Study guide

Term papers and essays

at the FB 02 – Social Sciences, Media and Sports

SoWi?So! Erfolgreich und international studieren und lehren

Johannes Gutenberg-Universität Mainz
Fachbereich 02 – Sozialwiss., Medien und Sport

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SoWi?So!
Sozialwissenschaften und Sport
erfolgreich studieren am FB02? | So geht´s!

JOHANNES GUTENBERG UNIVERSITÄT MAINZ

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Dear students of the department 02,

Writing a term paper or seminar paper is undoubtedly one of the most important demands placed on you as a student. Especially at the beginning of your studies, you are quickly confronted with a large number of challenging questions:

"How do I even find a suitable topic and question for my term paper?"

"How do I narrow down my topic so that it meets the required scope?"

"How and where do I search for literature and which of the countless titles do I choose?"

"How do you actually formulate findings scientifically?"

"How does a term paper have to be structured and what do I have to consider when formatting it?"

This list could certainly be extended by quite a few questions that arise when writing a term paper. They already show that scientific writing is to be understood as a writing process in which the concrete formulation of the text is only one step of many. In this process it is not only quite normal, but also necessary that you ask yourself these and other questions. It is important to answer them step by step in order to get closer to the finished text. This guide is intended to help you in this process and to reduce difficulties or uncertainties and is primarily intended for students who are writing a term paper or seminar paper for the first time. The brochure focuses on the entire writing process, starting with the topic and the question, through research and reading of scientific texts, to the structure, outline and formulation as well as formatting of the text itself.

Since such a guide can only be a first aid for your work, you will find further literature on the respective topic in each section. Of course, you can and should also ask for help from your lecturers or contact the SoWi?So! team if you still have questions. And if you would like to learn and practice how to write a seminar paper, you are cordially invited to participate in one of our tutorials "Baustelle Seminararbeit" (taught in German) or “ABC – Acacdemic Boosting Class: Research in Social Sciences” (taught in English).

We hope you enjoy reading this study guide and wish you success in writing your (first) term paper.

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Notes

- This guide is intended for students of all subjects at the Department 02. Scientific work as well as the writing of scientific texts includes many things that are the same or similar in all disciplines and subject areas. This brochure can serve as a basis for your term paper, regardless of whether you are an educationalist, political scientist, psychologist, publicist, sociologist or sports scientist.

  ATTENTION: Your lecturers alone determine which guidelines and requirements apply to your seminar papers. Therefore, you should always ask them in advance and be sure to follow their guidelines, regardless of what you may read in this guide!

- When looking at the table of contents, you may have noticed that there are no explicit references to sources and citations in this guide - although the correct way to cite puzzles many students, especially at the beginning of their studies. We have deliberately chosen not to cover this topic because there are many different academically accepted ways to cite correctly, which can vary widely not only between subjects, but also between lecturers. In addition, some of the institutes already offer guides or tutorials in which you can learn which citation methods are accepted or prescribed in your subject, your discipline or at the respective chair. If you are looking for more detailed information, it is worthwhile to have a look at the websites of the institutes or simply ask your lecturers whether such guides exist in your subject.

  If you come across information or a link that is no longer up to date, we would be very pleased if you could send us an email to sowiso@uni-mainz.de. The same applies in general to comments, questions or criticism.

- Furthermore we would like to ask you to inform yourself about current changes in the context of the Corona pandemic under the following link: https://corona.uni-mainz.de .

1. WHO DOES NOT ASK…

1.1 MOTIVATION, GOALS, OBJECTIVES

What do you want to achieve with your term paper? Do you want the best grade possible or just to pass? Do you want an answer to a question you've been asking yourself for a while? Do you want to please your lecturers? …

The goal of science is to gain knowledge. At the beginning of every research process there is a question that wants to be answered. It is important to see the question asked in connection with one's own motivations. "Motivation" comes from "movere" (lat.: to move), it causes us to perform an action, to move, and accordingly also to ask a question.

You should therefore also think about your personal motivation for writing your text. Motivation, goals and requirements are very closely related. Of course, it is often the case that you have framework conditions and requirements imposed on you from the outside, e.g. requirements from the examination regulations, institute requirements and/or the expectations of the lecturers. Therefore, talk to your lecturers about what is expected of you and what learning and cognitive goals they have in mind.

When writing a term paper, several factors, intrinsic and extrinsic, usually play a role in terms of motivation and goals. Ideally, your own drives and the external impulses coincide in such a way that you manage to stay "on the ball" throughout a writing process without "agony" and with pleasure, i.e. to have your term paper in front of you at the end as an own and gladly written text and finally to hand it in - and thereby to have possibly even made your own contribution to science.

1.2 FINDING A TOPIC

Anyone who writes a text needs a topic. If there is no topic, you either write about everything or about nothing. Both is unsatisfactory and hardly a good work can arise from it. One does not always have the problem or the task of looking for a topic oneself. Sometimes topics are already given or framed by a seminar, a presentation or by the lecturers. In this case, however, the challenge remains to find a suitable topic (see below). If it is necessary to find a topic on your own, you can fall back on a set of questions that can help you. It is advisable to realistically assess what the characteristics of one's own person are (interests, level of knowledge, demands, etc.) and what the available resources are (time, space, accessibility, etc.):

Probe your interests and curiosity:

- In general: What interests and hobbies do you have? What have you always been interested in?
- Can you transfer your interests into a scientific work of your discipline? Without your interest every work becomes and seems boring, for you and the readers!
- What has/had particularly (positively or negatively) caught your attention in a visited event? Does it excite you perhaps to pursue just this further or also just to separate yourself scientifically from it? Do that!
- Many things interest you. But for which topic do you actually "burn" the most, so that you prefer it to other interesting topics and their aspects? Which topic would you like to tell others about?
- Which topics and aspects do you not want to deal with at all?
- On which topic do you have previous knowledge that you would like to deepen or differentiate?
- Which topic is useful for your further studies and possibly for your professional goal? Strategically chosen topics are also useful beyond any self-purpose.
- What would you like to find out?

