

# Making process work visible: enacting facilitation in digitally mediated interdisciplinary research teams

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## Abstract

**Purpose** – This paper examines the practices of facilitators in digitally mediated inter- and transdisciplinary research (ITDR) teams. It addresses recurring process frictions in knowledge co-production by positioning facilitation as a distinct, practice-based role, highlighting the importance of separating process- and content-related responsibilities.

**Design/methodology/approach** – Using an analytic autoethnographic case study of an interdisciplinary research project conducted largely remotely, the paper explores facilitation practices through narrative vignettes, process documentation and digital team communication. A practice-informed framework grounded in agile and transformative facilitation guides the analysis.

**Findings** – Of the four key facilitation practices – guiding processes, providing collaboration tools, offering process education and maintaining neutrality – acting as a neutral third party was difficult due to limited separation between content- and process-related responsibilities while navigating tensions between facilitation and research. Nonetheless, these practices stabilized collaboration, managed affective dynamics and enabled alignment in digital and hybrid settings, where role ambiguity and invisible labor are prevalent.

**Originality/value** – This study contributes a refined understanding of facilitation in ITDR by introducing a practice-informed and digitally sensitive framework. It advances the literature on integration experts by clarifying the distinction between content and process responsibilities and demonstrating how facilitation serves as a boundary-spanning practice, which is particularly critical in digitally transformed research environments.

**Keywords** Facilitation, Interdisciplinary research, Hybrid collaboration, Autoethnography, Invisible labor

**Paper type** Research article

## 1. Introduction: facilitating interdisciplinary research

Inter- and transdisciplinary research (ITDR) is widely promoted for tackling complex societal problems (Bammer *et al.*, 2020; Klein, 2021), yet its implementation continues to face tensions due to coordination demands, role ambiguity and invisible labor. Collaboration routinely falters when roles and processes remain underspecified, particularly when digitally mediated, hybrid settings may amplify these pressures and facilitation needs.

This paper addresses these challenges through a dual focus on (1) how ITDR teams organize collaboration under conditions of working digitally; and (2) how digital tools and infrastructures actively structure that collaboration by offering a practice-informed perspective on facilitation. It builds on the growing body of literature that outlines a need for dedicated roles in integration work, such as boundary spanners, knowledge brokers or integration experts (Pohl *et al.*, 2010; Hoffmann *et al.*, 2022). While these typologies recognize process-related responsibilities, they often leave the distinction between content and

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process engagement insufficiently discussed. This paper argues that such a distinction, while not always feasible in practice, is conceptually vital for the labor that sustains ITDR. The transformation of knowledge work accelerated by digital tools and remote collaboration reshapes how collaboration is organized and experienced (Orlikowski, 2007; Kraus *et al.*, 2023). These shifting conditions amplify the need for facilitative roles capable of curating hybrid infrastructures, managing affective dynamics and supporting self-organization.

The central contribution of this paper is twofold: First, it provides a practice-informed, digitally sensitive concept of transformative facilitation, drawing on agile project management, collaborative decision-making and organizational development (Straus, 2002; Schwaber and Sutherland, 2020; Kahane, 2021). This is grounded in the paper's positioning of transformative facilitation within scientific debates on process frictions, role ambiguity and the integration expert in ITDR. Second, the paper draws on an autoethnographic case study of remotely conducted interdisciplinary examining facilitation practices, organized analytically around Straus' (2002) four facilitation functions (guiding processes, providing collaboration tools, offering process education and maintaining neutrality). The study draws on a 68-week project hosted by one research institute with collaborators from associated institutes, with six researchers in total and two external stakeholders (see chapter 3.2). Combining case study methodology with analytic autoethnography, I bring both an academic lens and professional experience as a Scrum Master and Co-Creation Facilitator [1] to this reflexive engagement, enabling an embodied and situated analysis of facilitation as a practice. At its conclusion, the discussion reflects on theoretical contributions, practical implications and future research directions in digitally mediated interdisciplinary collaboration.

## 2. Theoretical background

### 2.1 Process frictions and integration work in ITDR

In contemporary research ecologies, remote and hybrid collaboration has shifted from exception to routine. As elaborated in more detail in chapter 2.5, digitally mediated work fragments attention and alters coordination rhythms, thereby amplifying the need for explicit facilitation and sociotechnical scaffolding (Orlikowski, 2007; Waizenegger *et al.*, 2020; Yang *et al.*, 2021). In this paper, I therefore treat digital tools not merely as channels but as structuring elements of collaborative practice.

ITDR is widely promoted as a response to complex societal challenges that exceed the reach of any single discipline (OECD, 2021). Not only do topics and challenges of research change but also the ways in which they may be addressed (Nowotny *et al.*, 2003) in order to move towards a transformative approach of doing research (Defila and Di Giulio, 2019; Hölscher *et al.*, 2021). The literature on ITDR highlights knowledge co-production, reflexivity and integration as crucial elements of a transformative approach to research (Norström *et al.*, 2020; Hilger *et al.*, 2021; Pohl *et al.*, 2021).

Integration, in this context, refers not only to the combination of diverse knowledge forms but also to the collaboration across epistemic cultures and institutional boundaries (O'Rourke *et al.*, 2016). While its epistemic potential is recognized, the implementation of ITDR routinely exposes friction, not only between knowledge systems, but also across organizational, relational and procedural domains (Leahey *et al.*, 2017; Silvast and Foulds, 2022). These tensions are especially pronounced in digitally mediated research settings, where coordination routines are fragmented, communication is asynchronous and emotional cues are dampened (Waizenegger *et al.*, 2020; Orel, 2023).

