

2nd
Edition

CRITICAL THINKING

TOM CHATFIELD

YOUR WORKBOOK

WELCOME TO THE WORKBOOK!

WHAT THIS BOOK WILL HELP YOU TO DO

There are two obvious ways in which critical thinking is likely to be important and useful:

- 1 Helping you to become a selective and critically engaged consumer of other people's work and sources of information.
- 2 Helping you to produce better work yourself, and to express your knowledge and ideas more clearly and effectively.

There are two further areas in which a critically informed approach is becoming more and more significant:

- 3 Helping you to manage your own time and attention effectively, while becoming more aware of the ways in which thinking itself tends to be biased or flawed.
- 4 Helping you to be a more confident and critically engaged user of digital information systems, ranging from search engines to websites to social media and beyond.

THINK ABOUT THIS 0.1

Each chapter has one or two questions set out like this, as a prompt for reflection. There's no right or wrong involved. But you'll get the most out of the book if you embrace these opportunities to pause, clear your mind and ask yourself what you think and believe. Here's one question to start you off: what are you hoping to get out of this book - and why?

THINK ABOUT THIS 0.2

What unconscious biases do you most often see in the people around you? Might any of these also affect your own judgement?

YOUR TOOLKIT FOR CRITICAL THINKING

How confident are you in your abilities to think critically? Try these five questions, scoring yourself in each case out of ten, where ten represents total confidence and zero represents no confidence at all:

- 1 I am able to pay close, detailed attention to information and ideas _____ /10
 - 2 I can summarize and explain information I've come across _____ /10
 - 3 I easily understand others' points of view and why they believe what they do _____ /10
 - 4 I can clearly express my own point of view _____ /10
 - 5 I am willing to change my mind and modify my beliefs when I learn new things _____ /10
- Total score:** _____ /50

If your total is over 40, congratulations: you're either very confident, very critically adept in your thinking already, or both. If you scored below 20, never mind – you may lack confidence now, but practice and focus have the ability to transform your attitude. Now try these five questions, exploring your thinking in the context of study and research:

- 1 I am able to compare and evaluate multiple sources of information _____ /10
 - 2 I can locate and research sources of relevant information by myself _____ /10
 - 3 I can clearly summarize and explain others' work, including its limitations _____ /10
 - 4 I am able to justify my own conclusions and to outline the evidence behind them _____ /10
 - 5 I am aware of and able to explain to others the limitations of my knowledge _____ /10
- Total score:** _____ /50

..... **THINK ABOUT THIS 0.3**

Look back over your answers above. Where are your own particular strengths and weaknesses? Take a few minutes to interrogate yourself honestly

.....

..... **THINK ABOUT THIS 1.1**

Can you think of kinds of information offered without attempts at persuasion beyond those listed in Chapter 1? How might you classify them?

.....

..... **THINK ABOUT THIS 1.2**

What are the main differences in your writing style between everyday communication - email, messages, status updates - and formal academic writing? Why do these differences exist?

.....

..... **THINK ABOUT THIS 2.2**

How does it make you feel to set out a position that you disagree with? Does it have any impact on what you think or believe, or on how you might choose to argue with someone who believes differently to you?

..... **THINK ABOUT THIS 3.1**

Try to think of some necessary conditions for performing everyday tasks: preparing food, travelling, shopping, communicating with others. Can you think of any sufficient conditions for performing tasks in everyday life?

..... **THINK ABOUT THIS 3.2**

Under what circumstances do you think valid arguments are most important, and under what circumstances might making a valid argument miss the point or not fit the facts?

..... **THINK ABOUT THIS 3.3**

Can you think of a deductive argument in common use that is valid but unsound? What kind of premises can we be certain are true? What kinds of deductive argument may never be sound, because their premises can't be proven as true?

.....

..... **THINK ABOUT THIS 4.1**

Can you think of something that you believe which contains an implicit qualification that you don't usually acknowledge or examine? What might you assume is certain, that is only highly probable; or impossible, that is in fact only unlikely?

.....

..... **THINK ABOUT THIS 4.2**

What examples of black swan events can you think of from history or from your own experience? When has new information completely falsified something that people had simply assumed to be true?

.....

..... **THINK ABOUT THIS 5.1**

What are some of the ways in which you apply abductive reasoning without really thinking about it: observing events, then assuming an explanation? Have there been any occasions when what you assumed to be the best explanation turned out to be incorrect? If so, why did you assume it was correct in the first place?

