

Why Best Practices?

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We need good practices, because
our mind fools us

We think we will never forget, but we do

“I remember it now, therefore I will remember it forever”

When we see something or learn something, this fact is present in our short-term memory and we feel like we will always remember it

Solution: Use a journal (or lab notebook, or blog)

We think our memories correspond to facts,
but often they do not

“Things were exactly as I remember”

Research shows that our memory is not at all a “recorder”

We misremember a lot

Solution: Use a journal

We are bad at estimating projects' complexity

We think that we can finish a project in less time that it will really take

Solution: Write in your journal how much time you worked every day.

Reflect on how did you use your time

We think that everybody knows what we know,
so they do not need explanations

“I understand it, so everybody understands it”

This is the *curse of knowledge*

It is **the main reason** why our text is hard to read

Solution: This one I’m still trying to figure out. Practice.

We think that everything we do is easy

“I’m not really that good, and one day they will realize I don’t know anything”

We learn a little every day, so it never feels hard

But we accumulated learning in a large period,
and it is hard to see how much we have learned

This leads to *Impostor Syndrome*

Solution: Look at your journal and *reflect* on how much have you learned in the last year

We don't know that we don't know

"Incompetent, and unaware of it"

This is the Dunning-Kruger effect

It is hard to improve if we don't know we are bad

Be open to criticism of your work

You are not your work

Choosing roles and protocols

Define who are the authors early

Recommended reading:

“What Makes an Author.” Nature Methods 18, no. 9 (September 3, 2022): 983–983. <https://doi.org/10.1038/s41592-021-01271-8>.

Gewin, Virginia. “Steer Clear of Conflict.” Nature 594, no. 7863 (2022): 462–63.

More recommendations

Weinberger, Cody J., James A. Evans, and Stefano Allesina. “Ten Simple (Empirical) Rules for Writing Science.” PLoS Computational Biology 11, no. 4 (2015): 11–13.

Lortie, Christopher J. “Ten Simple Rules for Writing Statistical Book Reviews.” PLoS Computational Biology 15, no. 1 (2019): 1–5.

Frassl, Marieke A., David P. Hamilton, et al. “Ten Simple Rules for Collaboratively Writing a Multi-Authored Paper.” PLoS Computational Biology 14, no. 11 (2018): 6–13.

Erren, T, P Cullen, M Erren, and P Bourne. “Ten Simple Rules for Doing Your Best Research, According to Hamming.” PLoS Computational Biology 3, no. 10 (January 1, 2007): e213.

Take care of yourself

- Drink a lot of water
- Get enough sleep
 - Don't fry your brain, you only have one
- Try to make a routine. Minimize trivial decisions
 - Save your energy for important things
- Go for a walk every day

Become a writer

- Write every day. No exceptions.
 - Start with 150 or 200 daily words
 - Ideal is 750 daily words
- Once you see yourself as “someone who writes every day”, it will be easy to write papers, projects, thesis, etc.
- Get addicted to write, as you are addicted to social media
- Try the *Pomodoro technique*

References

(please scroll to see more entries)

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Annesley, Thomas M. 2010a. "Bars and pies make better desserts than figures." *Clinical Chemistry* 56 (9): 1394–1400.

<https://doi.org/10.1373/clinchem.2010.152298>.

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—— 2010a “Show your cards: The results section and the poker game”