

# A Guideline for Study Groups

Dear students,

why is there another guideline, perhaps even an additional „task“ in a week that is already far too packed?

Well, study groups can be an important and enriching addition to your studies. However, they also require a little organization and care in order to fulfill this function. This guide is intended as an initial orientation: What are the limits and possibilities of a study group? How can it be organized and structured? And how can conflicts within the group be dealt with? These and other questions will be answered here. There is no claim to completeness. You may already have your own experiences or tried and tested strategies. Be more than welcome to contribute these and share them with your fellow group members. Above all, it is important that the group finds its own, functioning dynamic.

The various topics in this guide may become relevant at different points in the group process, and the same questions may come up repeatedly. Do not hesitate to browse through the guide whenever you need to.

Good luck!

## **A Guideline for Study Groups**

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# Why a Study Group?

Study groups - are they the same old hated group work from school all over again? No!

Because a study group is based on voluntary participation and a mutual commitment to work on and deepen certain content from the curriculum together. So there is a common motivation. You decide for yourself who you want to form a study group with, what content you want to work on and how the group is organized.

Additionally, study groups offer **specific advantages**:

1. **Diversity:** Discussing a topic with others, brainstorming questions or tackling a task together broadens your own perspective with new solutions, approaches and skills.
2. **Practice:** What has been learned can be actively practiced and repeated in the group. This deepens the learning content and trains confidence in the exam (especially in oral exams).
3. **Reflection:** By exchanging ideas with fellow students who are working on the same topic, it is possible to assess your own level of knowledge. Gaps in knowledge become more visible and your own (irrational) concerns (e.g. knowing much less than others) can be better scrutinized.
4. **Motivation:** Learning with others, supporting each other or sometimes even getting annoyed together about a particularly difficult task can be encouraging. It is easier to stay committed and prepare in a targeted manner.
5. **Soft Skills:** Working in study groups also trains important soft skills that will be in demand in later working life: e.g. communication and conflict management; self-organization and autonomous team organization; time management.
6. **Contacts:** Instead of studying alone or getting frustrated over a difficult task, study groups can be an important social gathering and thus a crucial resource in stressful times.

But of course, study groups are not a miracle weapon for studying. Despite the many advantages, there are one or two pitfalls. In particular, so-called group blindness (the collective ignoring of knowledge gaps or conflicts, for example) must be avoided. A lack of fit between group members or inadequate organization of the group can also lead to obstructive group dynamics (e.g. competitive pressure; personal conflicts), so that a constructive learning environment cannot be created. Also, individual goals cannot always be fully taken into account in the group.

You should therefore check in advance whether you consider a study group to be helpful for you and your interests. In the following you will find a brief overview in which cases a study group can be helpful or not.

## Study Groups – Benefits and Limitations

Whether a learning group is experienced as helpful or not can depend on personal (e.g. own objectives), group-specific (e.g. group dynamics) or structural aspects (e.g. type of

examination). You should therefore consider each time whether a study group could be suitable for your specific case.

**A study group is HELPFUL, if .....**

- ... comprehension or transfer performance is required.
- ... it is an oral exam.
- ... it serves long-term exam preparation and continuous learning.
- ... you are dealing with complex topics.
- ... it is well organized (clear structure, clear content objectives, reliability).
- ... it is moderately mixed in terms of performance, personal values, characteristics, etc.
- ... you have personal difficulties with motivation, time management or self-discipline.
- ... there is an appreciative and transparent way of dealing with one's failures.

**A study group is LESS HELPFUL, if .....**

- ... it's all about memorization and a multiple-choice format.
- ... time pressure is high.
- ... there is no supplementary self-study.
- ... it is poorly organized (e.g. unclear structure, exchange of irrelevant content, no reliability among each other).
- ... the performance gap is too big (risk of being under- or overchallenged).
- ... you mainly want to explain and check your own level of knowledge rather than learn from each other.
- ... group members put too much pressure on each other and there is no constructive way of dealing with one's failures.