..... **THINK ABOUT THIS 5.2**

Can you think of any occasions in the recent news, or your everyday life, when someone made an unsupported assumption about causation? Can you think of two things that are correlated because of a third, underlying factor causing them both?

..... **THINK ABOUT THIS 6.1**

What kinds of source are you most, and least, comfortable analysing? Do you feel confident in your ability to think critically about primary materials? Do you feel able to disagree with secondary sources? What is one of the best secondary sources you've ever used, and what is one of the worst and least useful? Why?

.....**THINK ABOUT THIS 6.2**

Which of the factors of authenticity, authority, bias/impartiality, currency, relevance, replication, representativeness and seminal works do and don't apply to your current work and interests? What do you consider to be the best available resources to work from in your field - and where are they least satisfactory? Why is this?

.....**THINK ABOUT THIS 6.3**

What do you feel are your own best and worst reading habits? What kind of books and setting bring out the best in you? What do you find most difficult to read? Is there anything you can do to change this?

.....
INTERMISSION

Has the book had an impact on your thinking, or the way you approach your work? If you've read the first half closely – and especially if many of the concepts in it were new to you – you may be surprised at how far you have come already. This intermission offers a moment for reflection and consolidation. Pause, briefly review the first six chapters, then try to answer the following questions honestly.

CRITICAL THINKING: YOUR WORKBOOK

What are three of the most useful points you feel you've learned so far from this book?

1.

2.

3.

.....

Why are these three things useful? How do you feel they are relevant to you?

1

2

3

.....

What are three of the most difficult concepts you've found in the book so far?

1

2

3

.....

CRITICAL THINKING: YOUR WORKBOOK

What is it about each of these that you find particularly difficult?

1

2

3



There are some further exercises below. Like the exercises above, they are prompts designed to help you take charge of your own learning: to think strategically about your needs and ask yourself how you might apply lessons from this book to your studies and everyday life. If there are things you feel I've got wrong, or points that have been addressed badly, this matters too. Try to work out what is lacking.

Have you come across any things in this book that you disagree with?

1

2

3



Why do you disagree with these things above? What should have been said instead?

1

2

CRITICAL THINKING: YOUR WORKBOOK

3



How might you apply three of the things you've read about so far, to your work?

1

2

3



How might you apply three things to your everyday life?

1

2

3



CRITICAL THINKING: YOUR WORKBOOK

Finally, to check your confidence and progress so far, answer these ten questions, scoring yourself in each case out of ten, where ten represents total confidence and zero represents no confidence at all:

- | | | |
|----|---|---------|
| 1 | I am able to pay close, detailed attention to information and ideas | ____/10 |
| 2 | I can summarize and explain information I've come across | ____/10 |
| 3 | I easily understand others' points of view and why they believe what they do | ____/10 |
| 4 | I can clearly express my own point of view | ____/10 |
| 5 | I am willing to change my mind and modify my beliefs when I learn new things | ____/10 |
| 6 | I am able to compare and evaluate multiple sources of information | ____/10 |
| 7 | I can locate and research sources of relevant information by myself | ____/10 |
| 8 | I can clearly summarize and explain others' work, including its limitations | ____/10 |
| 9 | I am able to justify my own conclusions and to outline the evidence behind them | ____/10 |
| 10 | I am aware of and able to explain to others the limitations of my knowledge | ____/10 |

Total score: _____/100

How did you do? As you may have noticed, these are the same ten questions that I asked in the first chapter. If you answered them then, compare your scores. Hopefully, your score has increased.

If you scored 50 or below, I suggest that you re-read those sections of the first half of this book that you have least confidence in, before reading on. You can use the summary of the first half, below, to help find them. If you scored between 50 and 80, well done: consider revisiting and consolidating a couple of points before moving on, depending on your confidence. If you scored 80 or above, that's great. Give yourself a pat on the back and keep going.

..... **THINK ABOUT THIS 7.1**

What techniques do you use to persuade different audiences in your life? How do your techniques of persuasion differ between friends, family and work? How do you set out in a written piece of work to persuade your readers that you know what you are talking about?

.....

.....**THINK ABOUT THIS 7.2**

How does impartiality differ from neutrality? What does it mean to be impartial about a subject that provokes profound disagreement - climate change, abortion - where different perspectives are not necessarily equally backed by evidence?

.....

.....**THINK ABOUT THIS 8.1**

Can you think of an appealing but fallacious argument you have encountered recently? Can you think of a directly comparable example that highlights its faulty reasoning?

.....

