

How to Develop a Research Project and Write a Research Proposal

1. Introduction

When applying for a PhD¹ position or a research grant in Germany, you will usually be asked to submit a research proposal. The purpose of the proposal is to ensure that the candidate has done sufficient preliminary reading/research in his/her area of interest, that he/she has developed a well-grounded research project and that he/she is familiar with the methodology of his/her subject. Your proposal will have to convince members of the academic community that you have identified a relevant scientific problem and a methodical approach to solve the problem within a given time frame.

Your research proposal should not extend 10 pages (when applying for a DAAD research grant). The proposal should have a proper layout and a logic structure. Remember that professors often have to read large numbers of research proposals. Therefore good legibility and conciseness of your proposal will be appreciated.

If your host institution provides you with a research proposal which is part of a bigger project (this sometimes is the case in pure sciences and technical sciences), please feel free to include it in your DAAD application. Make sure, however, not to submit it as your own brainchild and add a self-written statement of purpose outlining the role you will play within the research plan of your host institution as well as your motivation, your pre-knowledge and methodical experience and how this project will benefit your future research career. Always clearly mark which parts of the proposal are written by yourself and which are written by a third person (e.g. your supervisor).

2. How to develop your own research project

Project development and proposal writing do not always follow the same order. Thus take your time to develop your project before you sit down to write the proposal. Before you start, please make sure once again that you understand the purpose of doctoral research: It is about completing a research project independently and making new findings available to the international research community. Research is always problem orientated. It is NOT about writing a book on a comprehensive topic compiling all available information, and it is NOT about advocating your (political) opinions. These two misunderstandings are common in social sciences. It may help to read the topics and abstracts of recent doctoral research projects which you can find at the websites of some graduate schools of your field to understand what kind of research design is expected.

Be ready to work self dependently. Do not expect your supervisor to provide you with a topic, a reading list and a work schedule. The supervisor will guide you concerning the set-up of your project, discuss the progress of your work and give advice when you get stuck. Otherwise, the responsibility is yours. In most cases, the development of your own project layout is already an important part of your doctoral research. (Though in science and technology, projects are sometimes assigned to doctoral candidates.)

At the same time, expect to be part of a team. At German universities, each professor supervises a group of postdocs, doctoral candidates and advanced students. Research topics often come under one comprehensive project, and the fellows regularly discuss the progress of their work.

Step 1: Read!

Before you draft your own research project, you have to know the state of research in your field. This means: Read, read, read - always starting from the latest publications as they mostly give you a survey of the most relevant literature, then (particularly in social sciences and humanities) some more

¹ German universities usually do not award a PhD, but a variety of doctoral degrees equivalent to a PhD degree, such as "Dr. rer. nat." (sciences), "Dr. rer. pol." (social and political sciences), Dr. phil. (humanities), Dr.-Ing. (engineering). Likewise, "PhD students" at German universities are mostly not seen as students but as junior researchers. We thus rather call them "doctoral candidates".

comprehensive background literature and more publications on your specific topic. It also makes sense (in social sciences and humanities) to read a book on theories, research traditions and methods in your subject if you feel you still don't know enough.

At the same time, search for German graduate schools and institutes working in your field and make yourself familiar with their research profile and ongoing projects. Keep in mind that German professors are very much specialized in their research. It is thus important to be well informed what their specific research areas are. In social sciences, keep in mind that your project will not always come under the same area as it would at home. "Economics" often translates into "Development Economics" when done in Germany. Likewise, "Sociology" or "Psychology" in Germany usually focus on social reality in Germany and not in Pakistan. Thus, maybe you should rather try to place such projects at an interdisciplinary graduate school dealing with South Asian societies or developing countries as such. However, you may also consider (again in social sciences) to focus your project on another country with conditions similar to Pakistan. (Why not join a graduate school dealing with the economic or social development in India or Kenya?)

Step 2: Narrow down your own project idea.

