Interdisciplinary Communication and Collaboration
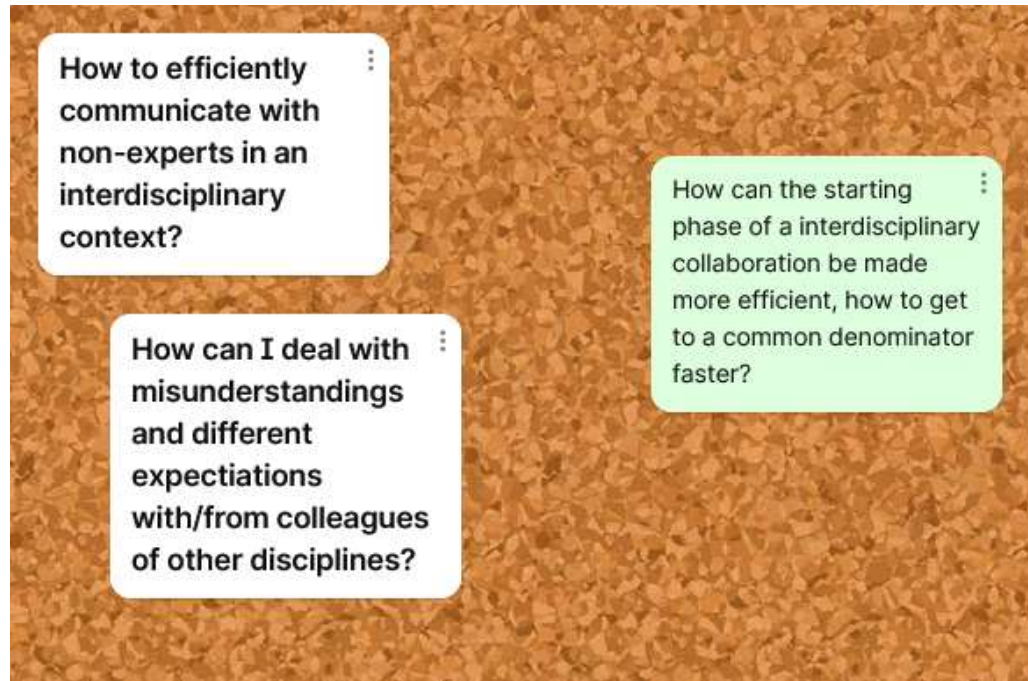
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Your main questions for our workshop

How to efficiently communicate with non-experts in an interdisciplinary context?

How can the starting phase of a interdisciplinary collaboration be made more efficient, how to get to a common denominator faster?

How can I deal with misunderstandings and different expectations with/from colleagues of other disciplines?

Program

1. Welcome and Introductions

2. Basics
   1. Different kinds of interdisciplinary research
   2. Respectful and open communication
   3. Working in academia: rules and conflicts
   4. Interdisciplinary projects

3. Different disciplinary cultures

4. Different ways of doing research

2. Basics

Different kinds of interdisciplinary research

Interdisciplinary research comes in different shapes and forms:

- **Exchange of ideas and information** between researchers from different disciplines
- **Work in a shared context, but without real interaction**: different disciplinary research processes in the same broad subject area
- One discipline makes use of another discipline as **support**, or as a **tool** (ancillary science/ '*Hilfswissenschaft*')
- **Inspiration**: Researchers or scientists from one discipline are inspired by results, methods or ideas from another discipline
- Equal **cooperation** between researchers and scientists from different disciplines working on a joint research problem

Do you see/ have you experienced additional kinds of interdisciplinary research?

Interdisciplinary Communication

Basics:

Tolerance

Awareness of one's own prejudices

All researchers and scientists are formed by their own background

Awareness of the constraints and the pressure all researchers and scientists must cope with (discipline; system → cf. next sub-section)

Be curious: try to understand different disciplines and different people

Listen to, and talk with, each other with open ears and minds

Respectful and open communication

Listen

Ask

Try to understand

Repeat in your own words

Expect, and accept, that you may feel insecure

Respectful communication: listen

Please **tell one another about a current research topic** you are working on **or about your daily research or work activities**.

As the other person speaks, please **listen** in a respectful and open manner. **Ask** questions about points you which you don't understand or which you find particularly interesting.

At the end of each round, please give the listener **feedback**: How did you feel as you were telling your story? What could the listener have done to motivate you even more, or to have you make necessary adaptations in your story?