Researchers must not only integrate knowledge but also organize the collaboration itself (Hatton, 2017; Leahey *et al.*, 2017). These challenges interact in what König *et al.* (2013) terms compound complexity, leading to role ambiguity (Arnold, 2022), misaligned coordination efforts and invisible emotional labor (Staines and Martin, 2016; Hatton, 2017). Star and Strauss' concept of articulation work offers a useful reference point, sharing characteristics with the roles examined below while also revealing contrasts (Star and Strauss, 1999). While

they describe articulation work as emergent and marginal, the experts and facilitators discussed later intentionally make the invisible visible by legitimizing such coordinating work. Drawing from practice theory (Schatzki, 2001; Hui *et al.*, 2016), this paper foregrounds its situated enactment, aligning more with authors viewing facilitation as practice. Rather than asking *what* facilitation is, it examines *how* it unfolds.

### 2.2 Roles for managing ITDR processes: integration expert and facilitator

Scholars have addressed challenges of ITDR by examining different roles researchers may take on, as for example documented by the literature on boundary work (Klein, 2017, 2021), boundary spanner (Bednarek *et al.*, 2018) and knowledge broker (Meyer, 2010). Similarly, new ways of engaging in knowledge co-production are being described through roles that speak to more context-specific practicalities like embedded researchers (Ward *et al.*, 2021), intermediaries (Howells, 2006) or integrated scientists (Viseu, 2015). In other contexts, scholars have called for the inclusion of process-guiding roles such as that of facilitators (Schmitt *et al.*, 2023; Suckow *et al.*, 2024), finding inspiration from agile methodologies such as Scrum (Simon and Schmitt, 2023).

The concept of the facilitator is also discussed in the scholarly discourse around the integration expert (Hoffmann *et al.*, 2022). This discourse recognizes the importance of aligning heterogeneous actors. It recognizes knowledge co-production, reflexivity and integration as central elements of an ITDR that aims for sustainable impact (Defila and Di Giulio, 2015; Pohl *et al.*, 2021). There, integration is described “as a process of combining a wide range of perspectives from different disciplines (i.e., interdisciplinary integration) as well as from research, policy, and practice (i.e., transdisciplinary integration)” (Hoffmann *et al.*, 2022, p. 2). Integration experts are academic actors who manage, assess, accompany and advise others on integration within ITDR projects or programs (Hoffmann *et al.*, 2022). They are described as bridge builders, boundary crossers, translators, catalysts, facilitators, contributors, mediators and evaluators (*ibid.*) to structure and guide the research process (Hilger *et al.*, 2021).

However, previous literature lacks a clear distinction between content and process engagement. Some role descriptions relate to managing collaboration and structuring the process (facilitator), while others relate to content and knowledge co-production (integrator). Hoffmann *et al.* (2022) imply a separation between these tasks, relating them to the concepts of Collins and Evans (2007), who distinguish between contributory and interactional expertise. Later work clarifies the distinction between integrator and facilitator: Hoffmann *et al.* (2025) describe the integrator as a role that “uses integrative methods to bridge different perspectives from different disciplines and fields, leading to new integrated” and “synthesize[d] knowledge” (p. 780f). The content-related involvement is central here, while its separation from process-related responsibilities of the facilitator is made only implicitly by describing activities that are not directly linked to knowledge integration (see also Pohl *et al.*, 2021). Facilitation is described as the initiation, design and execution of a “learning process” (e.g., by organizing workshops) and the provision of a space for critical reflection and deliberation. Yet the fact that this distinction remains implicit matters: when process- and content-related responsibilities blur, role boundaries become fluid and tensions can emerge.

### 2.3 Invisible work and tensions due to unclear role differentiation

Rather than advocating a rigid separation of process- and content-related tasks into distinct roles or typologies, I use the distinction as an analytical lens to examine role fluidities (Akemu and Abdelnour, 2020) or task overlaps (Tagare *et al.*, 2023; Hofmann *et al.*, 2025), which are described in the discourse on integrated research as potential sources of tension. This includes, for example, emotional strain while leading ITDR integration (Oliver *et al.*, 2019; Jaremka *et al.*, 2020) because of conflicting characteristics of the roles like traditional researcher and process facilitator (Bulten *et al.*, 2021) or diametrically opposed institutional logics of knowledge co-production (Purvis *et al.*, 2023).

According to [Viseu \(2015\)](#), [Staines and Martin \(2016\)](#) and [Tagare et al. \(2023\)](#), team members may not recognize process management as a distinct responsibility and assume it happens naturally. This results in overburdened and under-recognized individuals vulnerable to conflict taking on this invisible work while process work is only given attention when it fails ([Bulten et al., 2021](#); [Arnold, 2022](#)). Those frictions and invisible emotional labor in ITDR processes stem from a missing differentiation between process- and content-related tasks. My research will address this gap by bringing in a practice-informed conceptualization of the facilitator role, originating from practitioner communities beyond academia.

#### *2.4 Facilitator in practice-informed discourse*

Practice-informed literature aligns with literature on integrated research while adding a clearer differentiation between process responsibility and content involvement ([Straus, 2002](#)). Practice-informed literature on transformative facilitation ([Jones and Sharp, 2019](#); [Kahane, 2021](#)) describes the facilitator as helping the team by guiding the process, offering collaboration tools and supporting aspects of collaborative self-organization. [Straus \(2002\)](#) breaks this down into four main functions: process guide, collaboration tool giver, neutral third party and process educator. In those contexts, facilitators do not shape content. Rather, they create conditions for content to flourish ([Kaner, 2014](#); [Schwaber and Sutherland, 2020](#)). [Weisbord and Janoff \(2007\)](#) emphasize this by describing facilitation as “managing structure, not behavior” (p. xi). Guiding process, supplying collaboration tools, remaining neutral and educating the team hold collaboration together while enabling the team members to provide their specific expertise and integrate it. This may be similar to [Collins and Evans’](#) differentiation between integrational and contributory expertise ([Collins and Evans, 2007](#)). However, a closer look reveals that their description of integrational work is closely linked to content-related knowledge work. [Table 1](#) revisits the four facilitation functions, connecting them to roles discussed above. It also reveals the lack in distinguishing between content- and process-related responsibilities.

