

# Paper Writing — How to Take Smart Notes

Architectures and Performance Group

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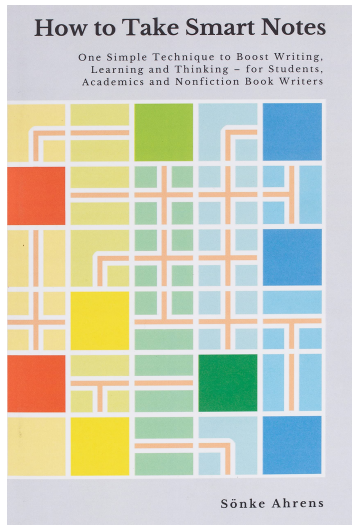
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# How to Take Smart Notes



One Simple Technique to Boost Writing, Learning and Thinking  
— for Students, Academics and Nonfiction Book Writers

## References:

- *How to Take Smart Notes* by Sönke Ahrens
- <https://takesmartnotes.com/>
- Book Summary Blog by Tiago Forte

# Importance of Writing

*There is no such thing as private knowledge in academia. An idea kept private is as good as one you never had. And a fact no one can reproduce is no fact at all. Making something public always means to write it down so it can be read. There is no such thing as a history of unwritten ideas.*

# Overview

How to Take Smart Notes

10 Principles for Taking Smart Notes

The 8 Steps of Taking Smart Notes

# Smart Notes

A good note-taking system is:

- Simple
- Well thought out
- Helps you to stay focused on what really counts: Reading, Thinking, and Writing.

It should not only make it easy to find notes quickly, it should also point out relevant notes when you need them - even if you did not search for them.

It should help you to clarify your thoughts, let you experiment with ideas and spark new ones.

A good system gets exponentially better the more you feed it.

# Zettelkästen (Luhmann's Slip-Box)

## Concepts:

- Unique Identifier for each note
- Connectivity between ideas
- Repository of knowledge for thinking and writing
- Atomicity of ideas
- Extendable in any direction

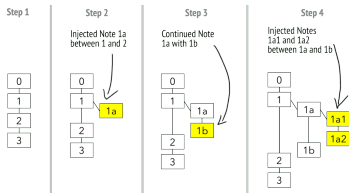


Figure 1: Luhmann's numbering system allowed to make sequences and intersperse notes between adjacent notes through adding another character to the end.

## References:

- Getting Started
- Introduction to Zettelkasten
- In-depth Presentation
- *How to Take Smart Notes*<sup>1</sup> Book Summary

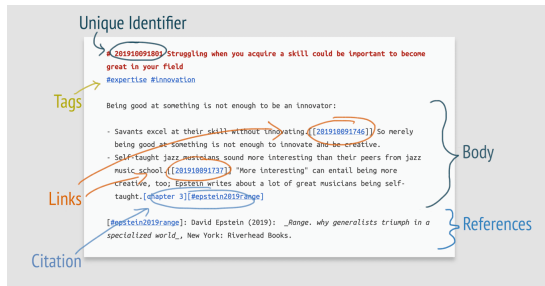


Figure 2: All the parts of a Zettel together.

# 10 Principles for Taking Smart Notes I

1. Writing is not the result of thinking; it is where the thinking takes place.
  - Thinking requires elaboration—we need to copy, translate, rewrite, compare, contrast, and describe the new idea into our own terms.
2. Do your work as if writing is your only goal. Things not written down and shared are lost.
  - Ideas kept private are as good as ones you never had.
  - What the author meant doesn't matter, only what is on the page.
3. Nobody ever starts from scratch.
  - Research is conducted before a topic is picked. No idea is grabbed from thin air.
  - Take notes as you research, otherwise you have to start something completely new (which is risky) or you have to retrace your steps (which is boring).
4. Our tools and techniques are only as valuable as the workflow.
  - Workflow is to collect organize, and share ideas.
  - The components and tasks must fit together for the whole.
  - An undistracted brain and a reliable pile of notes is all that is required.

