunately may be a long journey.

The Reboot Foundation recently teamed up with Indiana University to conduct research into critical thinking and education. What did you find?

Reboot funded researchers at Indiana University to explore new ways to improve critical thinking through short-targeted interventions.[5] We found that educators can develop critical thinking skills in their students by using a simple method that is easy to implement across diverse groups of students. Moreover, the implications are significant for teachers across all spectrums of education.

Our results showed a way of exploring critical thinking skills that does not involve overly complicated or lengthy ways of teaching them. Instead, the research found that small amounts of critical thinking practice, employing things as basic as analogies and multiple-choice quizzes, allow the fast and efficient teaching of critical thinking skills. And they're techniques that any teacher can use.

"Small amounts of critical thinking practice … allow the fast and efficient teaching of critical thinking skills."

In your opinion, what is the number one factor in the spread of misinformation, and what is the number one thing we all can do to prevent it?

The internet and social media enable the proliferation of misinformation and create rabbit holes. For example, early in the recent pandemic, Reboot conducted a study looking at the impact of social media on COVID-19 misinformation.[6] Our study found that the more people used social media, the more likely they were to believe COVID-19 myths.

We need to prioritize critical thinking in our education system, at all levels, including continuing education for adults. The phrase "critical thinking" is routinely heard as a buzzword in education circles, but we simply don't do a good job teaching it. While critical thinking may be a "high-level" skill, it's not just for "gifted and talented" students or only older students; all students are capable of and need to learn these skills, and they can begin at an early age. ∎

Notes

1. What is SHARP? Online at https://reboot-foundation.org/en/sharp-thinking/.

2. How to Teach Critical Thinking. Online at https://reboot-foundation.org/en/teachers-guide-to-critical-thinking/.

3. Critical Thinking Development: Ages 13 and older. Online at https://reboot-foundation.org/en/parent-guide/ages-13-plus/.

4. Press Release: New Research from Reboot Identifies Strategies to Fight COVID Misinformation. Online at https://reboot-foundation.org/en/strategies-fight-covid-misinformation/.

5. A Scalable, Versatile Approach for Improving Critical Thinking Skills. Online at https://reboot-foundation.org/en/improving-critical-thinking-skills/.

6. Going Viral: How Social Media Is Making the Spread of the Coronavirus Worse. Online at https://reboot-foundation.org/en/going-viral/.