B O O K   R E W I E V

Critical Thinking
The MIT Essential Knowledge Series

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Abstract

Aim: The *MIT Press Essential Knowledge* series provides the reader with accessible, concise, yet interesting and completely up-to-date information. Till now, we have reviewed the following members of the series*: Neuroplasticity* (Németh, 2021a), *Anticorruption* (Németh, 2021b), *Collaborative Society* (Németh, 2022).

Methodology: Each part was written by excellent experts on the subject, in a language understood by non-experts, too. In this way, the current research data and results in the field of each topic can be really used. Nowadays, it is not easy to find in the endless set of information obtainable on the World Wide Web those that essentially provide the fundamental knowledge on a particular topic (Tidor, 2020).

Findings: Critical thinking is a new trend in the fields of learning and comprehending methods. The author's book embraces a complex mindset in front of the reader.

Value: In this book of the series, Jonathan Haber provides a complex view to readers about the phenomena of *critical thinking*.

Keywords: lifelong learning, adult literacy, problem solving, analytical sills

Preface

Critical thinking, as a newly emphasized learning skill serves those complex processes like the adult literacy and lifelong learning. *'In a 2009 address focusing*

on national education policy, President Barack Obama issued this challenge: I'm calling on our nation's governors and state education chiefs to develop standards and assessments that don't simply measure whether students can fill in a bubble on a test, but whether they possess 21st century skills like problem-solving and critical thinking and entrepreneurship and creativity.' (Haber, 2020).

Global economic changes have accelerated the conscious and standardized development of new learning methods such as critical thinking, problem-solving, etc. '*In 2018 the world's most economically advanced nations, (…) began a project to study how critical thinking can be taught and assessed in support of a growing consensus that formal education should cultivate the creativity and critical-thinking skills of students to help them succeed in modern, globalized economies based on knowledge and innovation.*' (Haber, 2020).

As explained above, critical thinking has been taking on a prominent role in education. Instead of memorizing facts and details, the well-developed ability to '*think critically*' has become more useful and demand in the employment market. Because the new jobs require more and more problem-solving. *Critical thinking* is a cognitive skill that supports us to avoid the trap of manipulation in the fields of communication (Német & Szabó, 2022).

Review

The book consists of 207 pages, four chapters. Beginning in chronological order from the historical origin of critical thinking. The second chapter gives us an insight into the required necessary skills for critical thinking. While in the third one, the author shows us the current educational aspects of this skill. Finally, in the last chapter, we can get a prediction about the future of critical thinking. And as we have already learned, each piece of the MIT Essential Knowledge series has got an own glossary in the end of the book. '*Finally, it includes everyone on any kind of educational journey, in the classroom or on their own, who longs to think more effectively and live in a world where decisions are made through reason and thoughtful deliberation.*' (Haber, 2020).

Summary of the chapters

In the first chapter, the author introduces the *Genealogy of Critical Thinking*. Haber explains the early definitions of '*critical thinking*' in different fields of science, such as psychology, philosophy, etc. The author gives us several

examples in various disciplines. *'One of the skills researchers and educators agree critical thinkers should possess, and practice is the ability to look at a problem from different perspectives.'* (Haber, 2020).

In the field of philosophy, we can recognize the root of the written and oral communication importance which however developed and changed since then, but kept its weight: *'The schooling of ancient Greeks and Romans, for example, began with the so-called trivium, which involved studying logic, rhetoric, and grammar (language and composition).'* (Haber, 2020). The other era which had significantly changed the mainstream thinking in Europe was the Scientific Revolution *'started in the fifteenth century when breakthroughs in mathematics and the physical sciences, discovered through new approaches to inquiry, led to great and controversial discoveries like the earth not being at the center of the universe.'* (Haber, 2020). After the Scientific Revolution and Enlightenment, religion and science had split. From that time got into the habit of using the phrase *scientist* instead of *natural philosophers*. The discipline of psychology describes how we memorize our beliefs in different ways. *'While all three of these methods for fixing belief (a priori, authority, and tenacity) have something to recommend them, none are* great *bets as exclusive methods for getting to the truth.'* (Haber, 2020). Information and raw knowledge have become more and more accessible at the end of the twentieth century. And this tremendous amount of knowledge requires another approach in view of a process. Thus, political and educational leaders started supporting the teaching and spreading of critical thinking as one of the most important 21st century skills.

In the second chapter, Haber introduces the Components of Critical Thinking. According to the author, critical thinking has several main components. The first component is structural thinking: what about and what purpose do we think? We can use formal logic and informal logic. The second component is language skills. At this point, I felt that the author was mesmerized by the former chapter. However, sounds logic that we have to be able to translate the structured thinking without mistake, but sounds extremely theoretical for me. *'Much of the work of critical thinking involves translating everyday human communication into clear, structured language.'* (Haber, 2020).

The third component is argumentation by definition, according to the author: *'Given that the goal of critical thinking is to find reasons to support beliefs, activities like fighting that provide only reasons to avoid physical or emotional pain fall outside the definition of argumentation used by reflective thinkers.'* (Haber, 2020). The fourth component is background knowledge: *'Information literacy provides a framework for approaching information everyone needs today as information sources expanded exponentially and entered our classrooms, homes,*

and workplaces via ever-present computers and mobile devices.' (Haber, 2020). These components have a significant correlation with the human decision-making process. John Lehrer's book 'How we decide' is one of the best in this topic. (Lehrer, 2009). I have already written a book review about it. (Németh, 2022).

In the third chapter of the book, we learn about *'Defining, Teaching and Assessing Critical Thinking'.* There are different definitions of critical thinking and no consensus about it. According to 'The Foundation for Critical Thinking', the definition of it is: *'that mode of thinking — about any subject, content, or problem — in which the thinker improves the quality of his or her thinking by skillfully analyzing, assessing, and reconstructing it. Critical thinking is self-directed, self-disciplined, self-monitored, and self-corrective thinking. It presupposes assent to rigorous standards of excellence and mindful command of their use. It entails effective communication and problem-solving abilities, as well as a commitment to overcome our native egocentrism and sociocentrism.'* (Haber, 2020). Next to the question of general definition, there is another important question: whether critical thinking is teachable? According to some research, adolescence is the right period to start teaching the background skills of critical thinking, because: *'Just as infancy is a time of massive expansion of cognitive ability in areas such as language and motor skills, adolescence is a period of similar rapid growth in the parts of the brain that control reasoning.'* (Haber, 2020). One of the most valuable features of critical thinking is knowledge transfer, thus the learned knowledge parts complement each other. This means the separate knowledge and information come alive in a participated thinking method. The participation theory is also well known for connecting different disciplines in one process (Németh, 2014).

The fourth chapter is *'Where do we go from here'.* In this part, the author collected some outcomes of critical thinking and tried to predict its possible future. *'The question that remains is how exactly do we create individuals who think more carefully and in better ways along with a society that appreciates a critical-thinking approach to life's important choices?'* (Haber, 2020). The prospects are encouraging because all the required participants are on the board. The education policy-makers, higher education employees, teachers, and parents also want the same: to rise up a more conscious and critical-thinker next generation.

Summary

Haber's book, 'Critical Thinking' embraces a complex mindset in front of the reader. Actually, a slow paradigm shift is taking place. The data comment is

already passed because the machines do it. We have to learn to think about the huge amount of data and the correct use of it. Several skills are required to fulfil this mindset. The summary of their acquisition leads to the acquisition of Critical Thinking. This is humankind's next level.

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