Check appropriateness and feasibility:

- With which topic (and there are sometimes only a few aspects of it that you can work on!) will you be able and willing to deal with in order to finish within the time and number of pages you have been given? Create a time schedule for yourself, instead of just entering the deadline in the calendar!
- Is the topic a relevant or accepted subject from the perspective of the respective subject? Ask your lecturers, talk to your fellow students!
- Is there relevant scientific literature on the topic that you can refer to? If not, don't do it, because a term paper requires literature!
- Which literature will you need or is it accessible to you (within the time frame) (e.g. interlibrary loans are possible, but they take longer)?
- Where do you see problems? Clarify them with your lecturers or fellow students.

1.3 QUESTIONING AND TOPIC DELIMITATION

On the connection between topic and question

Scientific papers usually follow a specific question. The choice of the topic and the question are closely connected: **Only specific questions make something thematic.** An example (Franck/Stary 2013, p. 161): "My topic is 'The Pear'. I can ask:

- How many calories does a pear have?
- When were pears first systematically cultivated?
- What is the demand for German pears?
- Why was there a pear tree in the garden of Herr von Ribeck auf Ribeck in Havelland?
- How can pears be prepared?
- Can pears and apples be crossed?
- What weighs a pear on average?

I can do a lot with a pear. And I can ask very different questions about the topic 'pear' - and accordingly come to very different answers. Therefore, I have to decide what I want to know about the pear. More generally: the topic of a term paper becomes a topic by the fact that the paper deals with a question."

The question can be motivated in different ways (e.g. for definition, explanation, description, interpretation, comparison, analysis, argumentation, proof, prognosis, etc.). But it is your question that can give a certain direction to your search for an answer and will illuminate a specific aspect of your topic. And that is completely legitimate. The example with the pear ultimately shows something very typical for scientific work, namely the "freedom to work on only one detail of the topic" (Wolfsberger 2009, p. 77). A point whose pursuit is explicitly desired: with the result of being able to "focus everything on one question" (ibid.).

W-questions as instruments for setting direction and goals

Who? What? How? Why? What for? Where? When? Question words (and phrases) make it possible to actively determine what I want to know. They take different things into consideration. They are generally suitable (cf. also Esselborn-Krumbiegel 2008, p. 67f.):

- - for (preliminary) considerations of what the topic should be;
- - to select relevant literature;
- - to get a general orientation and to keep the thread/continuity.

Whoever clarifies scientific questioning in the form of W-questions will understand these primarily as instruments. They help to open up the topic itself, to structure it roughly at the same time and to gain a specific focus or a specific **perspective** for the work. One can also speak here of a goal direction, which refers to certain **factual aspects** of the topic. Thus, the **focus** of the work is created. Here are a few examples of W-questions and their respective objectives:

Question	**aims at**	**Examples**
What	Object determination	What does the author mean by elite? What does *globalization* mean?
Why, what for	Cause, reason, purpose, goal	Why is the proportion of women in C4 professorships so low?

How	Way	How has the pension system evolved over the past two decades?
Who	Person Social groups	Who has the least educational opportunities? What literary role models did Heinrich Mann have?
Where	Place Scope	Where does violence cluster in schools? For which teaching processes does the adolescence maximum hypothesis apply?
When	Time	When were Büchner's works included in the curriculum?

Tab. from: Franck/Stary 2013, p.153

Possibilities of narrowing down the subject

Due to lack of resources (space, time, limited knowledge) it is neither necessary, reasonable, nor affordable to work on and present a topic in all its dimensions within the framework of a term paper. As mentioned before, you have the freedom to set a focus. What may sometimes seem like an external constraint to leave out interesting aspects is actually in the sense of the lecturer as well as the students, since a narrow focus not only saves a lot of useless work, simplifies the concrete arrangement and writing of thoughts and arguments, but also improves the overall quality of the work.

Certain topics, or rather their formulations alone, which stand before one like an immense horizon, are less suitable than topics which are formulated in a concrete and aspectual manner.

The first step in narrowing down the topic is the determination of a question that one will work on and ultimately answer in the thesis. A good term paper will only deal with those aspects of a topic that are within the scope of the question (and are feasible based on resources). The "superfluous aspects" of the subject or topic should be left out, because they do not relate to the question or do not help to answer the question – this is not your topic! (Nevertheless, you are welcome to explain in a few sentences of your paper which aspects you do not deal with and for which reasons. This is and seems reflective and is also an essential skill in scientific work).

There are criteria and possibilities of narrowing down the topic, which run along the matter (aspects of the topic, the subject) you are concerned with and along the goals you yourself have, and can also run together.

Of course, containment options can also overlap if you have a theme. In fact, this is very likely. However you will and want to narrow them down, also remember that you will ultimately discuss your term paper with your lecturers or supervisors.

1.4 FURTHER LITERATURE

Esselborn-Krumbiegel, Helga 2008: Von der Idee zum Text. Eine Anleitung zum wissenschaftlichen Schreiben, 3rd ed. revised, Paderborn: Schöningh (UTB).

Franck, Norbert 2004: Fit fürs Studium. Erfolgreich reden, lesen, schreiben, 7th ed., München: dtv.

Franck, Norbert/Stary, Joachim (Hg.) 2013: Die Technik wissenschaftlichen Arbeitens, 17th ed., Paderborn u.a.: Schönigh.

Kruse, Otto 2007: Keine Angst vor dem leeren Blatt. Ohne Schreibblockaden durchs Studium, 10th ed., Frankfurt a.o.: Campus.

Kruse, Otto 2010: Lesen und Schreiben. Der richtige Umgang mit Texten im Studium, Konstanz: UVK.

Rost, Friedrich 2012: Lern- und Arbeitstechniken für das Studium, 7th ed., Wiesbaden: Springer.