**REMEMBER:** A study group can never fully replace self-study – but it can complement it.

## How Can Study Groups Work?

In order for a study group to work well and for its benefits to be exploited, there are a few things to consider when forming the group and working together. Basically, however, a study group does not work “just like that”. Rather, it thrives on active cooperation, the contribution of all members and a certain degree of self-commitment.

## Design and Structure

### Group Size

The ideal size of a study group is between **3-5 people**. This prevents subgroups from being formed, all participants can be sufficiently involved and there is still a variety of perspectives and opportunities for discussion.

### Composition of the Group

The best common base is **(1) an interest in a productive study group**. You should therefore be interested in learning from and with others, i.e. in exchanging ideas with each other.

Remember, a study group is not the same as tutoring or asking questions at the end of a lecture.

In terms of content, it is important to ensure that there is a sufficient **(2) overlap in terms of learning content and interests**. Perhaps you and the other members of your group are taking some classes together or are preparing for the same exam. Different interests or areas of focus are not an exclusion criterion, but there should be a sufficiently large overlap that you can work on together. If there is a common goal, other differences will fade into the background.

Furthermore, there should be a **(3) similar, but not necessarily equal, level of knowledge** with regard to the learning content. On the contrary, a moderate performance gap between the group members can even be beneficial.

A **rough estimate** could be, for example, that everyone in the group should have someone else who ...

- a) ... knows **more** or has more expertise in one area (so he/she can learn something from that person).
- b) ... knows **less** or has less expertise in one area (so he/she can explain something to that person and therefore deepen and apply his/her knowledge).
- c) ... has a similar amount of knowledge or expertise in one area (so a constructive competition can arise between these persons).

Moreover, you should also like the members of your study group. **(4) Sympathies towards each other** promote a productive learning environment and help to ensure that you enjoy going to the group meetings. Ultimately, a study group also has a clear purpose - namely to study together. Members of the group can therefore become or be friends, but they do not have to be best buddies.

Generally speaking: **(5) It's the mix that matters!** Beyond the learning content, the group should be as homogeneous (i.e. similar) as possible in terms of personal attitudes (e.g. personal performance expectations) and characteristics (e.g. time management). This minimizes the potential for conflict from the outset and simplifies communication. However, when it comes to competence (e.g. programming experience) and knowledge (e.g. math skills), the group benefits from a heterogeneous (i.e. different) composition. This promotes exchange and mutual learning.

**REMEMBER:** If you are unsure whether you fit in with the other group members in terms of your characteristics or attitudes, talk about it! For example, a person who has difficulties with time management can benefit greatly from a group that meets regularly. As long as the group finds a way of dealing with this and communicates clearly about it, such differences can be easily compensated for.

## Working Conditions

A study group needs a clearly defined organization and structure. It is worth investing time in this at the beginning, as this is the basis on which all subsequent meetings of the group will take place. And if you have to keep reorganizing as the group progresses, it will cost you an unnecessary amount of effort.

Therefore, the following points should be clarified in advance:

**1. When** should the meetings take place?

If possible, the meetings should be scheduled for a specific period (e.g. the current semester) and at regular intervals. This avoids having to look for a new date every time and allows all group members to plan accordingly.

**2. How often** should the meetings take place?

The group can meet weekly or every two weeks, for example. The only thing to bear in mind is that the frequency of the meetings must also match the objective of the group and be manageable for all group members. The regularity of the meetings is crucial for the success of the study group. It may be helpful to increase the frequency for exam preparation.

Also clarify how you would like to continue with the meetings during the semester breaks. For example, will the group only exist for a single semester? Or should it be continued?

**3. Where** should the meetings take place?

Think about what conditions you need for a good working atmosphere. Ideally, you should find a place that is largely free of disruption for the duration of your meeting. If you meet online, each person is responsible for finding a suitable environment.

**4. How long** should a meeting be?

During the semester, for example, you can meet for 90-minute sessions and schedule a few blocks of 3-4 hours specifically for exam preparation. Please note that studying in a group takes more time than studying alone! You should also plan fixed breaks for each session. The following also applies here: The duration of the meetings should match the capacity of the members and the regularity of the meetings outweighs the duration (provided they are effectively organized).