7-10 minutes each.

Feedback

- Listen, get involved, practice open communication
- Familiarize yourself with feedback rules
    Cf., e. g.,
    - https://www.pon.harvard.edu/daily/negotiation-skills-daily/negotiation-skills-giving-feedback-who-needs-it-it-might-be-you/
    - https://karrierebibel.de/feedbackregeln/

Presenting and discussing your research

1. Briefly present an elevator pitch (or your problem/ challenge at hand)

2. Your interlocutor(s) repeat your project (problem/ challenge) in their own words and then ask questions about what they may not have fully understood; you enter into a dialogue

3. You tell your interlocutor(s) what you find challenging or difficult about your project/ you offer a more detailed account of your problem/ challenge

4. Your interlocutor(s) offer their ideas as to possible solutions, or ways of dealing with these challenges ("This is what I would do…")

Challenges of the system

Academic careers

- few permanent posts, *Wissenschaftszeitvertragsgesetz* etc.
- Competition
- Necessity to do self-marketing and to convince others
- Pressure to publish and to apply for funding

Culture

- Importance of hierarchies
- Superiors / professors are not systematically trained in leadership skills

Research practice and mentality

- The nature of research: risky, uncertain
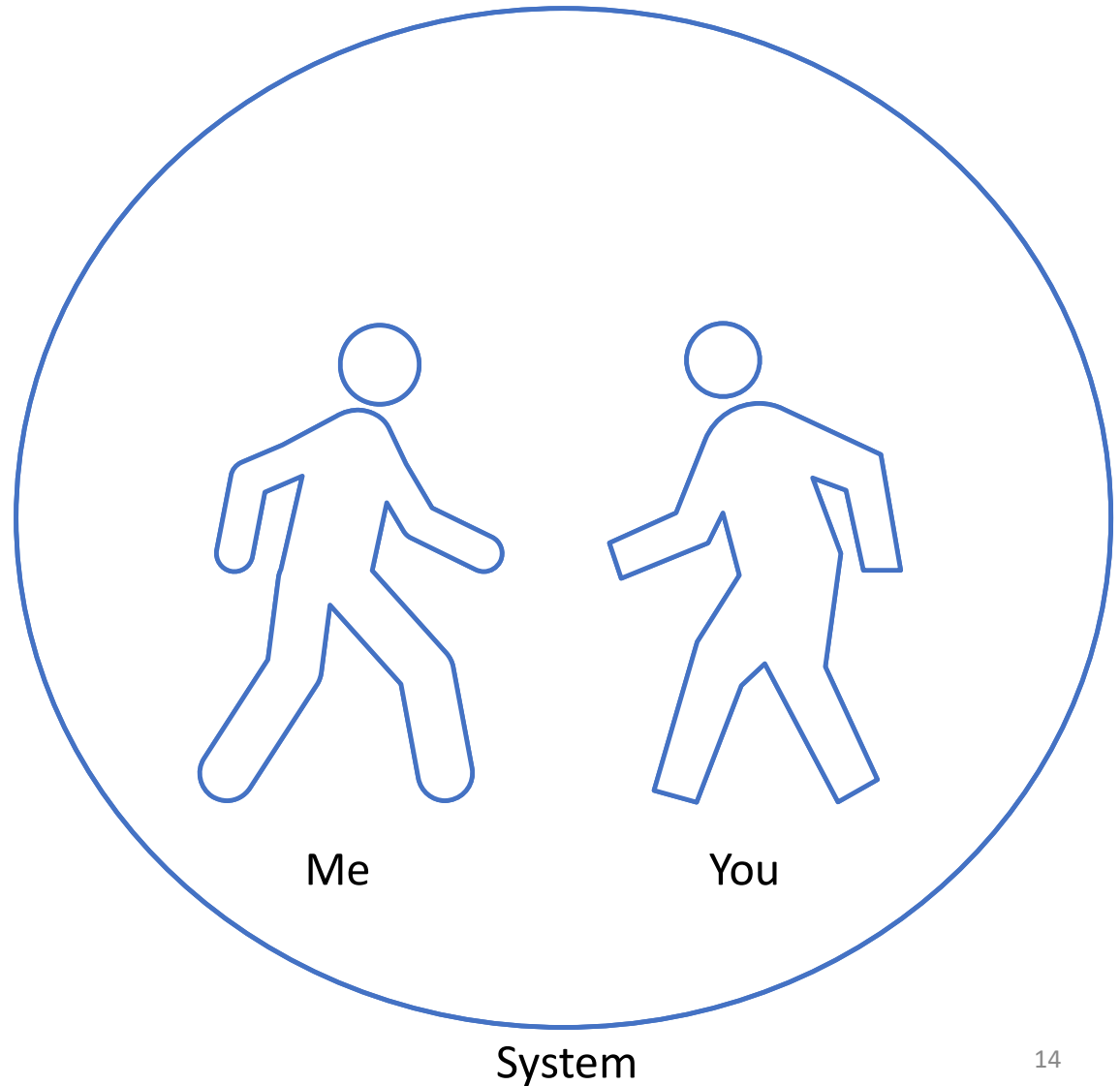- The way of thinking: True or false