Wolfsberger, Judith 2009: Frei Geschrieben. Mut, Freiheit & Strategie für wissenschaftliche Abschlussarbeiten, 2nd ed., Wien a.o.: Böhlau.

2. RELEVANCE AND READING OF SCIENTIFIC TEXTS

Reading scientific texts occupies a large space in the scientific work process and in your academic training. And not without reason, because the reading of sources to which you refer perform a number of important **functions** (cf. Esselborn-Krumbiegel 2008, p. 76 f.):

- it is only by reading specialist literature that you will find a connection to scientific discourse;
- this enables you to inform yourself about a topic in general as well as about specific aspects of this topic;
- reading scientific texts serves to substantiate your own arguments and insights
- and, last but not least, to develop new ideas and thoughts.

Scientific reading or the reading of specialized literature is quite peculiar. It does not resemble the primarily experience-oriented reading of beautiful literature, e.g. the reading of novels, poems, etc. This does not mean that reading scientific texts cannot be an experience. One should not lose oneself in scientific texts as pleasurably as in beautiful literature. Scientific texts are non-fiction texts with a high information content, often written in a relatively sober manner and at the same time interspersed with many technical terms and foreign words, which by no means always makes them easy or quickly understandable. Therefore, get used to reading scientific literature actively instead of passively! In this way, you will not get lost in the reading, as is the case in beautiful literature, but you will follow your topic and keep your question in mind.

2.1 SCIENTIFIC READING PROCESS AND TEXT ELABORATION

You should realize: reading scientific texts does not only mean the moment when your head and mind are hanging over a text. Scientific reading is best understood as a process consisting of **several steps** (cf. Esselborn-Krumbiegel 2008, pp. 77-88; Franck/Stary 2013, pp. 65-90; Rost 2012, pp. 204-217). Three essential aspects or steps mark this reading process:

I. *Before* the actual reading, a mental preparation takes place, in which you first reflect on what you wants to know or learn in the first place.
II. The text is *first skimmed* in order to get an orientation in the context of one's own question as to whether the text is relevant.
III. If the text is relevant, then a scientific reading cannot be separated from its *marking, symbolic and writing elaboration*.

Reading - as well as writing - is of course a very individual process, i.e. everyone should find out for themselves which reading technique works best to open up texts. Here we will focus on one possible way: the symbolic elaboration of scientific texts via a marginal note system. The idea is to work out texts systematically, on which your elaborations in the context of e.g. excerpts or summaries can then be based. Design your own system of such lines and symbols and maintain it as you progress in your studies. You will need it again and again and be able to develop it further – it will become an extremely useful and analytical routine instrument once your system has become "second nature" to you.

Here is a suggestion how something like this can look like, based on known elements or structural units of scientific texts: e.g. theses, definitions, justifications etc. What exactly your system looks like is up to you; what is more important is that you develop a system and consciously recall it as soon as you start reading a text scientifically. Your system is your **toolbox** for reading your texts. It helps you understand scientific texts on two levels that are inherent in the texts themselves: namely, **what the text says and how it does it**.

Sign/symbol	**Meaning**
T	Thesis, assertion, statement
G	Law
D	(empirical) data
M	method, methodology
B	Reason
Arg.	Argument(ation)
Bsp.	Examples
Def.	Definition
vgl.	"compare"

s.	"see"
->	it follows
¬	not
+	and
v	or
! bzw. !!	important or very important
?	Ambiguity
↯	Contradiction

2.2 WHAT TO DO WHEN A TEXT IS DIFFICULT TO UNDERSTAND?

It always happens and is completely **normal** that a text is not immediately understood. When a text is difficult to understand, the following questions and suggestions can become useful:

- Regardless of the incomprehensible passage, simply continue reading – a great deal only becomes clear in the (overall) context!
- What does the text or section want to "answer", what does it react to?
- What is the title of the text or section (chapter title, headings)?
- Why is there the word X of all things?
- Use (specialized) lexicons and specialized (hand) dictionaries (encyclopedias, reference works)!
- Is the text really too difficult or is my previous knowledge of the subject simply still too low? What can I do to get the necessary knowledge?
- Have the incomprehensible passage read aloud or copy it word for word.
- Ask fellow students or lecturers.

2.3 FURTHER LITERATURE

Esselborn-Krumbiegel, Helga 2008: Von der Idee zum Text. Eine Anleitung zum wissenschaftlichen Schreiben, 3rd ed. revised, Paderborn: Schöningh (UTB).

Franck, Norbert/Stary, Joachim (eds.) 2013: The Technique of Scientific Work, 17th ed. Paderborn et al: Schönigh.

Kruse, Otto 2010: Reading and Writing. Der richtige Umgang mit Texten im Studium, Konstanz: UVK.

Rost, Friedrich 2012: Lern- und Arbeitstechniken für das Studium, 7th ed: Springer.

3. SCIENTIFIC WRITING

3.1 SCIENTIFIC WRITING AS A WRITING PROCESS

Science writing, like science reading, is a necessary and recurring practice in science and in your studies. Like science reading, it is best understood as a process. The writing process is basically the all-encompassing process. In the process, the texts produced must meet special requirements, strict adherence to which characterizes science and categorically distinguishes it, for example, from mere "journalism with footnotes."

Scientific writing takes place in several work stages, ranging from **planning** to final **revision**. If difficulties arise in writing the paper, they do not necessarily have to be rooted in this particular phase of the process, but they often refer to other difficulties within other work steps in the work and research process, which are often unconscious to you. If you are aware of the **work steps**, you can address solutions to writing difficulties: If, for example, your text does not gain any direction at all, this is often related to the fact that already in the introductory phase your own topic was not narrowed down enough and the leading question was not formulated narrowly or precisely enough.

It is therefore very important to be aware of the processual nature of writing. Going back and forth while writing is a normal and typical process towards insight and a finished text. (Therefore, do not be fooled so quickly by the impressively written lightness or intellectual depth of texts, i.e. how they appear to you. They often appear that way only because in the finished text all previous steps of its production or all previous work steps and writing problems are not visible).