**5. What is the group's purpose?**

Clarify the purpose of the group meeting in advance. Do you want to follow up on a specific lecture or project? Do you want to explicitly prepare for an exam? Or do you want to delve deeper into certain topics (and if so, which ones)? When setting your objectives, also take your time capacities into account.

## 6. What rules apply in the group?

Think in advance (individually and then together) about what is important to you when dealing with each other. How do you want to talk to each other? How do you want to give each other feedback? And how do you deal with disruptions (e.g. if someone is repeatedly late or neglects tasks)? Further information can be found from [page 10](#) onwards.

## 7. How will informations be shared?

At the beginning, discuss which platform you want to use to communicate with each other and how you want to share the information you have gathered in your meetings.

**REMEMBER:** Consider in advance how you would like to deal with group meetings during exam periods or other phases of the semester (e.g. when there are a lot of assignments). It is not unusual for the group to fade into the background as the workload increases. Yet this is when it can be particularly helpful.

## Allocation of Roles

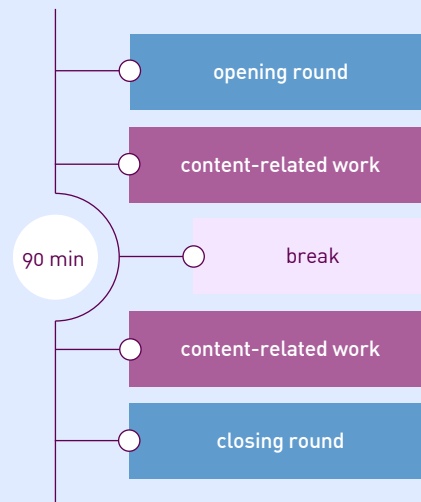
To ensure that a group does not have to reorganize itself over and over again and that all members have to pay attention to the same aspects when working together, it helps to define a few roles in advance. Each role has a clearly defined task. The roles can be defined for a certain period of time or rotate with each meeting.

First, there needs to be **(1) a moderator**. This person leads the respective meeting and is therefore responsible for structuring the contributions of the other group members, ensuring balanced participation by all and maintaining the content-related focus. In addition, **(2) a time manager** is needed to ensure that the meeting starts and ends on time, that break times are kept to and that digressive conversations are limited. **(3) A minute taker** is also helpful. This person documents, for example, which topics and solutions were discussed, where there are still open questions and who clarifies these if necessary and whether and to whom certain tasks were assigned for the next meeting. This information is then made available to all group members. This allows everyone to keep an eye on progress within the learning group.

## Procedure

It is recommended to establish a **fixed basic structure** for each meeting. This makes the learning group more resilient to disruptions and it is easier to find an introduction to the topics (and use the time more efficiently). An **opening and closing round** as well as a **defined break** should be fixed components of a meeting. The longer a meeting lasts, the more important the breaks are: after about 30 minutes of working together, you should take at least a 5-minute break, after 60 minutes at least a correspondingly longer break of 15-20 minutes, for example. In the opening round, you can discuss any organizational issues or note down any urgent topics for the meeting. The final round is about a brief summary of the work done. In addition, the topic for the next meeting should already be determined, if this has not already been decided (in this case, a reminder is sufficient). How you want to organize the **content-related work phases** (e.g. working with to-do lists; working on predefined tasks; presenting certain topics) is up to you. Agree on a procedure. You will find suggestions for learning methods in the group

from [page 9](#) onwards. It is advisable to define a topic for the next meeting at the end of each meeting. This makes it easier to start with the content and prevents a time-consuming search for a new one the next time.