Managing the system's rules

- Being aware of the rules and challenges
- What do I need to do about them? Which ones are particularly relevant for me?

Conflicts are a normal part of life

Types of conflicts

➢ Goals
➢ Evaluation
➢ Resources
➢ Roles
➢ Values
➢ *Conflict as power game*

Me

You

System

What to do?

- Do I need to address the conflict? Does it hurt or threaten me?
- If yes: address it.
- Make sure everybody involved is open to listen.
- Explain which problems arise from the conflict.
- Discuss what type of conflict it is.
- Do not judge or threaten people involved.
- If necessary: talk about emotions and work with them.
- Develop an approach to solve the conflict.
- List as many as solutions as possible, even crazy ones.
- Select the solution that all involved parties are willing to accept
- Agree on a probation time of 8 to 16 weeks
- Evaluate the solution: is it o.k.? Does it need to be adapted? Or should you try a different solution from your list?

Interdisciplinary projects
The basis: Project goals

- General goal
- Milestones
- Individual goals

Goals provide orientation and structure.

Take the time to clarify and communicate project goals at the outset.

SMART Goals (I)

- **S**pecific
- **M**easurable
- **A**chievable
- **R**elevant
- **T**imely

SMART Goals (II)

- **S**pecific:
  Do I see what the result may look like?

- **M**easurable: 20% 40% 60% 80% 100%

  When should I stop?

- **A**chievable

  Do I have the necessary skills and resources?

- **R**elevant

  Is it important for **me**?

- **T**imely

  Deadline?

Risks

- The scientific differences we talk about in this workshop (different kinds of research questions, methods etc.)

But also:

- Conflicts or 'power issues' between those involved
- Poor project planning

Making a plan

Milestones

Budget

SMART definition of all goals

Defined responsibilities

If necessary: personnel planning

Reporting

Discussing how results are used before the start: who will get what for publications?

Risks and Plan B

Why/ when meetings

- Exchange and discussion of complex information
- Deliberation of important/ difficult decisions
- Responding to open questions/ solving open problems
- Brainstorming
- Discussion of controversial points/ finding consensus more quickly
- Teambuilding

When to do what

Writing	Oral (I): Phone call etc.	Oral (II): Meeting
(Complicated/ many) pieces of information/ facts	(Easy to grasp) Information/ facts	Preparing decisions
(Uncontroversial) decisions	Quick help	Informing about/ discussing controversial decisions
Answers to specific questions	Bilateral conflicts	Sharing information as a group
Complex arguments	Preparatory discussions	Teambuilding
Points which need to be recorded for future reference	…	…
…		

Meetings

- Agenda
- Attendance
- Facilitator
- If necessary: visualization
- Minutes

Meetings

- Agenda
  - based on goals/ desired outcomes
- Attendance
  - Who is really needed in this meeting?
- Facilitator
  - Goal-orientation
  - Allows for discussion and controversy
- If necessary: visualization
  - Do we really understand what we are talking about?
- Minutes
  - What next?/ Action plan

