

GUIDE



Identify your PhD topic

Are you puzzled as to how you're supposed to find a topic for your PhD project? We're here to help you out with our failsafe step-by-step guide below.

This GUIDE is part of the [SMART ACADEMICS](#) blog "[29: Help! How do I find a topic for my PhD?](#)".

Step 1.

Research the state-of-the-art in your field

Identify relevant keywords:

There's only one mantra for you in the very beginning: read, read, and read some more! But because of the immense amount of publications that are available, you can't just read without a plan. You've got to be focused. One way to do this is to identify 5-10 relevant keywords for the broad topic in which you are interested. Write these key-words down, and make notes on how you search them.

Limit your search:

Depending on what makes sense, you can limit the scope of your search to:

- certain scientific literature databases instead of going through everything you find on online
- publishing dates (e.g. if you work in a quickly developing field, you may look only at the articles published in the last 5 years)
- geographic areas (e.g. if you do research on sea-ice particles, you'll focus on the polar regions, if you want to do research on 'Fake-News' in US-media, the US will be your main focus).
- particular approaches, experimental set-ups or methods applied

Do not google, but use databases with scholarly articles (e.g. Web of Science, Scopus, PubMed, or Science Direct depending on subject area.)



Specify the information you are looking for:

After downloading the articles you find most relevant, screen the abstracts to get a better idea what you will find in the publication. After that, make a decision if it's worth reading further. Before you start reading an entire paper or an entire chapter in a book, make sure you have a refocus once more. Ask yourself what do you expect to learn from this paper? What particular aspect are you interested in while reading this chapter?

Start taking notes:

If you decide the publication is helpful for your purpose, make notes while reading, or write a short excerpt right away. Start a collection all your notes from reading immediately. At this stage you can simply put everything in a single 'Word-' or 'Pages'-document and start a 'Collection of Material'. The main purpose here is to collect material and early ideas for yourself in a systematic way. It is not so much a matter of how you do this, but that you actually have something in writing. If you just keep reading for weeks at a time, you'll lose many important points along the way, and you'll struggle to remember. In your 'Collection of Material', try ordering your entries according to topics, dates, or keywords. Make it a habit to also include the correct reference, so you avoid running into plagiarism issues or forgetting where you came across a particular idea.

Another suggestion to get a head-start with reading is to ask your supervisors, a few colleagues, or post-docs around you for the ten most relevant articles they would suggest you read to get an overview (for more details on this strategy, download our **SMART ACADEMICS blogpost no 24 "New to the PhD? - 5 tips for a great start!"**)

Step 2. Brainstorm project ideas

Search a quiet spot:

After you get a good first impression of the state-of-the-art, you can start brainstorming project ideas. Search a quiet spot where you can sit undisturbed. You may also want to do this rather early in the day, when you're still in fresh working spirits - far better than at the end of a long working day, when you feel drained of energy.

Have a 30-min brainstorm session:

Sit down for 30min and write down every potential project idea you have. Many people (including ourselves) find it a lot easier to start with just a pencil and a sheet of paper. This gives the exercise some creative energy to it, while keying in ideas into your word processor



is a more restrictive feeling and not so helpful when you want to generate new ideas. Get started with whatever comes to your mind first. Just let your thoughts pour out, one after the other. It can be messy, but no worries, the clean-up comes later. During your brainstorming there are three rules to follow: no criticising, no editing, no reviewing. Just keep going, adding new ideas until you've pretty much emptied your brain of that topic. Ok, then take a break! Leave your notes as they are, don't look at them again right away.

Start reviewing while still adding ideas:

A day or two days later, take your notes out and go through your brainstorming-results for a first light review. Select those topics or ideas that you find most promising and cross-out ideas that you do not want to pursue any further.

Continue reading and brainstorming for some time. For some PhD students, that'll only take a few days, while others go on for a few weeks. But make sure, you're always focused on refining your list of project ideas further.

Be on the look out for inspiration around you:

While you are generating ideas, keep your mind wide open for input that comes from your environment. You might get inspiration while you are attending a graduate school event and listening to other PhD students' presentations, attending lectures from guest speakers, or browsing the posters of colleagues hanging in the corridor of your institute.