3.2 SUBJECT DIFFERENCES AND TYPICAL BASIC ACTIVITIES

Writing scientific texts is a necessary scientific practice. The writing and the writing process are of course also dependent on whether it is a theoretical or empirical paper, a literature report or an experimental study that you have to prepare. Especially at the FB 02 and its six different institutes you will find a wide spectrum of possible term papers or seminar papers. Accordingly, depending on the subject, certain activities dominate the writing and the writing process, while others may not be done at all. Nevertheless, typical **basic activities** can be identified, which are basically found in all different disciplines at the FB 02 or in **science in general**.

These basic activities are also worth mentioning because some of them have long been basic methodological terms and concepts in your own subject, for example. Here you have a list of these

basic activities which always recur, but which do not represent a comprehensive ranking in your list at this point, but are merely intended as a list (cf. Rost 2012, p. 243 f.). Regardless of what type of work you are writing (e.g., theory work or empirical work) and what subject-specific requirements there are, many of these activities will also be found in your work or in your work process. They can also be consulted again and again to control your own procedure in the work:

> *collect, collate, describe, explain, compare, depict, contrast, test (verify, falsify), interpret, analyze, synthesize, order, define, operationalize, substantiate, justify, evaluate objectively.*

3.3 REQUIREMENTS FOR SCIENTIFIC WRITING

As already mentioned, scientific texts must meet certain **standards**. The following requirements can be stated for the **writing of scientific texts** (cf. among others Voss 2010, pp. 82-90; Rost 2012, pp. 237-243):

a. Expectations from authors

- **Independence:** name topic, narrow it down, show relevance, specify research question and answer it comprehensibly (see above)
- **Adherence to the postulate of rationality:** linguistic and logical precision (clarity, freedom from contradictions), 2. intersubjective comprehensibility (other persons must (be able to) arrive at the same result when applying the same method(s)), 3. obligation to substantiate (all statements must be substantiated with appropriate arguments (data, facts, etc.)) (cf. Stegmüller 1973, p. 5 f.)

- **Integrity:** honest handling of intellectual property of others, i.e. clear marking of foreign statements and thoughts (!) by explicit indication of the source, but also honest handling of data, facts, figures as well as other opinions, in short: no deliberately false, misleading or one-sided presentation of facts!
- **Position:** Clearly state your own point of view (if relevant to the research question!) without constantly and exclusively using the "I" form.

b. Linguistic criteria

- **Expression:** factual, precise and succinct, descriptive, terminologically secure, active formulations (in focus: who does what, action) and passive formulations (in focus: results, procedure), precise adjectives, rather indicative verb usage (little subjunctive), varied vocabulary (use synonyms, but: stay consistent with central terms!), no "nounitis" (bad example: "The production of a change when observing the action..." etc.)
- **Sentence structure and orthography:** short (max. 30 words), important in the main sentence, clear sentence structure (standard: subject, predicate, object), correct grammar, spelling and punctuation

- **Avoid:** incomprehensible words and nested sentences; empty phrases, words with little information value ("firm conviction", "now", "somehow" etc.); weak arguments ("of course", "self-evident" etc.); colloquial language and weak reasons ("great", "unbelievably important" etc.); decorative adjectives, unnecessary substantiations; exaggerations; words of uncertainty ("actually", "maybe") etc.; monotony

c. Coherent line of thought ("red thread")

- Content of the text: sentence information, text sections are arranged meaningfully and coherently by structuring the text using headings (chapter titles, subtitles), preliminary announcements, introductory sentences, introductory sentences, references, overall a coherent chain of argumentation, etc.
- Visual form of the text (works towards content): related sentences form a paragraph, a new/other point forms a new paragraph; bold or italic typeface if something is very important

d. Formal criteria

- Quotations: support own position or should show known knowledge; literal ("...") or indirect (i.e. in the sense) adoption of foreign statements with reference to the source (how and where exactly? orientate to the subject, ask etc.!) and citation method; do not "show off" with a series of quotations, your own contribution must remain recognizable.

- Note digits: Numbers after a word, sentence, or phrase in the text lead to footnotes or endnotes; these contain additional information that tends to be distracting in the text

- Tables and Figures: Tables ("Tab.") and figures ("Fig.") can make text more comprehensible, illustrative – but should never have only an end in themselves; can also not explain themselves, i.e. must be verbalized in the text; Tab. and Fig. are numbered consecutively and provided with title; usually "Tab." above table, "Fig." below figure

3.4 TYPICAL FORMULATIONS IN SCIENTIFIC LANGUAGE

Apart from the requirements just mentioned, no scientific text can do without a certain linguistic "dress". Scientific language uses **typical formulations, standard turns of phrase, and standard phrases**, but their usability depends strongly on the point at which one is working and for what purpose, because an introduction with the formulation of the question usually suggests quite different words than, say, the conclusion (cf. Esselborn-Krumbiegel 2010, pp. 81-97). Here are a few examples:

- *in the context of the research question, the research intention, the research objective*: "The work deals with...", "The chapter examines...", "The work inquires about/discusses...", "traces...", "has as its aim...", "The aim of the work is to..." etc.
- *regarding the structure of the work/a chapter*: "At the beginning I present/will present...", "the work is divided into X parts", "First I will... then I will examine...", "this is followed by ...", "Chapter X asks about... Chapter Y discusses...", "At the end I will..." etc.
- *for the reproduction of research positions, argumentations, results*: "I rely on X's investigation", "X elaborates on...", "X assumes that ... and mentions a total of ... points", "Y refers to ...", "Y postulates ... but X criticizes ... and holds against it that ...", "in contrast, Y argues ...", "X comes to the following result/conclusion in her work ..." etc.
- *For connections to research positions, results of others:* "Y's argumentation is convincing/unconvincing because...", "I agree with Y, who has shown that...", "in agreement with Y, X also states that...", "however, it should also be said that...", "here it is ignored/overlooked...", "this position/assumption/thesis is contradicted by..." etc.
- *in the context of an empirical work*: "from the data it appears that...", "the theory/hypothesis XY is confirmed/not confirmed by...", "X is understood as/can be interpreted as..." "here the interpretation is obvious..."
- *to formulate your own results*: "It has been shown...", "The study concludes/has made clear...", "It can be stated/proved/rebutted..." etc.