Agenda

- Based upon the goal(s) of the meeting
- Clear
  - Minimal version: What are the items to be discussed? Who is responsible for presenting the item?
  - More detailed: Item – desired outcome – (priority) – time – person responsible – (method)
- Realistic
  - If there are too many important points to discuss: prioritize and, if necessary, postpone ($\rightarrow$ 'Parking Lot')
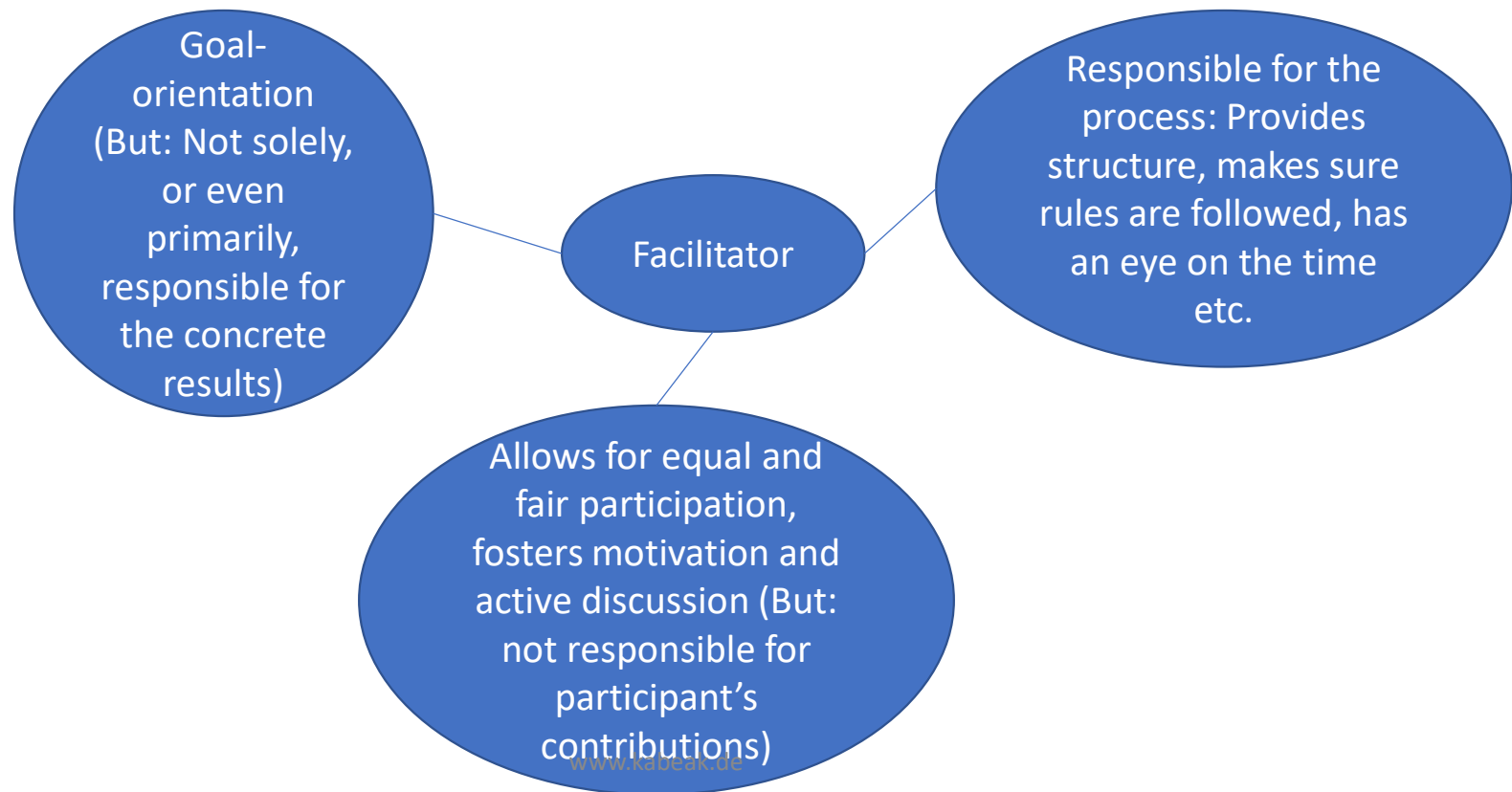- Beginning – Middle – End

Who participates in the meeting?

Not too many people: Often, 5-7 people is a good size when decisions have to be made. Brainstorming meetings can be larger.

- People who need to be involved in the decision process (as opposed to people who simply need to be informed)

- People with necessary expertise

- People who will be directly affected by decisions taken in the meeting (and/ or who will have to implement these decisions)

- Creative/ solution-oriented people

Facilitating a meeting

'The person who takes on the role of facilitator is responsible for guiding the participants toward the desired outcomes by following the agenda.' (https://hr.mit.edu/learning-topics/meetings/articles/basics)

Goal-orientation (But: Not solely, or even primarily, responsible for the concrete results)

Facilitator

Responsible for the process: Provides structure, makes sure rules are followed, has an eye on the time etc.