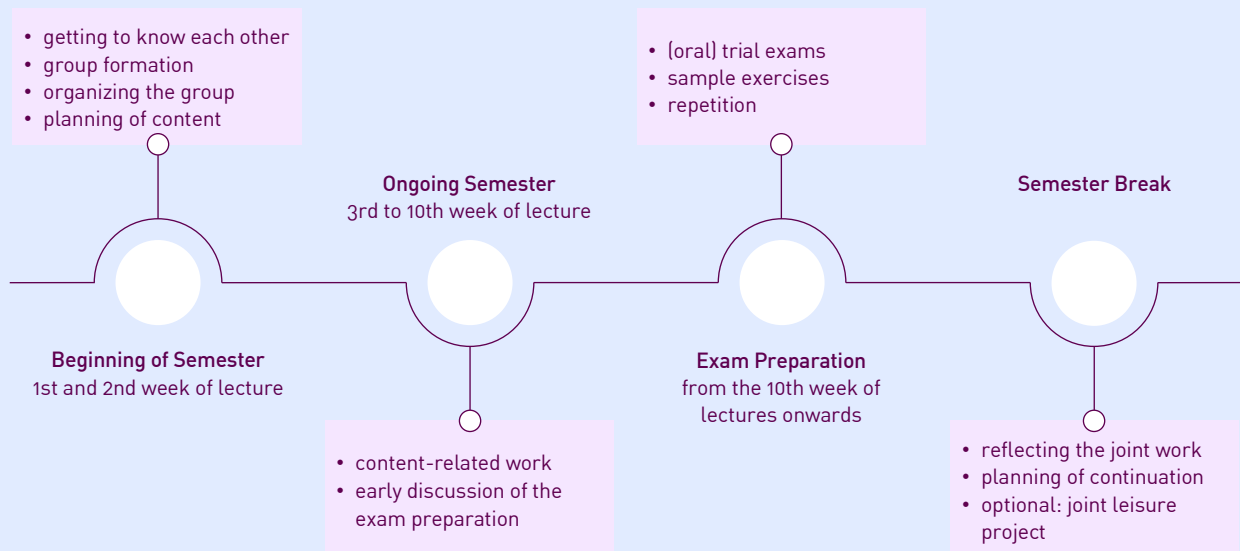
**Figure 1:** Sample schedule for a 90-minute study group meeting.

**REMEMBER:** It's perfectly normal for you to stray off topic from time to time and get chatty - especially if you get on well with each other. Nevertheless, try to consistently use the time you spend together only for content-related work. It's better to plan time after the study group to hang out together and socialize.

Each meeting should also be embedded in an **overarching schedule and organizational process**. Take enough time at the beginning to clarify the procedures and framework conditions and to allocate roles. Plan a separate meeting at the end of the group or semester for a joint reflection. This will help you to improve your work together. If you want to continue the group in the upcoming semester, make an appointment for the first week of lectures. This way, you don't have to coordinate again and it will be easier to get back into the semester.

**REMEMBER:** In order for a productive group atmosphere to develop, it is helpful to take time at the beginning to get to know each other and find a common working routine. The organizational basis (see [page 5](#) onwards) plays a key role in determining how well the group will function in the future.





**Figure 2:** Sample timeline of a weekly study group.

## Learning Methods within the Group

Learning in or with a group offers many advantages and supplements to self-study (see also [here](#)). Below you will find some suggestions as to which methods you can make particularly good use of. If you have any other ideas or experiences, please do not hesitate to share them with the group!

1. **Asking questions over, and over, and over ...** : It sounds trivial, but you will benefit most from a study group by exchanging ideas with each other. So ask questions whenever you don't understand something! You will never forget the jointly developed solution to a question you have proactively asked - unlike the lecture slides you memorized!
2. **Sharing knowledge:** If you don't ask questions, you can explain and share your knowledge - this is another way of consolidating the learning content. Because breaking down complex content to an easy-to-understand level and explaining it to others requires a good understanding of the topic. At the same time, the content is anchored deeper in your memory as it is repeated in your own words.
3. **Trial exams:** Of course, you can also simulate exams in a group. This works particularly well for oral exams. Here you can take it in turns to test each other and recreate the exam situation. The examinee can test his/her knowledge and practise dealing with uncertainties in the exam. The examiner is required to draw up a list of questions and thus also check their level of knowledge. However, a written exam can also be simulated. Set yourself the same time limit as in the exam, complete a trial exam and then discuss the questions.
4. **Practicing presentations:** If you want to practise a presentation, a test run in the study group is ideal. On the one hand, you actively practise your presentation and gain confidence in your appearance and the content presented. On the other hand, you test your knowledge of the prepared content by being challenged to answer questions spontaneously. In addition, you will get an impression of how a group reacts to your input and where you may still be uncertain. And last but not least, the feedback from the other group members gives you the opportunity to reflect on your own blind spots.