Even though [Table 1](#) distinguishes process-oriented facilitation from content-oriented integration, I am not advocating for a rigid distinction between process-oriented and content-related research. This is a heuristic for analysis, not a prescriptive split. The table clarifies roles to make the process work visible and discussable. Research literature clearly demonstrates the existing and sometimes unavoidable overlaps in responsibilities in scientific collaborations ([Bulten et al., 2021](#); [Hofmann et al., 2025](#)). Rather, the facilitator’s four functions serve as a theoretical endorsement of the need to make clear the missing differentiation. This framework supports the examination of facilitation activities in practice, including potentially entailing tensions.

#### *2.5 Complexities in digital work settings*

ITDR increasingly unfolds in remote and digitally mediated environments. Tools like *Slack*, *Zoom*, *Trello* and other cloud-based platforms are active participants in practice, structuring rhythms, visibility, accountability and atmosphere ([Orlikowski, 2007](#); [Gherardi, 2012](#)). The facilitator’s role is to create and sustain sociotechnical scaffolding, allowing teams to interact, iterate and transform. This is low-visibility labor with high impact, especially in digital settings with unclear relationships and communication ([Yang et al., 2021](#); [Janböcke et al., 2022](#)). The facilitator also bridges human-platform interactions, enabling the team to function despite distributed settings and potentially misaligned expectations. Yet because this work is often folded into the other duties of researchers, responsibility becomes diffuse ([Tagare et al., 2023](#)). Institutionalizing facilitation as a differentiated processual responsibility through dedicated roles, training and evaluation might surface its value and distribute labor more equitably ([Vienni-Baptista and Klein, 2022](#)).

While the literature on integration experts and ITDR increasingly acknowledges the layered complexities of collaboration like decentralized teams, iterative work cycles and rising coordination demands ([Bulten et al., 2021](#); [Purvis et al., 2023](#)), it often does so without

**Table 1.** Four facilitation functions explained and related to integrated research literature

Facilitation function	Definitions and explanations in the practice-informed literature	Similar role descriptions in the literature on integrated research
Process Guide	“Servant of the group [...] keeps discussion on track, enforces agreed ground rules”; structures, manages and guides the collaborative process (Straus, 2002, p. 118; see also Weisbord and Janoff, 2007; Kaner and Lind, 2014; Schwaber and Sutherland, 2020; Kahane, 2021)	Facilitator, (Guimarães <i>et al.</i> , 2019); Mediator, Translator (Hoffmann <i>et al.</i> , 2022) Process Facilitator (Wittmayer and Schöpke, 2014; Bulten <i>et al.</i> , 2021) <i>Partially Contradictory to Neutral Third Party Function:</i> Change Agent, Transition Leader (Wittmayer and Schöpke, 2014; Adelle <i>et al.</i> , 2019; Bulten <i>et al.</i> , 2021)
Collaboration-Tool Giver	Offers and explains broad repertoire of problem-solving methods (Straus, 2002; Schwarz, 2016; Jones and Sharp, 2019)	<i>Mainly implicitly addressed through:</i> Bridge Builder, Boundary Crosser (Hoffmann <i>et al.</i> , 2022) <i>Partially Contradictory to Neutral Third Party Function:</i> Knowledge Broker (Wittmayer and Schöpke, 2014; Bulten <i>et al.</i> , 2021); Knowledge Integrator (Hoffmann <i>et al.</i> , 2022; Hofmann <i>et al.</i> , 2025)
Process Educator	Demystifies facilitation, transfers tools of collaborative action to raise group process literacy and enable learning processes through creating space for reflexivity (Straus, 2002; Kaner and Lind, 2014; Jones and Sharp, 2019; Schwaber and Sutherland, 2020; Kahane, 2021)	Catalyst, Mediator, Advisor (Hoffmann <i>et al.</i> , 2022); Change Agent (Hofmann <i>et al.</i> , 2025) <i>Partially Contradictory to Neutral Third Party Function:</i> Self-reflexive scientist, (Wittmayer and Schöpke, 2014; Bulten <i>et al.</i> , 2021; Hofmann <i>et al.</i> , 2025)
Neutral Third Party	Maintains unbiased stance so that coordination does not become a straitjacket for subordinate voices or limits team members’ individual expertise input (Straus, 2002; Weisbord and Janoff, 2007; Schwaber and Sutherland, 2020; Kahane, 2021)	<i>Only implicitly addressed through:</i> Facilitator (Hoffmann <i>et al.</i> , 2022); Process Facilitator (Wittmayer and Schöpke, 2014; Adelle <i>et al.</i> , 2019; Bulten <i>et al.</i> , 2021); Change Agent (Hofmann <i>et al.</i> , 2025) <i>Partially Contradictory to:</i> Integration Expert as Contributor and Evaluator (Hoffmann <i>et al.</i> , 2022); Process Facilitator (Hofmann <i>et al.</i> , 2025); Researcher as Facilitator; Facilitator as Evaluator (Verwoerd <i>et al.</i> , 2020)

**Source(s):** Author’s own compilation

explicitly situating these challenges in the digital transformation of work. Although facilitative roles are acknowledged, they are seldom discussed as embedded in digital research infrastructures. The four facilitation functions underscore the necessity of making processual labor visible and valued. This is especially important in digitally mediated research settings where collaboration is shaped not just by people and disciplines, but also by platforms and sociotechnical arrangements.

Against this backdrop, this study aims to explore facilitation not just as an abstract role, but as a set of enacted practices within interdisciplinary research under digital conditions. It addresses the following overarching research question: How do facilitation practices unfold and become entangled with content work within a digitally mediated, multi-institutional ITDR project? To deepen this overarching question, I pose a companion, interpretive sub-question that travels with the analysis: How are process- and content-related responsibilities delineated, contested and reconfigured over time within the project’s evolving sociotechnical arrangements? Framed as a sensitizing prompt, this second question keeps attention on boundary work, the visibility (and invisibility) of process labor and the ways digital infrastructures modulate facilitation-as-practice.