3.5 WHAT TYPE OF WRITER ARE YOU?

Authors, depending on their writing type and often unconsciously, sometimes use very different working methods to write their texts; the finished text, however, usually does not even show this. It is possible to categorize the different writing types, but none of these types is likely to occur in pure form, and there are also different names for these "ideal" types. Nevertheless, they can be distinguished and reduced to four particularly frequently occurring writing types (cf. Scheuermann 2012, pp. 51-60; Arnold/Chirico/Liebscher 2012, pp. 82-97).

Important: One's own writing type does not necessarily have to/should not be changed. However, it is worthwhile to become aware of one's writing type and to know its **advantages and disadvantages**. Only in this way can solutions to any problems be addressed, which in turn can be derived from the specific advantages of other writing types.

Writing types and their advantages and disadvantages/risks:

I. **Fast writer/adventurer:** starts without wasting much thought on a structure or outline; advantages: free writing, little boring, new ideas and impulses, text is produced; disadvantages/risks: digressing from the topic, revision phase becomes longer, no end in sight

II. **Planner/gold digger:** before writing and formulating, an outline is always needed; advantages: Clarity of one's own procedure, preservation of the red thread; Disadvantages/risks: little openness for new ideas and impulses, too long planning/late writing.

III. **Patchwork writer/squirrel:** write once on this, another time on another text passage, depending on where they see reason and feel like it; advantages: preserve flexibility, portion the whole project into many work steps, little fear of the whole work; disadvantages/risks: avoid difficult text passages for too long, loss of overview

IV. **Version writer/decath fighter:** write new text versions again and again with the goal of the perfect text; advantages: free writing and thinking, pointedness of the last version; disadvantages/risks: time-consuming, separation from previous versions, loss of overview, possibly duplicate work

3.6 FURTHER LITERATURE

Arnold, Sven/Chirico, Rosaria/Liebscher, Daniela 2012: Goldgräber oder Eichhörnchen – Welcher Schreibertyp sind Sie?, in: JoSCH Journal der Schreibberatung, Heft 4, pp. 82-97.

Esselborn-Krumbiegel, Helga 2010: Richtig wissenschaftlich schreiben, Paderborn: Schöningh (UTB).

Rost, Friedrich 2012: Lern- und Arbeitstechniken für das Studium, 7th ed., Wiesbaden: Springer.

Scheuermann, Ulrike 2012: Schreibdenken. Schreiben als Denk- und Lernwerkzeug nutzen und vermitteln, Opladen & Toronto: Barbara Budrich.

Stegmüller, Wolfgang 1973: Probleme und Resultate der Wissenschaftstheorie und Analytischen Philosophie, vol. 4, 1st half volume, Berlin u.a.: Springer.

Voss, Rödiger 2010: Wissenschaftliches Arbeiten …leicht verständlich! Stuttgart: Lucius & Lucius.

4. SCIENTIFIC LITERATURE SEARCH

4.1 RESEARCH AND GENERAL STEPS OF ITS SEQUENCE

A **literature search** begins when the topic has been found and a question has been formulated, so that the search for literature can start meaningfully and take direction. In the scientific production process, the literature search is primarily functional, i.e. it makes it possible to obtain information about a topic in general (abstract) but also specifically (concrete) about details. In addition, it ensures the connection to already existing scientific works and discourses. It serves to substantiate one's own arguments and results and, last but not least, to develop new, own thoughts on the basis of literature previously referred to. Three successive steps of literature research characterize the **research process** as such:

I. Orientation Phase: first search for suitable literature (→ where to find literature?)
II. Procurement Phase: procurement of the selected literature (→ how to find literature?)
III. Selection Phase: targeted selection of relevant literature from the collected literature (→ what is relevant [to your work]?)

Where can you find literature?

Basically, there are two ways to find literature:

1.) Online research:

A search can be done online. This can be done via catalogs and databases of the own university library or with the help of scientific internet search engines (e.g. https://scholar.google.com/ ; www.base-search.net/). However, priority should be given to searching via catalogs and databases of one's own university rather than via Internet search engines. You should also know what kind of literature you are looking for.

Search for books and journals (these portals do not list essay titles!), both for interdisciplinary and subject-specific research:

- OPAC Uni Mainz: the classical research entry on your search for media of the Mainz University Library (https://opac.ub.uni-mainz.de/)
- Research portal Mainz: Books, journals, articles & more, in print or online – here you will find everything Mainz University Library has to offer with its holdings
  - (https://hds.hebis.de/ubmz/index.php)
- Other regional and worldwide catalogs: https://www.ub.uni-mainz.de/kataloge

2.) Visiting a library or a bookstore:
Search while walking around, i.e. on site, in: institute libraries, departmental libraries, central libraries (UBs), city libraries, etc., i.e. concretely touch and view print media. Some libraries sort their books thematically, i.e. it is worthwhile to look at the books to the left and right of a previously identified book, as one can find books on the same topic or books by the same author, which can also be helpful for one's own work.

How do you find literature or what are the search strategies?

Basically, there are two possibilities here as well:

1.) Snowball method:
An existing text serves as a starting point for the search for further texts by systematically going through the text, the bibliography, (if available) the index of persons, subject index etc. In this way, one quickly becomes aware of new keywords, other authors and further texts on which the existing text is based. Especially at the beginning of a research, you can use this method to get a first rough overview of your topic. For those who are still unfamiliar with a topic, introductory textbooks on the subject are suitable. Handbooks (usually anthologies), which look at a topic from different perspectives and in varying detail, already go beyond such works with introductory character. Monographs, on the other hand, can cover a topic in great depth. Journal articles can be used to learn how scientific texts are typically written and that journal articles are definitely the most important publication venues for scientific papers.