Step 3. Narrow down your ideas

Select a few promising ideas:

At this stage in the process, you'll start to narrow down your ideas. While brainstorming, you deliberately kept your thoughts wide open in order to generate ideas, now you should single out the 2-3 most promising ideas.

Brainstorm about each selected idea:

For each of your most promising ideas, you'll do a more specific brainstorm on separate days. Write down what comes to your mind when thinking about that one project idea: Start jotting down obvious research questions or knowledge gaps, ideas for experiments, how to gather empirical evidence, hypothesis you're having etc.

Your project ideas do not have to be far apart. Often, they cover just slightly different aspects of the same topic or research area. Likewise, if you come across a single idea early-on that you find fabulous and much more compelling than anything else you've got on your list, follow up on that one right away!



Step 4. Prepare “project-sketches”

Describe your topics in more detail:

For your 2-3 most promising topics, prepare short and systematic “project-sketches” to gain further clarity. You’ll need this for yourself, but it is also the preparation for step 5, in which you’ll ask your supervisors to scrutinise your ideas and to facilitate their feedback. For each idea, write ca. one page with more information that explains your project idea succinctly. Set up separate documents for each project idea, give it a proper working title as heading and add a few bullet points to each of the following subheadings:

- Outline of project idea. What is this topic about?
- Why is this topic relevant? What is the potential knowledge gap? Why do you think this should be researched? How did you come across it?
- What do you expect to find out if you worked on it? What could be potential results? What were the implications of your research for science or society?
- How would you work on this topic? Which basic methods/approaches would you have to apply?

Describe each of your project ideas along these lines.

Test yourself:

This is also a test for yourself. How easy do you find it to work on this topic? How much does it motivate you, excite you and thrill you? One idea may feel like a logical and obvious choice, but if it does not resonate with you at this stage, you won’t be able to motivate yourself to work on it for the next couple of years. So then why should you propose it to your supervisors? Another one may have the ideas flying out of you! If you get up in the morning and you can’t wait to work further on this - you’ve got a good one!

Step 5. Discuss with supervisors

Set a meeting with your supervisors:

You’ve likely already had discussions with your supervisors about the topic while working on the previous steps. That’s fine, but before you finally decide on a topic, you’ll need some more systematic input and constructive criticism of your supervisors. So ask them for a dedicated meeting on the topic.



Discuss originality and feasibility:

Ask your supervisors to have a look at your “project-sketches”, then arrange a meeting where you can discuss with them. Have an open discussion about the appropriateness of potential topics.

How do your ideas score on:

- **Originality and innovation:** What will be the new bit of knowledge that your study adds to the existing body of knowledge in your field? Does it merit a PhD?
 - **Feasibility:** Is this project suitable for a PhD given the time span of your scholarship or contract? Is it feasible, given the facilities or data or resources that are accessible for you? Is it feasible regarding the methods or techniques that are commonly applied in your group/institute, fieldwork that has to be undertaken, and financially?
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Repeat:

The fifth step can go on for a while, as your supervisors may come up with improvements, amendments or additions to your ideas. Take up their suggestions and use them to further refine your project ideas while also still reading up on the topic, but with the benefit of now zooming in on precisely the direction you want to take, using scholarly work on the selected topic, recent related PhD studies, the very methods you’re going to use, or a particular region where you carry out your work, etc.

Step 6. Decide and develop a statement of objectives

Pick one favourite:

During the discussions with your supervisors, and while you are adding further details, there is often one favourite emerging. If you’ve not come that far, go to the remaining options, and weigh the pros and cons of each. If it’s just a matter of choice, make a decision to go for one and move on.

For your final project idea you’ll work out a clear ‘statement of objectives’.



Describe the topic's statement of objectives:

This is a standard term in research management and refers to the detailed description of the goals and objectives of your project. You'll need a coherent set of objectives (common are 3-6) which concisely add up to an overall project goal. Think about the specific research questions you'll work on, and how your project may answer these. If it is common in your field to work with hypothesis testing, or if this is an obvious choice for your project, you can also formulate your specific hypotheses at that stage.

Have you enjoyed working with these GUIDELINES?

Did they make your PhD-life a tiny bit easier? Give us feedback on  or  !!!

THANK YOU!