To explore these questions, I adopt an autoethnographic approach that foregrounds embodied, reflexive and situated engagement with facilitation in digitally mediated interdisciplinary research, allowing for close examination of the often-invisible practices and tensions that shape integration work from within.

### 3. Method

#### 3.1 Research approach

I combine case study research (Yin, 2018) with analytic autoethnography (Anderson, 2006). Case study methodology enables the in-depth exploration of complex, context-sensitive processes. Autoethnography complements this by capturing the affective, embodied and reflexive dimensions of facilitation, especially within digital and hybrid work settings where such labor is often invisible (Orel, 2023). Responding to recent calls to adapt ethnography to digitally mediated workplaces (Karhapää *et al.*, 2025), I follow a multi-sited logic (Marcus, 1995; Akemu and Abdelnour, 2020) and trace facilitation across digital platforms such as Slack, Zoom and Trello.

I chose this methodological combination because of my dual positioning as researcher and practitioner (Gherardi, 2012). My autoethnographic lens is informed by professional training and work experience as a certified Scrum Master, Design Sprint Coach and Co-Creation Facilitator in non-academic innovation contexts. These roles are grounded in a clear distinction between content- and process-related responsibilities, which serves as the analytical lens I bring into the interdisciplinary research setting. This insider perspective allows for an immersive, critical engagement with facilitation as embodied work, including emotional labor, coordination effort and invisible process structuring. It supports a deeper reflection on how facilitation unfolds under hybrid, tool-mediated conditions.

The study fulfills Anderson's (2006) five criteria for analytic autoethnography: (1) complete member status, (2) analytic reflexivity, (3) visible researcher presence, (4) data engagement beyond the self and (5) theoretical orientation. I integrated evidence interpretively across case documentation, digital records and personal field notes to support analytic depth, intersubjective comprehensibility (Yin, 2018) and coherent meaning-making. Narrative vignettes reflect on critical practice moments (Orel, 2023), some of which are abbreviated in the main text due to space constraints, with full versions provided in Appendix. Edits prioritized narrative integrity, balancing thematic focus with transparency and reflexive depth. All individuals involved in this study gave informed consent. My involvement in the research project in question was removed from the institute's websites to avoid retroactive identification. Ethical advisory and clearance have been received from my research institute's internal research data and ethics councilor.

Entering the field with a practice-informed facilitation background, I noted that non-academic facilitation discourse draws a clear line between process and content responsibilities (Straus, 2002; Kaner, 2014; Kahane, 2021), whereas integration-expert scholarship recognizes related work but often leaves that line implicit (Pohl *et al.*, 2021; Hoffmann *et al.*, 2022; Hoffmann, Deutsch and O'Rourke, 2024). I therefore treat the distinction as (a) an initial empirical insight at the practice/literature interface and (b) a heuristic analytic device in this autoethnography. The findings show where the heuristic holds and where entanglements with content work are constitutive rather than exceptional (see chapters 4 and 5).

#### 3.2 Case

The case study focuses on a 68-week interdisciplinary research project involving six researchers and two external stakeholders. The project brought together disciplines such as educational science, creativity research and innovation studies and engaged with topics like Design Thinking, Serious Games and advanced videography techniques. I participated as disciplinary lead and designated facilitator, overseeing process management and coordination

in a largely remote setting. Bi-weekly team meetings and distributed subteamwork formed the project's organizational backbone, with full-team synchronous presence remaining rare. This accentuated the need for structured facilitation and increased demands for coordination.

The project was hosted by one main research institute but involved team members from additional associated institutes who were invited for their expertise in disciplinary content and facilitation. An external, but university-affiliated unit provided physical infrastructure and technical equipment for testing data collection methods. Additionally, two external stakeholders played key roles: one was the project funder, the other was the inventor of the intervention under investigation, offering contextual knowledge.

This multi-organizational setting significantly shaped the digital work infrastructure. Team communication took place via *Slack* and *Zoom*, while formal exchanges with external stakeholders occurred predominantly via email. *Trello* was used for task management and *Google Drive* and *ScieBo* for shared authorship. I, as facilitator, continuously translated between communication modes and tools to ensure alignment. Even when individual tools were technically accessible to all parties, platform fatigue and resistance to short-term adaptation (given the one-year timeframe) reduced tool uptake. As a result, facilitation practices included curating and switching platforms as needed to accommodate differing levels of engagement and institutional expectations. This required ongoing infrastructural translation emphasizes the role of the facilitator as a sociotechnical bridge between participants.

### 3.3 Data corpus

[Duncan's \(2004\)](#) emphasis on multiple sources in autoethnography, the data corpus comprises project documentation, team communication and personal documents (see [Table 2](#)). Using the project's paper trail as a data set for analysis and critical self-reflection aligns with autoethnographic approaches ([Trifan et al., 2024](#)). Thick process documentation supports the localization of facilitation practices while weighing them against my own experiences as facilitator and including the systemic context ([Ellis, 1999](#)). My personal documents capture observations and initial interpretations ([Eckhardt, 2023](#)). Reflecting my activities this way created the required analytic distance ([Hagemeister, 2023](#)).

As [Table 2](#) makes transparent, the corpus purposefully combines process documentation, digital team communication and personal notes. This breadth underpins integration and interpretation across digital traces as well as analytic reflexivity ([Anderson, 2006](#); [Yin, 2018](#)). I use this strategy to link emergent themes to both enacted practices and digital traces documented across tools.