The group benefits from this too, as the others receive a well-prepared explanation of a topic, can check their own knowledge and practise critical reflection on the content.

5. **Mind mapping:** The idea behind mind mapping in studying is to present complex content in a clear and structured way. This makes content-related connections visible. The active development, the joint exchange during the process and the concise overview at the end promote understanding of the content and increase the memorability of the topics presented.
6. **Game-based learning:** For some topics, other people have already come up with clever ideas and prepared them in a playful way. You can find an overview of interactive learning platforms and games in the field of computer science on the website of the Student Coaching at the Department of Computer Science. Some of these are also suitable for working on with a study group (e.g. Leetcode or nandgame).

## Communication within the Group

A study group (as well as working in groups or teams in general) is by no means a no-brainer. Rather, in addition to thorough organization, it also requires active communication in order to be able to work productively. And, of course, conflicts can occasionally arise. To help you develop a common understanding of this in your group and manage conflicts, you will learn a little more below about sensible communication rules in your study group, some basic principles of communication and possible strategies for resolving conflicts.

### Rules of Communication

In your study group, agree on what is important to you when dealing with each other. How do you want to talk to each other? What rules and values are important to you? It may seem strange at first to explicitly discuss this and set rules. However, a common consensus in your study group not only makes communication easier, but also helps you to address rule violations in the event of conflict.

The base is a **(1) respectful treatment** of each other. Keep to agreements, arrive on time for the agreed meetings and cancel in good time if you are unable to attend. You should also let each other finish and not engage in any side activities while working together (e.g. chatting, quickly checking emails, looking up something etc.). It is also helpful to **(2) stick to your own individual perspective** whenever communicating. When expressing your opinion, asking a question or otherwise contributing to the conversation, talk about yourself (e.g. "I think that ..." / "I wonder whether ..." / "I don't quite understand ... yet."). This way you minimize the risk of misunderstandings. In addition, it helps to communicate **(3) your own observations instead of judgments** (e.g. "I've noticed that we often discuss the basics" instead of "I find it totally boring that we never talk about the more complex issues."). It is also advisable to ask **(4) open questions** (e.g. "How did you come up with the idea?"; "How do you think the problem can be solved?") in order to stimulate the group's creative potential. On the one hand, this conveys curiosity and interest, and on the other, it encourages the group to brainstorm together. And when it comes to feedback and criticism within the group, follow the principle **(5) "feedback instead of shitstorm"**. First share your perception (keyword: observation instead of judgment), then the effect and finally your wish/recommendation. This could look like this, for example: "During your presentation, you often looked at the ground. That made an insecure impression

on me. Next time, please pay more attention to making eye contact." or "You've just interrupted my answer, which bothers me. Please let me finish before you add your input."

**REMEMBER:** Take the time to formulate your communication rules together at the beginning. Keep a record of the rules for everyone to see, for example in your protocol.

## Basic Principles of Communication

Communication is generally understood to be the **exchange of information** between at least two people. Sounds simple, but it can become rather tricky. This is because there can be many misunderstandings and therefore conflicts. To understand this a little better, it is helpful to have a basic understanding of human communication. According to Paul Watzlawick, there are **5 principles of human communication**:

1. **You cannot not communicate:** Even when we are not speaking, we are still communicating, i.e. by adopting a certain posture or conveying a certain attitude. All these signals are a way of communication.
2. **Every communication has both a content and a personal aspect:** While the content aspect conveys specific (technical) information, the personal aspect contains information about the relationship between people. This is expressed by means of non-verbal signals (e.g. facial expressions, gestures, tone of voice) and by the type of reaction (e.g. overhearing or confirming a statement) to the statement made.
3. **Communication is always cause and effect:** Every person involved in the communication contributes something to it and at the same time reacts to the input of another person, which in turn generates new input. This creates a cycle of action and reaction, whereby the participants are usually unaware of their own contribution.
4. **Human communication uses analog and digital modalities:** Information can either be conveyed digitally, i.e. by means of speech or writing, or analog, i.e. non-verbally (e.g. facial expressions, gestures, tone of voice). The decisive factor here is the scope for interpretation, which becomes greater the more non-verbal communication takes place.
5. **Communication is symmetrical or complementary:** Communication can be based on equality (symmetrical) or on difference (complementary). In symmetrical communication, attempts are made to minimize inequalities and differences. In complementary communication, there is usually a hierarchy, so that there is one person who dominates and one who is subordinate.