# 10 Principles for Taking Smart Notes II

## 5. Standardization enables creativity.

- Use notes as the standard container for ideas.
- Notes → outline → rough draft → polished draft
- Each step requires a different focus and slip-box contains the process.
- One place, one format. Treat each note the same.
- No part of the writing step is particularly hard. We just try to combined and skip steps which makes it difficult. Do one step at a time to make it easier.

## 6. Work only gets better when exposed to good high-quality feedback.

- Notes are a type of feedback, in addition to feedback from other people.
- Easy to think we understand a concept until we try to put it in our own words.
- Set reasonable tasks per day and see if you accomplished them.

## 7. Work on multiple, simultaneous projects.

- Unrelated information from one project could help with another project.
- Switch projects when stuck on one of the projects.



# 10 Principles for Taking Smart Notes III

## 8. Organize your notes by context, not by topic.

- Organize notes into the context in which they will be used. Put the note where it will be used and don't be afraid to put it in multiple places. (Use links to avoid duplication.)
- This will help you find the note when you want it. A note is only good if you can find it again when you want to use it.
- Difference between librarian and writer. Archiving notes by topic vs. Placing Notes where they will be used.
- Writers don't think about single correct location. They deal with 'scraps' of information which can be repurposed and reused elsewhere.
- Save byproducts of writing for future work.

# 10 Principles for Taking Smart Notes IV

## 9. Always follow the most interesting path.

- It is essential to make our work sustainable and successful. Adjust the plan as more information is obtained.
- “When even highly intelligent students fail in their studies, it’s most often because they cease to see the meaning in what they were supposed to learn (cf. Balduf 2009), are unable to make a connection to their personal goals (Glynn et al. 2009) or lack the ability to control their own studies autonomously and on their own terms (Reeve and Jan 2006; Reeve 2009).”
- This is different than what most people are taught. They are taught to make a plan and follow it through, not adjust the path as the path is walked along.

## 10. Save contradictory ideas

- They lead to arguments and discussions.
- New notes should add to the discussion.

# Don't just feel smarter. Become smarter

- Notice gaps in understanding.
- Don't feel smarter become smarted by filling in the gaps in your understanding.
- Students aren't taught:
  - How to make networks of connections between different kinds of information.
  - How to organize the very best and most relevant knowledge they encounter across topics in a long-term manner.
  - To follow their interests and to take the most promising path in their research.

*Ultimately, learning should not be about hoarding stockpiles of knowledge like gold coins. It is about becoming a different kind of person with a different way of thinking. The beauty of this approach is that we co-evolve with our slip-boxes: We build the same connections in our heads as we deliberately develop them in our slip-box. Writing then is best seen not only as a tool for thinking but as a tool for personal growth.*

# The Tools

As the system is really simple, you only need some basic tools - and all of them are free.

1. Something to write on (like pen and paper).
2. Something to store your references and literature (I recommend JabRef).
3. The “slip-box,” the place to store your permanent notes and develop your thoughts. I recommend you use your main Second Brain notetaking program. Mine is OneNote.

# The 8 Steps of Taking Smart Notes I

- Luhmann actually had two slip boxes: one for bibliography/reading notes and a main one which had ideas and theories based on those sources.
- Three kinds of notes:
  1. Fleeting Notes
  2. Literature Notes
  3. Permanent Notes

## Steps:

### 1. Make fleeting notes

- Quick informal notes on any thought or idea that pops into your mind.
- Place notes in inbox. Can skip this and place them in the proper place.

### 2. Make literature notes

- Main points from things read.
- Guidelines:
  - 1) Be extremely selective in what you decide to keep.
  - 2) Keep the overall note as short as possible.
  - 3) Use your own words, instead of copying verbatim.
  - 4) Write down the bibliographic details on the source.