**Table 2.** Data overview

Document type	Amount
<i>Project Documentation</i>	
Planning documents	35
Meeting documentation	26
Content-related documents	19
<i>Personal Documents</i>	
Field Notes	20
Journal Entries	11
Memory Notes	5
<i>Text-Based Team Communication</i>	
Group and Individual Chat Exports	68 weeks of team communication

**Source(s):** Author's own data collected during the project

### 3.4 Analytic strategy

I followed an iterative, interpretive coding strategy using MAXQDA for an analysis consistent with analytic autoethnography: alternating between close reading of field materials and theorizing moves grounded in practice (Anderson, 2006; Dimbath *et al.*, 2018; Kuckartz and Rädiker, 2022). The analysis uses deductive coding of observable actions aligned with the four facilitation functions as an analytical lens. I combined it with inductive coding to uncover emergent themes (Saldaña, 2021) in relation to the research questions. This iteration enhanced the depth and rigor of qualitative analysis, following Anderson's (2006) criteria of analytic autoethnography while ensuring that findings and interpretations remain connected to theoretical frameworks and to the data itself (Kuckartz and Rädiker, 2022). This strategy fits the focus of the inquiry and keeps analysis and interpretation tied to both framework and data.

Regarding analytic reflexivity, data were repeatedly revisited, comparing journal entries and field notes with process documentation and chat archives. This allowed for pattern identification and avoided emotionally tainted interpretations. Bringing my personal perspective into dialogue with digital records supported the identification of explanatory discrepancies. To enhance construct validity, preliminary results were presented at six research events involving 68 participants (29 active respondents) exploring alternative interpretations (Yin, 2018). I incorporated team members' comments on the findings as informants' feedback (Boellstorff *et al.*, 2012). This provided a robust empirical basis for analyzing facilitation as an infrastructural practice central to navigating the complexity of interdisciplinary collaboration in digital and hybrid settings. To avoid the quantitative connotations of triangulation, I describe my approach as interpretive integration across traces, consistent with analytic autoethnography's iterative, abductive logic (Anderson, 2006; Saldaña, 2021). In what follows, I use facilitation practices to name the observed activities, and Straus' (2002) four facilitation functions as organizing categories for analysis.

## 4. Empirical findings

### 4.1 Facilitation function mapping

To ground the overarching research question, I mapped the observed practices, using the four functions as an organizing lens, noting overlaps and interdependencies using an iterative coding and interpretation process. This reflects the invisible nature of knowledge work that Hatton (2017) and Staines and Martin (2016) identified as a key challenge in research process management. As a roadmap for chapter 4.2, Table 3 enumerates the 50 observed practices and their assignment to one or more facilitation functions; the numbers are reused to cross-reference both Figure 1 and the following vignettes.

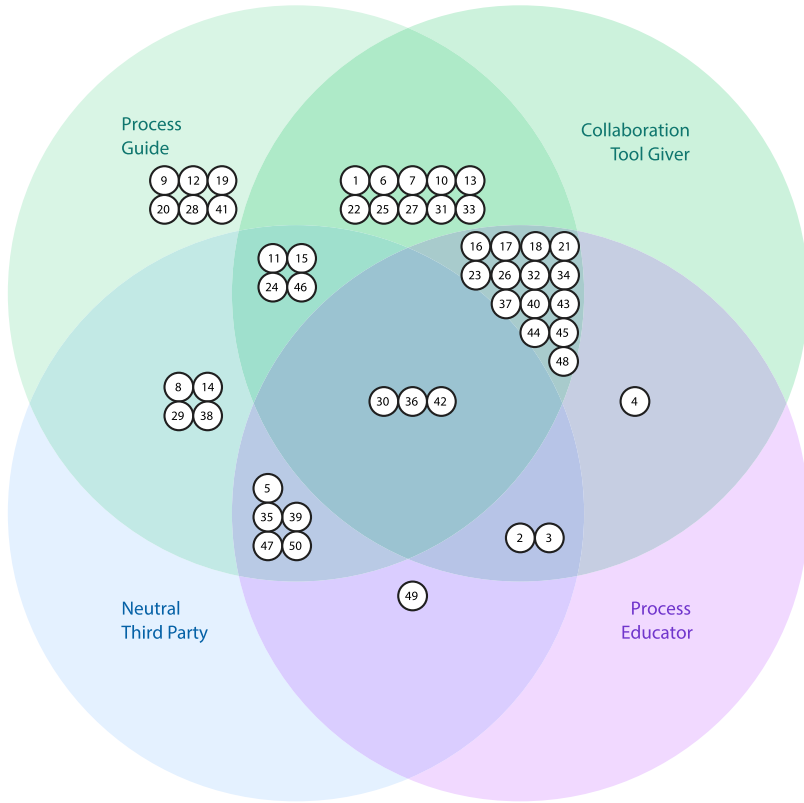
While the table allocates practices to functions, this is descriptive coding rather than a claim of mutually exclusive categories; overlaps are expected given how facilitation unfolds in practice (Straus, 2002), and they are visualized in Figure 1. Most practices involved providing process guidance, followed by offering collaboration tools. Fewer practices aligned with neutrality or process education, suggesting that, when guiding the process, neutrality was less maintained and more entanglement with content responsibilities existed. Overlaps between the activities are visually represented in Figure 1, where the numbers indicate the corresponding practices in Table 3.

The diagram is intended to sensitize the reader to patterns of intersection rather than to suggest causal ordering or normative weighting; counts reflect coding density and thus complement the qualitative texture developed in the following vignettes. Extending this analysis, Figure 1 illustrates that facilitation functions overlap significantly in practice, with only six practices assigned to single functions. This emphasizes that facilitation is not about isolating functions but understanding how they interact. Straus' (2002) distinction of functions serves as a guiding framework rather than a rigid theoretical concept, as most activities meet multiple aspects. This raises the question of whether the uneven distribution of fulfilled functions affects collaboration, which will be explored later. Notably, the six single-function

**Table 3.** Practices and Facilitation Functions: process guide (PG), collaboration tool giver (CTG), process educator (PE) and neutral third party (NTP)