All five of these points can be the cause of misunderstandings and conflicts. When working together in a study group, it is particularly important to keep in mind that all of these communication processes still take place alongside the specific purpose of the group.

## Dealing with Conflicts

Conflicts cannot be completely avoided, but they can be dealt with fairly. There will always be different opinions or values, which are allowed to remain (right to diversity). It is crucial to talk to each other about the differences and areas of conflict and to find a common approach.

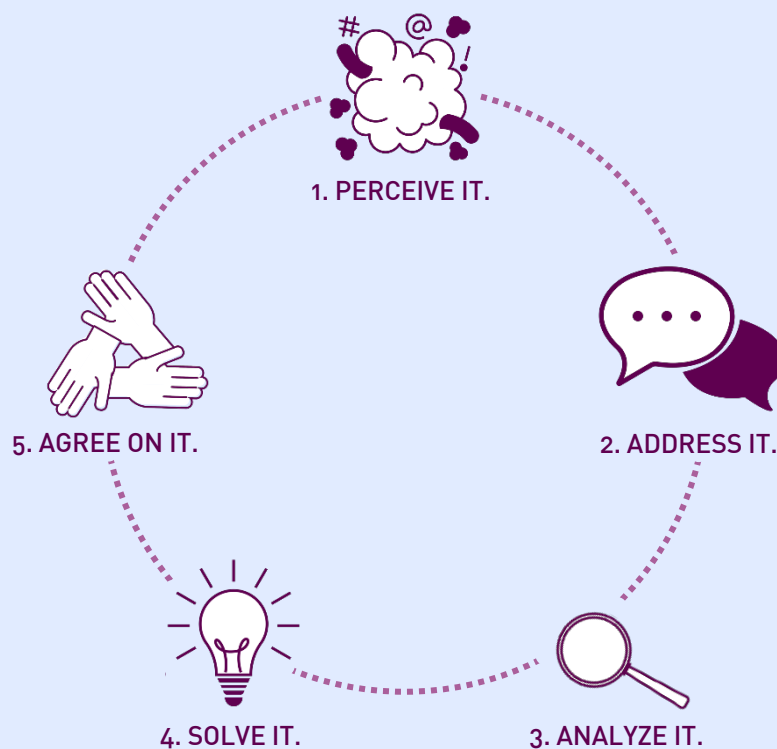
Successful conflict resolution can be enriching for everyone. Basically, conflicts are always opportunities for development!

Konrad Lorenz has already described an omnipresent **dilemma in communication** that often contributes to the creation of conflicts:



Figure 3: Dilemma in communication by Konrad Lorenz.

This model already makes it clear how important active, explicit and constantly reflective communication is. However, groups often prefer avoidance, exclude the alleged perpetrator of the conflict or suppress critical voices so as not to jeopardize the group structure. This may work in the short term, but in the long term it contributes to an escalation of the conflict. In other words: **Address the conflict!** But how do you do that? Well, one step at a time.



The basic prerequisite is **(1) to be aware** of the conflict. You may notice increasing tensions between your fellow students or notice dissatisfaction within yourself. Do not hesitate too long **(2) to address** the conflict. The sooner you do this, the easier it will be to find a solution. Raise your concern at the beginning of a meeting and formulate your specific observation, for example: "I have noticed that there are always discussions between A and B that deviate from the content of our work. Can we take some time to talk about this after the meeting?" or "I've noticed that I feel very uncomfortable with the way we give each other feedback on our input. Can we talk about this again?". The next step is **(3) to analyze** the conflict: Which parties are involved in the conflict? How has the conflict progressed so far? What is it really about at its essence? And what interests, needs or fears do the individual parties to the conflict have? The conflict analysis can create an understanding of each other, making it easier to work out a suitable solution afterwards.