Allows for equal and fair participation, fosters motivation and active discussion (But: not responsible for participant's contributions)

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Facilitator vs. Project Lead

- Often, but not necessarily, the same person
- If the project lead is the facilitator: Be clear about what you are doing and what you want from the other participants
  - E. g.: Are you asking for ideas? Are we trying to find the best possible solution together? Or are you communicating a decision which you have already made?

Often useful, especially in interdisciplinary contexts: Visualization

What do you use/ have you used?

Sub-questions: What works well? What is problematic?

Minutes

Before the meeting (or, at the latest, at the outset of the meeting), designate someone who is going to record the results

Not the facilitator

Be active as a recorder: Ask/ interrupt if you don't understand something important that has been said or what decision exactly has been made, if things go too quickly etc. ($\rightarrow$ you're probably not alone + importance of the minutes)

- Which decisions have been made?

- Action plan: What follows from these decisions? What is the due date?

- Who is responsible for implementing the decisions/ for taking action?

Meetings shape and reflect organizations

'By designing and facilitating our meetings more deliberately and systematically, we can achieve <u>better thinking</u>, <u>more robust solutions to problems</u>, and <u>greater support for decisions</u>. Moreover, we can begin to create the type of meetings (and in turn the type of organizations) that reflect the basic human values of <u>mutual understanding</u>, <u>full participation in decisions</u>, and <u>support for each other's efforts and aspirations</u>.' (https://hr.mit.edu/learning-topics/meetings/articles/basics)

3. Different disciplinary cultures

Disciplines as cultures

"When we speak of a discipline, [...] we speak not merely of a body of knowledge but also of **a set of practices** by which that knowledge is acquired, confirmed, implemented, preserved, and reproduced." (Robert Post, 'Debating Disciplinarity', in: *Critical Inquiry* 35 (2009), p. 749-770 [p. 751]).

Your daily activities

Please tell the others about your research project and your daily work:

- How does your workspace look like?
- What are your most frequent activities?

Differences between disciplinary cultures: What/ where are they?

Where do you see differences between (researchers and scientists from different) disciplines?

Where to find differences between disciplines

What language is used: German or English?

In what way are scientific talks and presentations given?

Hierarchy, dress code, behaviour

How does a day at work look like? What are typical routines?

When, how and by whom are publications written?

Publications: How much, how often, where?

Scientific standards: citations etc.

How are results and researchers evaluated?

How important is third-party funding? What are important funding agencies?

How much research-funding comes from third-party agencies, how much directly from the university?

What is expected of PhDs? E. g.: to find themselves (or not) the research question and topic, to select methods … ?

Is there a fixed basic knowledge, e. g. taught to everyone in lectures in Bachelor programs.

How to convince your interlocutor: Stephen Toulmin's five elements of an argument

1. **Claim:** What do you want me to believe? What's your point?

2. **Reasons:** Why do you say that? Why should I agree?

3. **Evidence:** How do you know? Can you back it up?

How to convince your interlocutor:
Stephen Toulmin's five elements of an argument
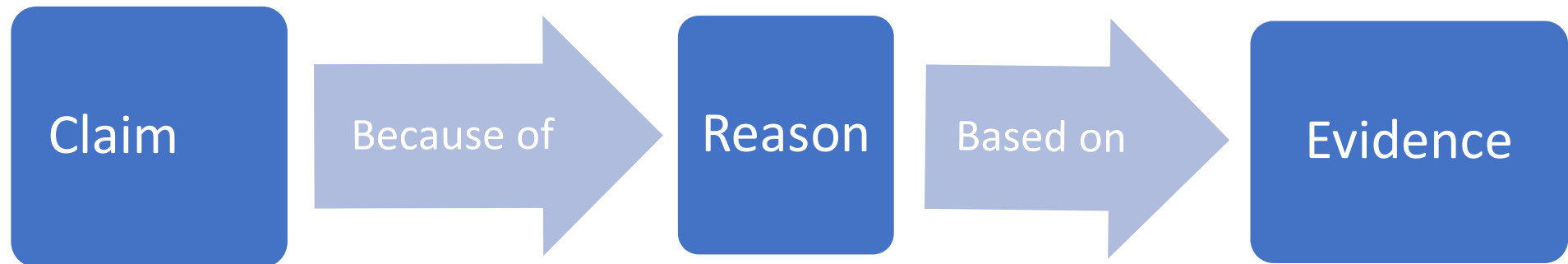
| Claim | Because of → | Reason | Based on → | Evidence |