It should be noted, however, that with the snowball system one tends to get sources whose authors belong to a similar scientific school and largely only refer to each other ("citation circle"); moreover, with this method one logically only researches "into the past", i.e. only finds sources that are older than the source text.

2.) Systematic research:
Here, one does not leave oneself to the text of an author and his/her preliminary decisions (key terms, literature selection, etc.), which then become the basis of further research. It also avoids the risk of falling into a citation circle and only taking note of older texts. In a systematic research, preliminary considerations are made and the research criteria themselves are determined, e.g.: Where do I look for literature? Do I (also) look for literature in foreign languages? Am I primarily interested in essays or books? With which keywords and key words (and possible combinations) do I want to search? In an online search, for example, there are typical search strategies for this by working with search keys (keyword, keyword, author, title, etc.), logical operators (AND, OR, NOT), wildcards (truncation [*] and wildcard [?]), synonyms and broad/general terms.

What is the text type?

For systematic work, it is important to be aware of the type of text you are currently working with. First of all, a distinction can be made between primary and secondary sources. **Primary literature** is when the content of the text was originally written by the author. In **secondary literature**, on the other hand, the respective author deals with the contents of other texts, i.e. with the primary literature of other authors. In general, it is not necessary to explicitly identify primary and secondary sources as such in the bibliography.

Relevant text types of scientific teaching and research:

- **Reference books***: Encyclopedias, specialized lexicons, textbooks → serve as an introduction*
- **Manuals***: A topic is viewed with its various facets. Facets are taken into the view.*
- **Monographs***: A topic is dealt with comprehensively and coherently.*
- **Anthologies/collected volumes***: Different authors comment on one topic.*
- **Magazine article***: usually on a specific aspect of a topic*

NOTE: The necessity of acquiring research skills is often greatly underestimated. Since knowledge of libraries, catalogs, databases, etc. as well as search strategies are of enormous importance for scientific work, you should familiarize yourself with the physical and electronic resources and terms of use of JGU, especially the UB. **Therefore, use the information and learning offers of the Central Library of the University of Mainz (UB);** furthermore

- has the UB its own contact person or subject librarian for each subject and has subject information for each subject: https://www.ub.uni-mainz.de/fachinfo
- the UB offers courses for general, subject-specific literature search and for database search: www.ub.uni-mainz.de/kurse/
- the UB offers interdisciplinary and specific library tours: https://www.ub.uni-mainz.de/fuehrungen/ and

4.2 TARGETED SELECTION OF RELEVANT LITERATURE

The result of the literature search and acquisition is an accumulation of sources that initially only seem to be important. Now it is a matter of specifically selecting the relevant literature with which further work can be done and accordingly sorting out the non-relevant ones. In other words, it is a matter of "separating the wheat from the chaff" by means of a "relevance check" (Rost 2012, p. 189).

The following classification of **relevance criteria** may appear helpful in this context:

Subjective criteria

- Am I interested in the text?
- Does the text correspond to my level of knowledge/claim?

Factual/objective criteria

- Does the text meet scientific standards?
  - *Published? (no scripts, term papers, etc.)*
  - *Author stated? (e.g. not on Wikipedia)*
  - *Does author refer to scientific texts?*
  - *Text in scientific or popular science context?*
  - *Bibliographic information known? (Author, series, journal, publisher, etc.)*
  - *Extent sufficient for well-founded content?*
  - *Text up-to-date? (Depends on discipline, e.g. historical sciences)*
- Does the text contain information about your own topic and question?
- What is the purpose of this text, in what context does it move?
- How does the author's position relate to mine?

Spatial and time criteria

- Is the text only available elsewhere?
- Does the text have to be ordered, is there enough time?
- Do I have enough time to read all texts/just this text?

4.3 WEITERFÜHRENDE LITERATUR

Esselborn-Krumbiegel, Helga 2008: Von der Idee zum Text. Eine Anleitung zum wissenschaftlichen Schreiben, 3. überarb. Aufl., Paderborn: Schöningh (UTB).

Hofmann, Jens 2013: Erfolgreich recherchieren – Erziehungswissenschaften, Berlin/Boston: Walter de Gruyter.

Rost, Friedrich 2012: Lern- und Arbeitstechniken für das Studium, 7. Aufl., Wiesbaden: Springer.

5. STRUCTURE AND OUTLINE OF A SCIENTIFIC WORK

5.1 WHY ARE STRUCTURE AND OUTLINE OF A THESIS IMPORTANT?

The **structure** of a scientific paper is understood as the individual building blocks that make up such a text. The **outline**, in turn, is the content structure of the scientific paper (as depicted in the table of contents), i.e. the sequence of the individual building blocks and elements of the text. Both the basic structure and a correct, factual and stringent outline should not be underestimated under any circumstances, as they fulfill several functions for a scientific paper at the same time:

- **scientific level**: In your paper you are supposed to work on a topic according to scientific standards. The structure and outline reflect this process and are therefore evidence of your ability to think and work scientifically, to restructure information and to argue scientifically.
- **reader's level:** A good structure and a logical outline make it easier for the reader (i.e. the lecturer assessing you!) to understand the text. They give him/her a first impression of the quality and content of the text, which may even determine whether a text is read at all.
- **author's level:** Structure and outline help you already in the initial phase to carry out the literature research in a more focused way and possibly save you work. During the writing process, they help you never lose sight of the "big picture". If you always keep the focus in mind and always refer back to it in your writing, your texts will be more stringent and you will not run the risk of digressing or digressing. Finally, referring back to the outline will help you to organize individual text passages in a meaningful way when revising and to delete unnecessary passages. This gives your explanations additional sharpness and stringency.