While reading through the relevant publications and searching the internet for possible host institutes, you should watch out for a possible "research gap" and narrow down your own project accordingly. Always keep in mind that your project has to be innovative and lead to new findings. Avoid very popular and emotional topics. Particularly in social sciences, feel encouraged to find your topic in your neighbourhood, in the papers and in every day's life.

Research projects are usually built on a **hypothesis** which again is often built on own observations and experiences inside or outside academia. For example: "Female migrant work results in certain changes in the families of the migrant worker.", "The crop XY will perform much better if the genetic code of the plant is altered in this or that way.", "The mathematical problem xy can be solved, if ...".

Based on your hypothesis, you can now start phrasing your **research question**, e.g.: "What impact does the absence of the mother have on the families of female migrant workers?" "How will x influence y?", "In how far ...". Phrase your research question very carefully and make sure it will lead your investigation into the right direction. The following types of research questions should be avoided since they are not productive:

- Questions leading to subjectively biased answers: ("What is the best way to ..."),
- Questions to be answered with yes or no,
- Rhetoric questions addressing well-known facts ("What is Jirga?"),
- A number of ad hoc phrased questions which do not come under one leading question.

Check once again carefully whether your project is really innovative and will lead to new results. If not, the topic is not suitable for doctoral research and you have to find a new one.

Step 3: Define your theoretical framework and your methodology.

Defining the **theoretical framework** is not always mandatory in a proposal, but often done in social sciences and humanities: The theoretical framework is the system of theories and concepts underlying your investigation, which also has an impact on your research question, the objectives and the methodology of your study. Examples: Marxism, post-colonialism, feminism etc. Usually, frameworks are only used as an orientation not as a fixed set of ideas. Explain, how this framework will be used. Do not refer to a theoretical framework if you are not conversant with the respective concepts. Dependent on the theoretical framework you may have to define your **terminology** (in case terms are used in a different way in different theoretical frameworks).

Give the **methods** you want to apply in your research a very good thought. Particularly in social research proposals, methods are often ill grounded, not described well enough and not related to the research question and the expected results. You thus should consider very carefully which methods you consider appropriate and why. Plan them in detail, and maybe read another book on the methodology of your subject if necessary. Also take into account possible challenges: A sample group may refuse to cooperate or is likely to give untruthful answers. Or the sources you want to analyse are written in a language you don't understand. Or German law does not allow the planned lab experiments. Or the data you want to work with is not accessible for data security reasons. Also explain in which way you are going to analyse your raw data.

Consider what **the expected outcome** of your research will be using the given methodology. Is this in line with your research question and the objectives of your study?

Step 4: Find your supervisor and/or graduate school.

While doing all this, keep watching out for a potential supervisor and make sure your research project is in line with his/her field of research. At this point, it makes sense to establish a first contact, by writing a polite and formal e-mail explaining why you are interested in the specific research focus of the institute/ professor and what sort of project you have on your mind. The final project design is often jointly developed with the supervisor. You should thus make sure at a very early stage that the focus of your research project matches the research areas and ongoing projects of your future host institute. In social sciences and humanities, a draft proposal (see below) is mostly expected with your first contact. In pure sciences, professors often assign a topic and contacts should be made a little earlier.

When writing to a potential supervisor, make sure you follow the rules of formal e-mail writing, use a formal salutation line (“Dear Professor *last name*”), avoid all sorts of slang, and never ever send identical e-mail to a number of people!

If you want to join a graduate school, apply formally for the next possible intake, though the start of your project may have to be postponed until your scholarship comes into effect.

