How to choose a thesis topic

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One of the most common questions I get asked is how to choose a thesis topic.

It can be a frustrating problem finalising your research ideas. You have to commit to something, but how do you know you're setting out on the right track?

In this post, first I'll explain what makes a good research topic, then how to choose a thesis topic and how to do the right things early to avoid problems later.

1. What makes a good research topic?

Thinking about the end result, your examiners will be looking for research which is;

- novel (original)
- set in the context of the existing research in the field, and
- competently executed

When choosing a thesis topic, it makes sense to use these criteria to help you.

Novelty

It's incredibly hard to come up with a completely new idea. Almost every invention or discovery or new theory depends on a combination of existing ideas, but put together in a new way or applied to a new problem.

There are three approaches to novelty. The first is to aim for a **specific outcome** nobody has achieved before, as Watson and Crick did when aiming to find the structure of DNA. In research projects like this, there is a clear goal, but a risk that another group working on the same problem might beat you to it.

The second approach is to pick a **specific subject** you want to study, and identify a question or problem that hasn't been addressed before in that niche. This could be a specific group of people, a species of butterfly or a new class of materials.

The third is to apply a **new methodology**. There could be a subject which has been widely studied, but never before using your methodology. The methodology doesn't need to be new, just new to the problem you are addressing in your research.

Context

You might have found an interesting problem to work on, but that isn't enough. It needs to be put in context with existing research.

This is because

- You want to make sure nobody else has already done it
- You can learn from the methodologies used by other researchers
- You need to justify why your research matters

While it's possible that someone else has already done what you plan to do, it's also possible that you come up with an idea so far removed from what anyone else anywhere in the world is doing that it'll be impossible to publish.

So you need to do some reading to find out what other people are doing in your chosen field.

Competence

Do you have the skills and resources to carry out your project? And if not, will you be able to attain them?

An idea is only a good one if you can carry it out competently. So you must consider what resources and expertise you will have access to.

2. How to choose a thesis topic

Now that we have some guidelines for what we're looking for, how to choose a thesis topic?

If you sit and wait for one idea that ticks all the boxes, you will be waiting for a very long time. The *eureka* moment is a myth (or at the very least, a massive oversimplification). Instead, there is a process you need to go through, which may be repeated several times.

1. **Idea generation**
2. **Testing**
3. **Elimination & refinement**

1. Idea generation

Rather than look for one perfect idea, it is better to consider several. In the initial stages, you should be open to all ideas, even if they seem crazy.

The ideas don’t need to be completely unique, you could start with one idea, then consider multiple variations on a theme. However you approach it, take some time to think of as many different topics as you can.

This takes away the pressure to choose the perfect topic immediately, and will open up potential avenues of exploration you may otherwise never have considered. OK, many won’t be useful, but it just takes one good idea to make it worthwhile.

Once you have a few ideas, you can pick the best ones and then…

2. Testing

This stage is crucial, and can save you years of pain.

Before you finalise your thesis topic, you need to test potential ideas for viability. Is the project possible? How will you go about it? What do you need?

Ask yourself, **what is the simplest first step that would need to be taken**, and figure out if it is possible

Testing may involve:

- Doing simplified experiments or mini-investigations
- Checking that you will have sufficient access to equipment, people or information
- Reading relevant literature
- Asking relevant experts

For example, if you have a research idea based on the assumption that you will have access to a database, then it makes sense to check before you commit to the project that you will actually have access.

Or there may be another idea which seems viable, but if you aren’t familiar with the methodology then you need to ask for an expert opinion from someone with experience, who can tell you the practical elements you need to consider.

It’s best to do this as early as possible! Don’t worry if it doesn’t work, that’s the point of testing.

3. Elimination and refinement

It’s OK to let go of ideas if they don’t work or are impractical (and much easier to do if you start with several possibilities). But others may just need a little refinement to become viable.

Or you might find new ideas evolve out of ideas which failed testing. A piece of one idea combines with a piece of another, in a way you never would have found without going through those rejected ideas first.

4. Get good data

Your aim is to get good data. No matter how good or original your idea, everything you present in your thesis will rely on getting good data. No amount of writing or analysis or insight or creativity can correct for poor quality data, so make this the ultimate criterion when choosing your topic; **can I get good data?**

If not, reject the idea, and choose another. It might take longer to find your topic, but you will save time in the long term.

I know that "data" doesn't apply to all projects, in which case consider whether you can get good source material or information.

In Summary

How to choose a thesis topic? Consider multiple options, do **preliminary testing**, and then refine good ideas, eliminate bad ones