.....**THINK ABOUT THIS 8.2**

Why do you think it is so easy to neglect base rates when thinking about something involving large and small groups? How might you explain the problem to someone else in order to help them understand it?

.....

..... **THINK ABOUT THIS 9.1**

Which biases in your own thinking, if any, are you most aware of? Which biases or distortions do you most commonly find yourself coming up against in others? Do you share these too?

.....

..... **THINK ABOUT THIS 10.1**

Can you think of an example of fundamental attribution error from your own life? Are there things you feel that you control that, in fact, you mostly don't?

.....

..... **THINK ABOUT THIS 10.2**

Can you think of something that will still exist in 100 years' time? Or a thousand? What about something significant that will be gone within 50?

.....

.....**THINK ABOUT THIS 11.1**

What things can you be absolutely certain you know? How is it that you know these things? Can you be sure your knowledge is totally accurate? Is it at all possible you are confused, mistaken or inaccurate, or that you might change your mind?

.....

.....**THINK ABOUT THIS 11.2**

What do you think are your own best and worst habits when it comes to technology? How might you do more of the best and break out of the worst?

.....

.....**THINK ABOUT THIS 11.3**

Can you think of any unknown unknowns that have caught you out - things you didn't know or think to ask about that, if you could go back in time, you would tell your younger self to watch out for?

.....

..... **THINK ABOUT THIS 11.4**

Do you feel optimistic about the future of technology? Which technologies are you most excited about, looking ahead? Which are you worried about, or do you dislike?

.....

..... **THINK ABOUT THIS 12.1**

Try asking this question of anyone you know and respect: friends, family, colleagues - *If you were to recommend just one book to me, what would it be?* Some of the recommendations I've received from asking this have had a huge impact on my thinking. Here, for example, is a book that two friends independently told me I had to try: *Popper*, by Bryan Magee (Fontana Modern Masters series, 1985). It's just over 100 pages long and a brilliant read. I would like to recommend it to you in turn

.....

..... **THINK ABOUT THIS 12.2**

What are some of the best, most impressive and most engaging things you have read across a variety of genres? What were the authors doing in each case that worked so well? Can you go back and find any particular sentences or phrases that embody their style?

.....

CRITICAL THINKING AND YOU

Here, for the last time, are ten questions for scoring your own critical thinking. Ten represents total confidence and zero represents no confidence at all. Fill them out and tot up your total.

- | | | |
|--------------|---|----------|
| 1 | I am able to pay close, detailed attention to information and ideas | ____/10 |
| 2 | I can summarize and explain information I've come across | ____/10 |
| 3 | I easily understand others' points of view and why they believe what they do | ____/10 |
| 4 | I can clearly express my own point of view | ____/10 |
| 5 | I am willing to change my mind and modify my beliefs when I learn new things | ____/10 |
| 6 | I am able to compare and to evaluate multiple sources of information | ____/10 |
| 7 | I can locate and research sources of relevant information by myself | ____/10 |
| 8 | I can clearly summarize and explain others' work, including its limitations | ____/10 |
| 9 | I am able to justify my own conclusions and to outline the evidence behind them | ____/10 |
| 10 | I am aware of and able to explain to others the limitations of my knowledge | ____/10 |
| Total score: | | ____/100 |

Here is a final exercise, designed to help you consolidate your learning, plan what comes next and celebrate what you have discovered.

As I thinker, I am most confident in

.....

while I am least confident when

.....

CRITICAL THINKING: YOUR WORKBOOK

One of the most valuable insights of this book, for me, is

.....

while I was least interested in learning about

.....

Looking back, it is most important for me to revise

.....

while I want to investigate more about

.....

My strategy for continuing to improve and develop is

.....



THINKING CRITICALLY ONLINE

You're very welcome to share thoughts with me directly about this book on social media at [@TomChatfield](#) - and to discuss it both with me and other readers via the hashtag **#TalkCriticalThinking**.

You'll also find online resources such as videos flagged up throughout the book, all easy to find on YouTube channels with the **#TalkCriticalThinking** hashtag.

EXPLORE YOUR CRITICAL THINKING TOOLKIT

- * Check out each chapter in a nutshell with my **intro videos**
- * Watch the **Ten Commandments** - life rules to become a better thinking
- * Take the **quizzes** to find out what (you think) you know
- * Ask me a question and **join the chat** online with **#TalkCriticalThinking**



▶ Access the [CRITICAL THINKING PLAYLIST on YouTube](#)

↪ Find the quizzes at [BUZZFEED.COM/TOMCHATFIELD](#)