Facilitation function	PG	CTG	PE	NTP
Activity				
1 Build and maintain data management structure on cloud server	x	x		
2 Share knowledge on approaches to work structuring		x	x	x
3 Share knowledge on project management approaches		x	x	x
4 Highlight conditions for working in remote teams		x	x	
5 Research collaboration tools	x	x	x	x
6 Maintain collaboration tools	x	x		
7 Encourage team to use collaboration tools	x	x		
8 Test, maintain and update project planning tools	x			x
9 Create project schedules	x			
10 Invite and facilitate collaboration on project schedules	x	x		
11 Document and share (sub-)teams upcoming project and work steps	x	x		x
12 Remind team of upcoming deadlines	x			
13 Draft meeting agendas	x	x		
14 Collect information asynchronously for agenda creation	x			x
15 Record meetings and share recordings	x	x		x
16 Document decisions in meeting minutes	x	x	x	
17 Document responsibilities in meeting minutes	x	x	x	
18 Invite collaboration on meeting agenda	x	x	x	
19 Regularly publish decisions made	x			
20 Request (sub-)team's updates on process status	x			
21 Facilitate (asynchronous) regular process status sharing	x	x	x	
22 Systematize work materials for sub-teams	x	x		
23 Facilitate flow of work material between team members	x	x	x	
24 Organize technical equipment	x	x		x
25 Test technical equipment	x	x		
26 Write technical documentation	x	x	x	
27 Conduct technical learning workshop	x	x		
28 Conduct acquisition of data collection locations	x			
29 Create materials for data collection site acquisition	x			x
30 Invite collaboration on distributing task responsibility	x	x	x	x
31 Negotiate responsibilities for work steps	x	x		
32 Give work instructions	x	x	x	
33 Structure and document process information	x	x		
34 Use visuals and other supports to share process details	x	x	x	
35 Collect feedback on process facilitation	x		x	x
36 Communicate learnings from feedback on process facilitation	x	x	x	x
37 Implement feedback on process facilitation	x	x	x	
38 Request updates on (sub-)team work capacity	x			x
39 Ask about team members' willingness to take on tasks	x		x	x
40 Facilitate collaborative task allocation	x	x	x	
41 Reassign tasks	x			
42 Coordinate collaborative work sessions	x	x	x	x
43 Facilitate collaborative work sessions	x	x	x	
44 Facilitate decision-making on project process and deadlines	x	x	x	
45 Facilitate decision-making on methodological topics	x	x	x	
46 Organize asynchronous decision-making	x	x		x
47 Delegate responsibility to method leads in sub-teams	x		x	x
48 Communicate own progress and (non-)adherence to deadlines	x	x	x	
49 Credit team members as sources for own decision-making			x	x
50 Explain own actions from a process perspective	x		x	x
Total	46	35	26	19

**Source(s):** Author's own analysis



**Figure 1.** Mapping practices onto facilitation functions, highlighting their overlaps. Source: Author’s own visualization

practices (items 9, 12, 19, 20, 28 and 41) all relate to process guidance. None of them should entirely lack neutrality, yet all involved my participation as a researcher, leading to entanglement with content-related responsibilities. Other practices (items 22, 25–29, 32 and 48) do not meet the neutrality aspect due to content involvement, creating tension in my role as explored in the vignettes. While some practices fulfill all four functions, the table reveals that process education occurred in about half of my activities (26 of 50). This imbalance between the functions shows that I could not achieve neutrality in many of my activities. This observation connects to the research questions, prompting reflection on whether these tensions may have been mitigated by a stricter adherence to facilitation principles.

To explore these tensions and answer the research questions, I developed interpretations abductively by revisiting data which revealed that tensions primarily arose in activities lacking neutrality, particularly in the overlap between the process guide and collaboration tool giver roles (PG/CTG) and in the three-way overlap between process guide, collaboration tool giver and process educator (PG/CTG/PE). Many instances of entanglement between facilitation and research tasks were only recognized in hindsight, as documented in journal entries and field notes, which is further illustrated in the following chapter.

#### 4.2 Vignettes

The vignettes illustrate the lived experience of facilitation through reflexive narrative, reflected on and interpreted in light of process documentation, *Slack* communication and

journal entries. They surface how facilitation functions were enacted and where tensions arose, thereby addressing the research questions. By interpreting these accounts through a practice-theoretical lens (Hui *et al.*, 2016), I trace how embodied know-how, teleoaffective structures (Schatzki, 2001) and interaction with digital tools shaped facilitation in action. Extended versions of the vignettes are provided in Appendix.

*4.2.1 Vignette #1 – pushing process, losing neutrality.* Early in the project’s remote phase, during a full-team Zoom cycle with six researchers, I began introducing new collaboration structures in my designated facilitator role. Eager to prove the value of structured, scaffolded collaboration, I entered the project highly energized: drafting agendas, installing Trello, suggesting Slack routines and scheduling decision points (items 6–8, 10, 18, 27 and 42). My journal entries from this phase record rising frustration when colleagues ignored the structures I had painstakingly designed. Looking back, I see how I overemphasized process guidance and education – neglecting the neutrality that might have fostered team ownership.

This illustrates misalignment in *teleoaffective structures*: while I was animated by achieving structured collaboration, others were oriented toward substantive disciplinary work. My embodied know-how clashed with others’ implicit expectations around disciplinary contribution, which I failed to read. With time, however, iterative feedback loops and affective calibration (e.g., reducing my pushiness) allowed me to reposition as a facilitator rather than an enforcer.

*4.2.2 Vignette #2 – shifting decision-making as sociomaterial practice.* In the early months, we experimented with moving routine decisions to Slack via emoji-based voting, adjusting the mix of asynchronous and synchronous deliberation as the project matured. One of the earliest tensions arose around decision-making. Initially, I introduced emojis on Slack for asynchronous voting, hoping to reclaim meeting time (items 14, 21 and 46). The team resisted. At colleagues’ request, we reverted to in-meeting decisions, using Slack only for information necessary to prepare our meetings. That felt counterintuitive to me, but right for the group. And I went with it. It felt like this decision was pulling the project forward. Later, near the project’s end, the team advocated for a blend: moving some decisions to Slack for efficiency while reserving bigger discussions for Zoom meetings. We changed our documentation protocol again (item 44). This was not my initial vision, but this approach seemed more balanced for everyone.