# The 8 Steps of Taking Smart Notes II

## 3. Make permanent notes

- Long term knowledge.
- Do this once a day before you forget the content of the other notes.
- Develop arguments/discussions over time.
- Questions to ask yourself:
  - 1) How does this new information contradict, support, add, or correct what I already know?
  - 2) How can I combine ideas to generate something new?
  - 3) What questions are triggered by these new ideas?
- Write these permanent notes as if you are writing for someone else. That is, use full sentences, disclose your sources, make explicit references, and try to be as precise and brief as possible.
- Discard fleeting notes.

## 4. Now add your new permanent notes to the slip-box

- File the note behind a related note. Or if unrelated to other notes, add it to the end.
- Optionally:
  - Add links to (and from) related notes
  - Add it to an "index".

# The 8 Steps of Taking Smart Notes III

5. Develop your topics, questions, and research projects bottom up from within the slip-box
  - See what is there, see what is missing, and see what questions arise.
  - Look for gaps which you can fill through further reading.
  - Can create an overview note, which provides a bird's eye view of a topic which has already been developed to the point where a big picture view is needed. This helps to structure thoughts.
6. Decide on a topic to write about from within the slip-box
  - Look at slip-box to find what is most interesting. Writing begins with what you have, not from some unfounded guess.
7. Turn your notes into a rough draft
  - Don't copy. Translate into something coherent and embed then into the context of your argument. As you detect holes, fill or change the argument.
8. Edit and proofread your manuscript
  - Refine the rough draft until it is ready to be published.

## The 8 Steps of Taking Smart Notes IV

*This process of creating notes and making connections shouldn't be seen as merely maintenance. The search for meaningful connections is a crucial part of the thinking process. Instead of figuratively searching our memories, we literally go through the slip-box and form concrete links. By working with actual notes, we ensure that our thinking is rooted in a network of facts, thought-through ideas, and verifiable references.*

*To get a good paper written, you only have to rewrite a good draft; to get a good draft written, you only have to turn a series of notes into a continuous text. And as a series of notes is just the rearrangement of notes you already have in your slip-box, all you really have to do is have a pen in your hand when you read.*



# Meno's Paradox

*In truth, it is highly unlikely that every text you read will contain exactly the information you looked for and nothing else. Otherwise, you must have already known what was in there and wouldn't have had reason to read it in the first place.[7] As the only way to find out if something is worth reading is by reading it (even just bits of it), it makes sense to use the time spent in the best possible way. We constantly encounter interesting ideas along the way and only a fraction of them are useful for the particular paper we started reading it for. Why let them go to waste? Make a note and add it to your slip-box. It improves it. Every idea adds to what can become a critical mass that turns a mere collection of ideas into an idea-generator.*

This problem is known as Meno's Paradox.

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# Importance of Writing

*The criteria for a convincing argument are always the same, regardless of who the author is or the status of the publisher: They have to be coherent and based on facts. Truth does not belong to anyone; it is the outcome of the scientific exchange of written ideas. This is why the presentation and the production of knowledge cannot be separated, but are rather two sides of the same coin (Peters and Schäfer 2006, 9). If writing is the medium of research and studying nothing else than research, then there is no reason not to work as if nothing else counts than writing.*

*And by doing everything with the clear purpose of writing about it, you will do what you do deliberately. Deliberate practice is the only serious way of becoming better at what we are doing (cf. Anders Ericsson, 2008).*

# Note Types

1. Fleeting notes, which are only reminders of information, can be written in any kind of way and will end up in the trash within a day or two.
2. Permanent notes, which will never be thrown away and contain the necessary information in themselves in a permanently understandable way. They are always stored in the same way in the same place, either in the reference system or, written as if for print, in the slip-box.
3. Project notes, which are only relevant to one particular project. They are kept within a project-specific folder and can be discarded or archived after the project is finished.