How to convince your interlocutor: Stephen Toulmin's five elements of an argument
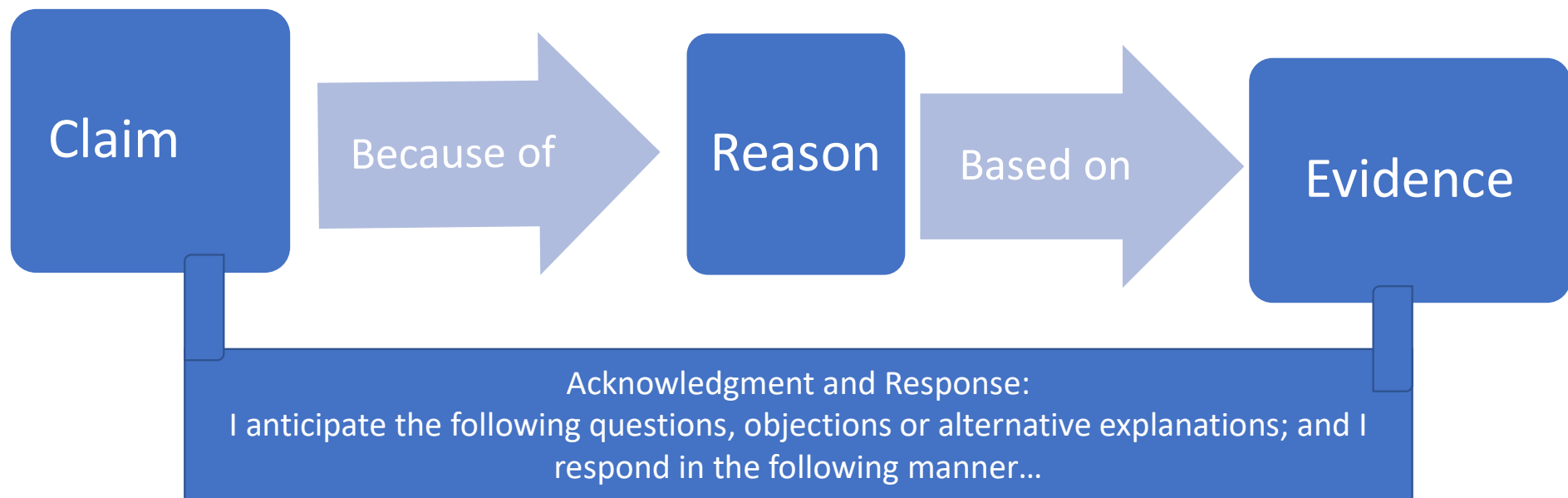
1. **Claim:** What do you want me to believe? What's your point?

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4. **Acknowledgement and Response:** But what about…?

Anticipate and answer sensible objections

→ scientific argumentation as a dialogue

Taking objections and difficulties seriously often makes for much more innovative interdisciplinary collaborations (and for better research publications).

How to convince your interlocutor:
Stephen Toulmin's five elements of an argument

Claim → Because of → **Reason** → Based on → **Evidence**

Acknowledgment and Response:
I anticipate the following questions, objections or alternative explanations; and I respond in the following manner…

How to convince your interlocutor: Stephen Toulmin's five elements of an argument

1. **Claim:** What do you want me to believe? What's your point?

2. **Reasons:** Why do you say that? Why should I agree?

3. **Evidence:** How do you know? Can you back it up?

4. **Acknowledgement and Response:** But what about…?

5. **Warrant:** How does that follow? What's your logic? Can you explain your reasoning?