What was at stake here was not just efficiency, but the emotional grammar of collaboration. Decisions are *affectively loaded* practices; they enact who belongs, who decides, who feels heard. As our *material arrangements* (our interactions with and on Slack, Trello, shared docs) evolved, so did our team’s rhythm. Practice theory clarifies that tools do not just mediate collaboration – they help constitute it (Orlikowski, 2007). My shift from enforcing structures to co-evolving them signals a deepening attunement to the *affective atmospheres* of digital facilitation.

*4.2.3 Vignette #3 – navigating dual roles.* Midway through the project, I took a planned vacation. I delegated responsibilities and requested anonymous feedback on my facilitation (items 9, 11, 12, 17, 30, 31 and 35). I returned to a functioning team – yet their feedback stung. They wanted more clarity, milestones and deadlines. I had feared over-structuring would suppress autonomy. Instead, I had under-facilitated. To recalibrate, I implemented visual Slack summaries with emojis and color-coded elements, plus clearer task documentation (items 11, 16, 33, 34). However, these refinements piled more process tasks onto my plate. I felt like I was drifting into micro-management, juggling facilitation and research responsibilities. I felt like I am serving two teams: one for facilitation, one for content. Both are mine – and neither seemed fully served.

This tension built until I took another step back re-examining my workflow. I split my tasks into “process” and “research” categories, designing a personal prioritization system on a Mural board and timeboxing different tasks separately in my calendar. At first it was hard to defend those slots from outside demands, but it paid off. My stress level dropped and my sense of clarity rose, as I gained a better handle on when I was “the facilitator” and when I was “the

researcher.” This segmentation helped me reclaim neutrality while safeguarding mental bandwidth. (See more detail on the specific tasks and steps in [Appendix](#)).

This vignette foregrounds the emotional labor of facilitation. Stepping back is as much a skill as stepping in. Here, the practice of reflexive distancing allowed a reconfiguration of the practice bundle: from strained multitasking to intentional, focused task-switching. Also, it highlights that facilitators in hybrid settings often remain infrastructurally irreplaceable even when structures are co-created. Vignette #3 illustrates a pivotal moment in which role tensions become undeniable, prompting a deliberate structuring of facilitation. *Slack* logs and team documentation confirm greater clarity in milestone tracking and task delegation, yet also reveal persistent dependency on a central facilitator. While these adjustments partially fostered self-organization, they didn’t eliminate the ongoing need for facilitation. The shift toward distinct process and research tasks underscores the emotional and cognitive burden of balancing my own research tasks with neutral facilitation. This highlights the recurring theme: structured facilitation can coexist with self-guided collaboration – yet requires intentional strategies, role definitions and supportive infrastructure to mitigate overload and maintain healthy team dynamics.

Retrospectively, my dual role required emotional regulation and strategic role segmentation. Beyond timeboxing practices, I developed a personal workflow that linked thematic research tasks (e.g., coding data, developing theoretical framings) to specific collaboration structures (e.g., sub-team sprints, peer-feedback loops). This allowed me to switch between facilitator and researcher with clearer boundaries. Still, the constant toggling underscored how facilitation and research may entangle in practice, especially in digitally mediated, short-term constellations.

*4.2.4 Vignette #4 – emotional spillover, reflexive repair.* At the project’s close, I received critical feedback via a private message from one of the researchers. I responded in detail and inquired about the background of the feedback (item 35). The colleague seemed somewhat baffled and stated that they had heeded my request from the very beginning of the project. They seemed surprised I was so taken aback – had I not explicitly invited ongoing feedback at the outset and reiterated that request before my vacation (items 3, 4 and 35–37)? Suddenly, I realized I had effectively encouraged the team to adopt my facilitation-oriented mindset, highlighting my efforts toward encouraging feedback to foster self-organizing, self-learning collaboration. As self-praising as this may sound, my journal reveals a different emotional reality behind that feedback. To quote my diary, I was “being a massive jerk about it” raging in a long message to the colleague, feeling hurt, disappointed and downright offended by the feedback. It was not rational: I had asked for the very feedback that set me off. But as deadlines loomed, I was juggling both process management and research tasks, leaving me exhausted. After a few days of festering emotions, we had a video call to clear the air. Both sides explained their perspectives. I was ashamed. I apologized. Profusely.

The vignette confronts facilitation’s affective volatility. Practice theory helps de-pathologize this. The breakdown occurred because *affective labor* exceeded available resources. As process pressures peaked, I had no buffer – no time or space to metabolize critique. By lacking neutrality, my role as facilitator collapsed into overidentification. The *teleoaffective* aspect of this role demands responsiveness, patience and awareness. Yet without institutional or interpersonal support, this labor accumulates silently. My outburst wasn’t an individual error, but a symptom of *uncontained affective strain* – a practice failure born of structural conditions and lacking resources. Role neutrality, tool coordination, research and care work collided and compounded into tensions.

#### *4.3 Integrating evidence across traces*

Revisiting the data (team communication, process documentation) confirms patterns seen in the vignettes. Facilitation supported transparency and coordination, but participation remained uneven. Some members took initiative:

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I've added our meeting goals, thematic anchors, and research status to our notes. I wouldn't invest much more effort currently. Let's adapt this collaboratively during the meeting. (Slack, October 2023)

Others opted out:

I can't help this week, sorry. I'm trying to keep time blocked for the dissertation. (Slack, January 2024)

Such variance shows that facilitation cannot be assumed to be collective. Practice engagement depended on personal orientation, perceived legitimacy and tool familiarity – each linked to teleoaffective alignment. *Slack* and *Trello* enabled asynchronous collaboration, but uptake varied. *Slack* also functioned as sociomaterial infrastructure for collaboration. Emojis, reactions and threaded updates enabled distributed coordination:

Show your traffic lights! Please give a quick status update on your availability this week using the color-coded emoji system. (Slack, August 2023)

Yet these routines did not embed equally. Feedback loops often reverted to the designated facilitator, creating reliance patterns that reveal a latent fragility in the idea of emergent or rotating facilitation. Collaboration was contingent on infrastructural maintenance and on someone maintaining it. This confirms that facilitation is not only a technical task but a symbolic and epistemic practice. It stabilizes collaboration through tools and workflows, but also through role clarity. Where these conditions frayed, so did collaboration.