## Bibliography/Literature Notes

*Whenever he read something, he would write the bibliographic information on one side of a card and make brief notes about the content on the other side (Schmidt 2013, 170). These notes would end up in the bibliographic slip-box.*

*Luhmann describes this step as follows: “I always have a slip of paper at hand, on which I note down the ideas of certain pages. On the backside I write down the bibliographic details. After finishing the book I go through my notes and think how these notes might be relevant for already written notes in the slip-box. It means that I always read with an eye towards possible connections in the slip-box.” (Luhmann et al., 1987, 150)*

## Permanent Notes

*In a second step, shortly after, he would look at his brief notes and think about their relevance for his own thinking and writing. He then would turn to the main slip-box and write his ideas, comments and thoughts on new pieces of paper, using only one for each idea and restricting himself to one side of the paper, to make it easier to read them later without having to take them out of the box. He kept them usually brief enough to make one idea fit on a single sheet, but would sometimes add another note to extend a thought.*

# Meno's Paradox

Meno asks Socrates:

*And how will you enquire, Socrates, into that which you do not know? What will you put forth as the subject of enquiry? And if you find what you want, how will you ever know that this is the thing which you did not know?*

Socrates rephrases the question, which has come to be the canonical statement of the paradox:

*[A] man cannot enquire either about that which he knows, or about that which he does not know; for if he knows, he has no need to enquire; and if not, he cannot; for he does not know the very subject about which he is to enquire.*

—Translated by Benjamin Jowett, 1871, From <https://en.wikipedia.org/wiki/Meno>.

The argument known as “Meno’s Paradox” can be reformulated as follows:

1. If you know what you’re looking for, inquiry is unnecessary.
2. If you don’t know what you’re looking for, inquiry is impossible.
3. Therefore, inquiry is either unnecessary or impossible.

From <https://faculty.washington.edu/smcohen/320/menopar.htm>

# Quick Reading an Article I

- Add reference to JabRef.
- Add to Notes on Papers. This links the JabRef entry to any notes I take in OneNote.
- Survey/Read the Paper. From [Reading and Taking Notes on Scholarly Journal Articles](#).
  - (Survey) Look at the structure of the article (most scientific articles follow the same specific format)
    - Abstract (summary of the whole article)
    - Introduction (why the author did the research)
    - Methodology (how the author did the research)
    - Results (what happened)
    - Discussion (what the results mean)
    - Conclusion (what the author learned)
    - References (whose research the author read)
  - Read the abstract and conclusion first (these have the main points)
  - If you find anything in the abstract or conclusion that is important for your paper, search for the information
  - If you need more information, then read through whole sections (usually discussion or results section)
  - “Close read” by deciding what parts of the reading are worthy of deeper study. This requires investigating early perceptions and scrutinizing possible significances.



## Quick Reading an Article II

*How focused you want to read depends on your priorities. You don't have to read anything you don't consider an absolute necessity for finishing your most urgent paper, but you will still encounter a lot of other ideas and information along the way. Spending the little extra time to add them to your system will make all the difference, because the accidental encounters make up the majority of what we learn.*

# Productivity Secret

*Luhmann's answer to the question of how one person could be so productive was that he never forced himself to do anything and only did what came easily to him. "When I am stuck for one moment, I leave it and do something else." When he was asked what else he did when he was stuck, his answer was: "Well, writing other books. I always work on different manuscripts at the same time. With this method, to work on different things simultaneously, I never encounter any mental blockages." (Luhmann, Baecker, and Stanitzek 1987, 125–55)*

# Writing Advice

*If there is one piece of advice that is worth giving, it is to keep in mind that the first draft is only the first draft. Slavoj Žižek said in an interview[41] that he wouldn't be able to write a single sentence if he didn't start by convincing himself he was only writing down some ideas for himself, and that maybe he could turn it into something publishable later. By the time he stopped writing, he was always surprised to find that the only thing left to do was revise the draft he already had.*

# Slip-box is as simple as it gets

*The slip-box is as simple as it gets. Read with a pen in your hand, take smart notes and make connections between them. Ideas will come by themselves and your writing will develop from there. There is no need to start from scratch. Keep doing what you would do anyway: Read, think, write. Just take smart notes along the way.*

# Bibliography I

- [1] [Sönke Ahrens](#). *How to Take Smart Notes: One Simple Technique to Boost Writing, Learning and Thinking—for Students, Academics and Nonfiction Book Writers*. [Sönke Ahrens](#), 2017.