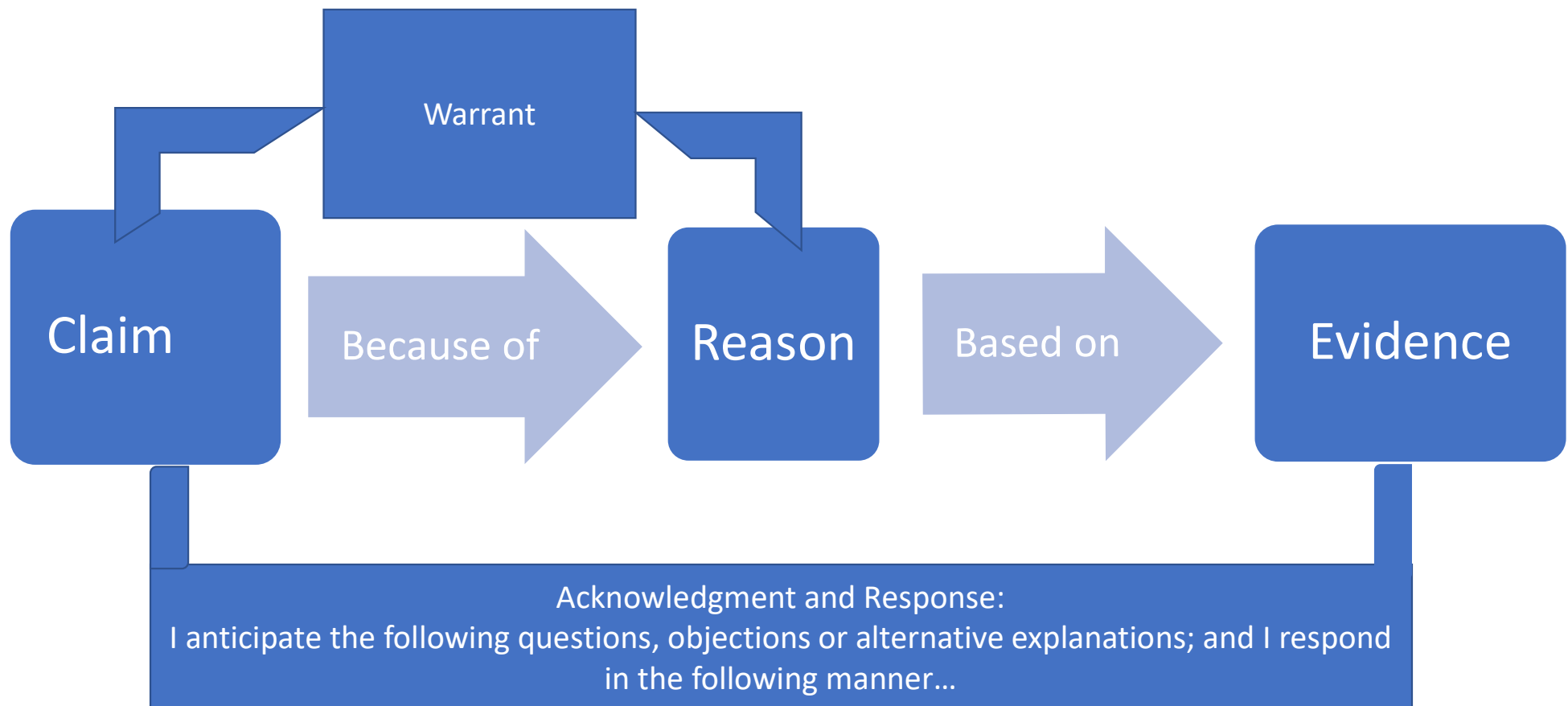# Will my audience 'buy' the relationship between my claim and my justification?

'Warrant': If the relationship is obvious to my scientific community, then I do not need to talk about it. If it is not, I need to address it.

In other words:

Which of my premises do I need to make (more) explicit?

Which pieces of information are necessary in order for my interlocutors/ readers to know enough about the research problem, its context or my proposed solution?

How to convince your interlocutor:
Stephen Toulmin's five elements of an argument

Warrant

Claim

Because of

Reason

Based on

Evidence

Acknowledgment and Response:
I anticipate the following questions, objections or alternative explanations; and I respond in the following manner…

Developing arguments for your interlocutors

- What will they be surprised by?

- What will they react strongly against?

- What do I need to explain (more fully or more clearly)?

- Which objections etc. should I anticipate and address?

Booth et al., *The Craft of Research*, p. 44/46

'Your aim is to explain

1. what your point is – *I am working on the topic of/ I propose the following/ etc. …*

2. why you make that point – e.g., *because I want to find out (who/what/when/where/whether/why/how)…*

3. why you want your interlocutor to know and care about it/ to go along with your proposal – *in order to help us do/ understand the following thing better'*

4. Different ways of doing research

Research in different disciplines

1. Where to start:

- Where does a research project start?