5.2 HOW IS A SCIENTIFIC TEXT FORMALLY STRUCTURED?

The structure of a scientific text depends on many factors: *the type of scientific work (seminar vs. final paper, empirical vs. theoretical work, etc.), the requirements of the subject, the topic, the requirements of the lecturer, etc.*

However, since science always follows generally accepted standards, regardless of subject and topic, all papers basically have the same (formal) structure and always have a similar outline:

1.) *Cover sheet with key data* *(name, date, course, title, instructor, contact details)*
2.) *Table of contents/outline*
3.) *List of abbreviations* *(optional)*
4.) *List of figures* *(optional)*
5.) *Glossary* *(optional)*
6.) ***Text part***
   a. ***Introduction***
   b. ***Main part*** } ***content structure and outline***
   c. ***Conclusion***
7.) *Bibliography/source list*
8.) *Affidavit/Declaration on oath* *(essential)*
9.) *Appendix/Appendices* *(optional)*

5.3 HOW IS A SCIENTIFIC TEXT STRUCTURED IN TERMS OF CONTENT?

- The text section of any paper consists of an **introduction**, a **main body**, and a **conclusion**. In each of these sections, the reader expects certain information or content. It is therefore not arbitrary which information is conveyed at which point, but the individual sections fulfill very specific functions:

- ***Introduction = tasks and problem definition, aim of the work, approach***
  - "What is it about?"/"What is it?" (Explication)
  - "Why is this important/interesting?" (Relevance)
  - "What exactly am I interested in?" (Question)
  - "How am I going to figure this out? (Approach/Method)

- **main part = *detailed treatment of the topic, scientific argumentation***
  - "How has the issue been addressed to date?" (theoretical/empirical foundations, theses)
  - "How can the question be answered now?" (systematic approach/method)
  - "How is the question answered?" (presentation of the argumentation, results based on evidence, answering the question)

- **Conclusion = *summary of the central thoughts/results, conclusion and outlook***
  - "What are the key outcomes of the work?" (concise summary)
  - "What do the results mean?" (Outlook, consequences for science, society, practice, further research etc.)

ATTENTION: Depending on the requirements and whether you are writing a theoretical or empirical paper, the contents of the main part must be modified. For example, in an empirical paper the description of the method has a different importance/scope than in a pure literature/theory paper!

There are also some important **points to consider** for your outline:

- The "main part" cannot consist of only one chapter. For the detailed treatment of your topic/question, you must create **meaningful subchapters**. You must arrange/group these subchapters accordingly and put them in a suitable order. Here, it is often useful to create hierarchical outline levels (e.g., "Chapter 2.1.3."), the depth of which, of course, also depends on the overall scope of the paper. This subdivision of the main part is very much dependent on the respective topic as well as the type of work, which is why no generally applicable guideline exists.
- "Main part" and "Conclusion" are usually not called that! There may be an "Introduction", but especially for the main part, which consists of several subchapters, and the conclusion you have to find meaningful **headings**.
- You should pay attention to the **appropriate size** of the individual text parts or the **weighting** of the text parts among each other. As a rule, the introduction and conclusion should not exceed 10% of the total length (i.e., for a 10-page paper, no more than 1 page each).

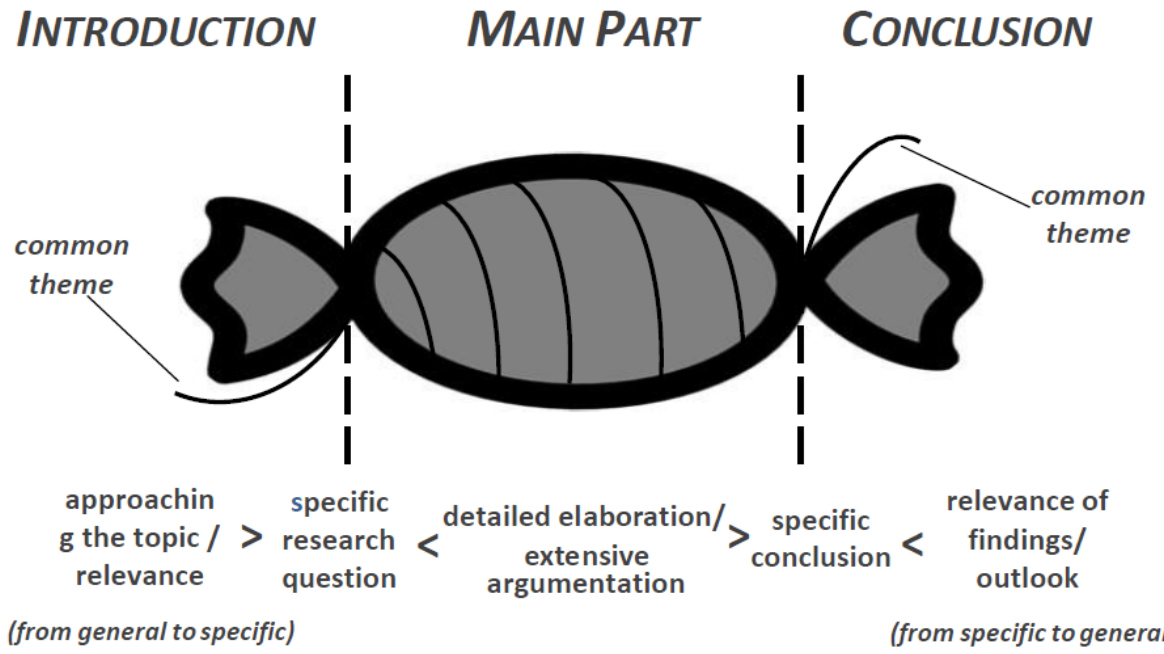
5.4 WHAT MAKES A GOOD CONTENT STRUCTURE?