**REMEMBER:** Conflict analysis is not about finding the one and only truth (i.e. "It has definitely been this way and not the other way round.") or rushing and working on a solution already. Instead, it is about an unbiased description and exploration.

#### **DIGRESSION: Types of Conflict .....**

There are many different types of conflicts, some typical ones are listed below.

**Conflict of Distribution:** Person A wants to spend most of time during exam preparation with solving former exams, whereas person B also wants to spend some time on basic questions.

**Conflict of Values:** It is important to person A that every group member can keep up and is looked after, whereas person B wants to discuss their own topics first and foremost.

**Conflict of Needs:** Person A wants to get started with content directly at the beginning of a meeting, whereas person B prefers to chitchat first.

**Conflict of Objectives:** Person A is highly ambitious and wants to get an excellent grade, whereas person B simply wants to pass the exam, no matter the grade.

**Conflict of Transference:** Person A feels reminded of someone else in certain characteristics or behaviors of person B (usually negatively colored in the case of conflict). Therefore, the feelings, attitudes, biases, etc. of person A towards person B are mixed with these very memories.

**Conflict of Roles:** Person A is officially moderating the study group meeting. However, person B also claims this role and interferes.

**Conflict of Relation:** Person A and person B are friends and had a quarrel before the study group meeting. However, the others don't know about it.

.....

If you have thoroughly understood the conflict, you are already halfway there. Now it's time to work out a **(4) solution** to the conflict. Use the group's creativity for this and start by collecting all the proposed solutions - regardless of whether they are realistically feasible or not. Again, be careful not to rush into an evaluation. Once you have collected all the suggestions, you can

work out a compromise from this pool of possibilities. Check the solution again and again with regard to its suitability.

It is important that you finally reach a **(5) joint agreement**. Your solution will only be viable if everyone involved can agree. If you reach agreements, record them in a way that is accessible to everyone.

# FAQs / Supplementary Information

## HOW DO I FIND A STUDY GROUP IF I DON'T HAVE ONE YET?

*If you are looking for a study group, think about where you already have some contact with your fellow students. Perhaps there is a joint project, seminar or lecture? You could also make a search request, e.g. via Moodle or Elements.*

## SHOULD I STUDY ALONE OR IN A GROUP?

*To help you determine whether a study group is right for you, see [page 4](#).*

## WHERE CAN WE MEET WITH OUR GROUP?

*Publicly accessible meeting places can be the h\_da study rooms, the seating areas in D14 or the TU library (city center). Local facilities (e.g. the city library) can also be good places to study together.*

## CAN WE ALSO MEET ONLINE?

*In principle, it is also possible to meet online. However, this requires more structure. In addition, face-to-face meetings are usually experienced as more productive and more conducive to learning.*

## I DON'T SPEAK OR UNDERSTAND GERMAN VERY WELL YET.

*A language barrier can be a challenge. But as long as you and your group members can communicate in a common language (e.g. English), it doesn't have to be an obstacle. The group also offers a good opportunity to improve your German language skills - and you can practise directly for the exams.*

## I FAILED THE EXAM, BUT THE REST OF THE GROUP PASSED.

*If you fail an exam, it's upsetting. But if your study group has worked well so far, stick with it! Because an existing group works more effectively. Perhaps there will be another exam next semester that you can prepare for together? Or there are other fellow students with whom you can prepare for the re-examination together?*

## WHAT DO WE DO IF THERE IS A CONFLICT IN THE STUDY GROUP?

*Conflicts can always arise and are not a bad thing per se. Follow the communication rules ([page 10](#)) when resolving conflicts. If you still cannot get back into a workable exchange with each other, contact the department's study coach for possible mediation.*

## WE ARE NOT SURE WHETHER WE HAVE WORKED OUT THE RIGHT SOLUTIONS.

*See if there is a sample solution for the exercises. If this is not the case or you have other subject-specific questions, you can use the open labs. And of course you can also contact your professors with specific questions.*