- How do you find the research question?

Research in different disciplines

2. Methods

• What are common and typical methods?

• What are criteria to select them?

• How are methods found or developed?

Research in different disciplines

3. Research process :

• What are typical parts of a research process?

• How is it structured?

• Please draw the process.

Research in different disciplines

4. Challenges :

- Which part/ aspect of your work takes up the biggest amount of your time?

- What are the biggest challenges?

- What are reasons for research processes to fail?

Research in different disciplines

5. Results:

- Under which circumstances is a result accepted by your scientific community?

- Can you name criteria the result needs to satisfy?

Research in different disciplines

Meet another participant with a different background and explain *their* discipline:

- Where does it begin: How are research questions developed?

- Methods

- Results: Criteria for validity

Additional material: 'Getting past no', dealing w/ hierarchies etc.

Collegial advice (*kollegiale Beratung*)

A useful method to discuss, and find solutions for, one's challenges and problems.

Collegial advice (*kollegiale Beratung*)

Participants/ Roles

• Someone willing to share and discuss their challenge

• The group

• A moderator

Collegial advice (*kollegiale Beratung*)

Structure

- Brief presentation of the challenge/ the situation + what is the specific question for which you are seeking answers?

- Questions from the group in order better to understand the situation/ the challenge (<u>not</u>: advice etc.) + clarifications

- Responses from the group: 'This is what I would do'; 'these are my ideas' (<u>important</u>: first-person perspective! + <u>important</u>: no comments from the participant whose challenge is discussed)

- Reaction from the participant whose challenge is discussed: 'This is what I find useful'; 'this is something I will try out'

Finding good compromises/ solutions (in interdisciplinary contexts and elsewhere)

A useful model to deal w/ difficult conversations – and, more specifically, w/ negotiations: the Harvard model

- Separate/ disentangle the people from the problem

- Focus on interests, not positions

- Invent options for mutual gain

- Insist on objective criteria

Finding good compromises/ solutions (in interdisciplinary contexts and elsewhere)

A useful model to deal w/ difficult conversations – and, more specifically, w/ negotiations: the Harvard model

<u>And also:</u>

- Know your BATNA

- Manage emotions

- Get out of the cycle of action and reaction ('go the balcony')

William Ury, *Getting Past No*

- Suspend your natural reaction (again: 'Go to the balcony')

- Overcome the other side's negative emotions ('Step to their side')

- Accept and work with their position ('Reframe')

- Bridge the gap between their interests and yours, help them save face ('Build them a golden bridge')

- Show them they need you to win ('Use power to educate'; show them the consequences + know your BATNA)

Reading List, Link to evaluation, Handout

Reading suggestions

Booth, Wayne C. et al. *The Craft of Research*. Chicago: U of Chicago P, [4]2016.

Fisher, Roger/ Ury, William. *Getting to Yes: Negotiating an Agreement Without Giving In*. New York: Penguin, 2014.

Forsberg, Kevin; Moos, Hal; Cotterman, Howard. *Visualizing Project Management*. Hoboken, NJ: Wiley, [3]2005.

Frodeman, Robert u. a. (Hg.). *The Oxford Handbook of Interdisciplinarity*. Oxford: OUP, [2]2017.

Jungert, Michael u. a. (Hg.). *Interdisziplinarität: Theorie, Praxis, Probleme*. Darmstadt: WBG, [2]2013.

Lerch, Sebastian. *Interdisziplinäre Kompetenzen: eine Einführung*. Stuttgart: UTB, 2017.

Pfetzing, Karl; Rohde, Adolf. *Ganzheitliches Projektmanagement*. Gießen: Schmidt, [5]2014.

Stone, Doug/ Patton, Bruce/ Heen, Sheila. *Difficult Conversations: How to Discuss What Matters Most*. London: Penguin, 2000.

Timinger, Holger. *Modernes Projektmanagement: mit traditionellem, agilem und hybridem Vorgehen zum Erfolg*. Weinheim: Wiley, 2017.

Ury, William. *Getting Past No: Negotiating in Difficult Situations*. NY: Bantam, 2007.

Evaluation

https://mytuc.org/svyr

Contact and slides

https://www.kabeak.de/download/

Password: Interdisciplinarity2022

(Online in a few days, for 2 months)

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