In order to design a good content outline, there are **criteria** that you can use as a guide:

- Is the outline complete and coherent?
  What belongs to the topic? Are all necessary aspects covered? What is superfluous?
- Is the outline structured and organized in a meaningful way?
  What belongs where? Are the individual aspects meaningfully related to each other? Is the sequence of the individual chapters and subchapters consistent and coherent?
  ***ATTENTION:** The subchapters can be arranged according to different aspects. There is not only one way!*
- Is the outline stringent and comprehensible?
  Is the research question always kept in mind and is the focus on the essentials? Are all chapters (equally) relevant to the research question?
- Is there a "red thread" and is it made clear?
  Is the outline of the work also taken up in the text? Are there concise headings that facilitate orientation? Are there appropriate chapter beginnings and transitions at the end of the chapter?
- Is the outline factually correct and logical?
  Do the chapters and subchapters follow the principles of "hierarchical structure," the "pyramid principle," "horizontal and vertical unambiguity," and "completeness" (cf. e.g. Brink 2013, p.130 ff.)?

5.5 THE "CANDY PRINCIPLE"

When structuring and writing your paper, you can use the **"candy" principle** as a guide, which illustrates how general or how detailed the explanations in which part of the paper should be. The broader the candy, the more detailed the explanations should be. The two "nodes" are respectively the points where your work is most focused: at the end of the introduction, which leads into the concrete question, and at the result of your work, which you generalize again at the end. The "thread" runs through the entire work and holds the "candy" together.



5.6 FURTHER LITERATURE

Brink, Alfred 2013: Anfertigung wissenschaftlicher Arbeiten. Ein prozessorientierter Leitfaden zur Erstellung von Bachelor-, Master- und Diplomarbeiten, Wiesbaden: Springer.

Fromm, Martin/Paschelke, Sarah 2006: Wissenschaftliches Denken und Arbeiten. Eine Einführung und Anleitung für pädagogische Studiengänge, Münster u.a.: Waxmann.

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6. LAYOUT AND FORMATTING OF A SCIENTIFIC PAPER

6.1 WHY ARE LAYOUT AND FORMATTING IMPORTANT?

The **first impression** of a seminar paper is formed by its **external appearance**. If this is impeccable, straightforward and clean, it has a positive influence on the first impression the lecturers have of the work, which is only advantageous in the further discussion.

Formatting is good when it contributes to the **readability** of a text and does not get in the way of the flow of reading. It facilitates the reader's understanding, helps with **orientation** in the document and thus with the **comprehensibility** of the argumentation. As Haines (2009: p. 76) puts it, "As is well known, form without content is nothing; but content without form is also, or even more so, nothing."

Format and layout therefore play an important role and ultimately also influence the evaluation of a paper. If you pay attention to a few things and follow some basic rules, you will do yourself and your lecturers a favor, you will also make your work easier and save yourself time-consuming correction phases. In short: A stringent formatting and a clear layout have a whole range of advantages and a writing program, such as MS WORD or OpenOffice, can help you to use them for you!

6.2 WHAT WORD PROCESSORS MAKE EASIER

Uniform formatting can be implemented quickly and easily using certain functions of word processing programs. In addition, you can create and save format templates with your predefined settings, so that you do not have to define them again for each new text, but can conveniently fall back on your already prepared templates. In this guide we can only roughly deal with the word processing program Word, but there are of course other useful programs, e.g. OpenOffice (but these usually have the same or similar functions).

Some of the **most useful features** of WORD are:

- the automatic generation of tables of contents, tables of figures, and tables of tables
- the use of format templates to facilitate numbering and structuring; in this context, it is possible to use predefined templates as well as self-created templates
- the alphabetical sorting of the bibliography
- easy insertion of headers and footers, footnotes, page numbers, etc.

- a spell checker
- automatic hyphenation
- insertion of manual page breaks
- the "word/character count" function
- the possibility to display synonym suggestions ("Thesaurus")
- converting WORD files into PDF files
- tracking and accepting changes in the text

6.3 USEFUL SHORTCUTS FOR EDITING AND NAVIGATION

The many text editing functions that WORD offers can all be found in the **tabs in the navigation bar and their groups**. For almost every function, however, there are so-called **"shortcuts"**, i.e. simple key combinations that result in the desired command. Some of these "shortcuts" should be kept in mind, because you need them so often that even a mouse click would be too much. We have selected and compiled some of the most important "shortcuts" for you:

Function	**„Shortcut“**
Fat	Strg + Shift + F
Italic	Strg + Shift + K
Underlined	Strg + Shift + U
Text left aligned	Strg + L
Justification	Strg + B
Set arrow „→“	- + - + >
Reverse	Strg + Z
Restore	Strg + Y
Copy	Strg + C
Insert	Strg + V
Search in text	Strg + F
Reduce font by one point	Strg + 8
Increase font size by one point	Strg + 9
Call the Format inspector (shows the formatting of the text)	Strg + Shift + Alt + S
Assign "Standard" style sheet	Strg + Shift + N
Assign "Heading 1, 2, ..." style sheet	Alt + 1,2, …
One word before	Strg + →
Mark a word	Strg + Shift + →
Mark a paragraph	Strg + Shift + ↓

6.4 WHERE AND HOW DO I LEARN TO USE WORD?

A tutorial or this booklet cannot, of course, explain and demonstrate all the functions and features of WORD due to its limited scope. However, there are various ways to familiarize yourself with WORD or other word processing programs on your own or with support.

Some of these possibilities are:

- calling the Word help with [F1]
- the Microsoft homepage
- advice in various forums and online tutorials
- various manuals, e.g. from the university library
- the courses of the Center for Data Processing (ZDV) of JGU
- practice, try out, try yourself

6.5 FURTHER LITERATURE

RRZN Hannover (o.J.): Word - 2013 - Grundlagen. Kostenpflichtiges Skript, Bodenheim: Herdt (erhältlich im Zentrum für Datenverarbeitung).

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