3. How to draft your research proposal

Start drafting your research proposal only after you have completed the above mentioned steps. Your proposal should comprise the following parts:

a. Title page

On the title page, state your personal data, such as: name, academic title (if applicable), your position at your own university, e.g. junior lecturer, your date of birth, nationality, your work and private address including telephone and e-mail address. This should be followed by the title of your planned project. Keep in mind that at this stage, the title can only be a working title. While the title should be brief, it should at the same time be accurate, descriptive and comprehensive, clearly indicating your research area.

b. Table of content (to be written last)

c. Abstract (to be written last):

A concise summary of your project including the most important points. Please make sure your abstract is perfectly logic and coherent. Read abstracts in scientific journals to get familiar with the wording and the grammar in abstract writing.

d. Problem statement and justification of the project

Explain briefly the problem you want to address and the benefits your research could bring forward.

e. Hypothesis, research question and objectives

For hypothesis and research question: See above.

Objectives: Should summarize the purpose of the project, using verbs like: to analyse, to measure, to assess, to compare, to describe etc.

f. Literature review

Summarize and discuss the most recent and most relevant publications related to your own research project. Your research review should indicate an open problem (research gap) which then will be the motive for your project. Note: “Literature Review” means that you have read and summarized the mentioned literature yourself. **Summaries copied from other sources together with the references are considered plagiarism.** If the original publication is not accessible, you have to mention the source from which you quoted.

g. Theoretical framework (see above)

h. Methodology

This is a very important part of your research outline and should receive a lot of attention (see above). Depending on your subject, it may well be the longest section of your proposal. Describe the intended methods of data gathering, analysis of sources or experimental work, the controls you will introduce, the statistical methods to be used and the type of literature or documentary analysis to be followed. Ethical issues as well as difficulties in gathering data and other material should also be discussed in this section. In social sciences, do not only use generic terms like “quantitative” and “qualitative” research, but describe the planned steps in detail. If you use questionnaires, for example, explain how the questionnaire will be developed, which type of questions you will use and why, and how you are going to analyse the answers. Add a draft questionnaire as an appendix.

i. Expected results

Describe what the results of your research will probably be.

j. Selective research bibliography

List the academic works which you have mentioned in your research outline. At least some of them should be recent publications, indicating that you are aware of the current discourse in your area of research. List only those publications which you have actually used for the preparation of the research outline. Avoid copying bibliographies from other papers. In case important publications are not available in your home country, list them separately and make clear that you have had no possibility to read them.

k. Time schedule (to be submitted on an extra sheet)

Develop your time schedule preferably in table form, indicating single workloads and the time you will need to complete them. The time schedule is an essential part of your proposal, and will be reviewed very carefully. (Many proposals are rejected because of an unrealistic time schedule!) Important: If you want to complete only part of your project in Germany, the time schedule has to comprise the whole project indicating which part will be completed where.

About: Style

Have experts on your mind when writing your proposal. Always apply a factual style, never get emotional, never lecture or campaign. Use facts and figures when describing a problem. Do not use any flowery phrases and buzzwords to make the text look more impressive. Do not get over-optimistic and over-confident with regard to outcomes. Use rather a tentative language expressing a certain degree of uncertainty. **Pay attention to text structure, style and wording when reading international publications. This will train your own academic writing skills.**

About: Plagiarism

Your research proposal is an academic text and has to be in line with the rules of academic integrity. **At German universities as well as in DAAD, there is zero tolerance towards plagiarism.** Make sure you know and follow the international citation rules: Whatever you take verbatim from any other text has to come in quotation marks (or as an indented paragraph) - even if this quotation comprises only one sentence or less - followed by the reference. If you incorporate other people's thoughts or findings in your text, you have to give a clear reference to the source. There are plenty of citation guidelines on the internet. Any violation of these rules will result in your proposal not being considered.

A scrupulous researcher usually would not feel any need to check his/her own paper for plagiarism. At the same time, a copy-pasted text does not get “clean” by re-arranging words until the plagiarist hopes the source cannot be detected any more. In most cases, this assumption is wrong anyway.

Share your draft proposal with your potential supervisor and incorporate suggested changes before submitting it to DAAD or any other funding organization.