Taken together, these converging traces suggest that while facilitation enabled process reflection, it remained only partially distributed. Practice theory helps explain why: facilitation is not just a task but a complex configuration of expectations, emotions and rhythms – not easily shared without structural reinforcement.

## 5. Discussion

This study offers a new perspective on the discourse on ITDR by integrating a practice-informed, empirically grounded conceptualization of facilitation. Rather than depicting the facilitator as a fixed role, I conceptualize facilitation as an enacted bundle of practices – organized analytically by four key functions – that supports integration work in digitally mediated settings. This study draws on the literature on integration experts to highlight the overlapping intentions of integrator and facilitator: managing heterogeneity, facilitating epistemic alignment, enabling knowledge co-production. However, while integration typologies group facilitation among various role labels, they rarely explicate the distinction between process- and content-related responsibilities. This study addresses that gap by detailing how facilitation unfolds in practice through four functions (Straus, 2002). Star and Strauss' concept of articulation work provides a fruitful counterpoint (Star and Strauss, 1999). Like facilitation, articulation work involves adaptive coordination across disciplines. However, while Star and Strauss emphasize its emergent, marginal and often invisible nature, facilitation as studied here is intentionally enacted, sometimes officially designated and increasingly discussed as a candidate for institutional recognition (Vienni-Baptista and Klein, 2022). Still, the conceptual lineage is clear: both seek to make process work visible, valued and sustainable. Using digital tools for process management supports this by functioning as artifacts that make processual interactions visible.

The findings reveal that facilitation practices are frequently entangled with content work, especially when the facilitator also acts as a disciplinary contributor. Yet the heuristic split between content- and process-related tasks proved analytically useful. It helped to manage tensions arising from dual roles and supported the reflexive modulation of engagement, aligning with discourse on interactional expertise (Collins and Evans, 2007): facilitating integration without disciplinary mastery. The Scrum analogy is helpful here. Scrum Masters in agile teams raise process awareness while domain experts deliver content. The study shows that maintaining even partial neutrality requires deliberate effort and structural support.

This distinction further illuminates an implicit assumption in ITDR: process coordination may remain an unresourced responsibility, inhibiting its consequential recognition as a crucial element of collaboration. Without designated roles or routines, facilitation becomes a burden absorbed by few. Although some scholars advocate for the institutionalization of integration through new career paths (Hoffmann *et al.*, 2022), they caution against turning facilitation into isolated academic disciplines. Such formalization may distance facilitators from the teams they aim to support, undermining the very enculturation required for integration (Hoffmann *et al.*, 2022). Contrary to this, practice-informed literature argues for formalization that addresses the above challenge, by including the necessary tolerance for ambiguity and normal, inherent process tension as the responsibility of the facilitator when institutional recognition is given (Straus, 2002; Kahane, 2021; or see Kaner, 2014 for their concept of maneuvering the “Groan Zone”).

Digitally mediated collaboration amplifies the need for facilitation. Digital tools can stabilize workflows and make them visible (e.g., structured agendas, emoji voting) but may fail to capture emotional tone or tacit discomfort. Here, facilitators act as infrastructural translators: curating platforms, maintaining rhythm and information flow across asynchronous, fragmented systems. This was evident in the case studied, where no single platform served all institutional actors. The facilitator’s labor included aligning *Slack* with email, balancing *Zoom* dynamics with *Trello* timelines and mediating between tool-resistance and task urgency. These tasks are not merely logistical; they are socio-epistemic negotiations. The facilitator, then, is a visibility broker of process work and digital infrastructure. In practice, facilitation involves both structure and responsiveness, tools and emotions, neutrality and participation. Its success depends on role recognition and strategic, context-aware enactment. This study shows how process work can be enacted without hierarchical control, enabling resilient collaboration. The facilitator helps navigate friction not by suppressing it, but by holding space through reflexive calibration and infrastructural care.

## 6. Conclusion

This study examined facilitation as enacted practice in a digitally mediated, multi-institutional ITDR project. Mapping practices to four facilitation functions showed that process guidance dominated alongside tool giving, whereas neutrality and process education appeared less frequently and often in combination with other functions. Overlaps were the norm as opposed to clean separations, underscoring the entanglement of facilitation with content-related responsibilities in day-to-day collaboration. These patterns clarify the value of treating the distinction between process- and content-related responsibilities as a heuristic for analysis and, in practice, as a guiding ideal or orientation to strive toward rather than a prescriptive, hard split.

From a theoretical perspective, the findings refine integration-role accounts by treating the distinction between process- and content-related responsibilities as a heuristic analytic device and by foregrounding digital infrastructures (e.g. *Slack*, *Zoom*, *Trello*, *Shared Docs*, *Email*) as constitutive of collaboration. This positions facilitators as sociotechnical translators who curate platforms and rhythms across fragmented systems. Together, these implications reframe facilitation as an epistemic practice not merely logistics and coordination.

Practically, the study offers important implications for the design and governance of ITDR, particularly in digitally mediated or hybrid settings. By framing facilitation as a bundle of embodied, affective practices, it shifts focus from administrative coordination to the conditions that sustain meaningful collaboration. To achieve this, facilitation should be formally recognized as a critical research resource. Institutions and funders should resource, train and evaluate facilitation as a distinct role – decoupled from disciplinary seniority and grounded in reflexive process competence. Agile and new work paradigms (Koning and West, 2020; Schermuly, 2024) may serve as fruitful inspiration. Moreover, teams should embed reflexivity into routine practice. Structured check-ins and retrospectives help reveal tensions

before they escalate. As shown in this study, many challenges stem not from interpersonal conflict but from misaligned structures and invisible labor. Making these dynamics visible supports care, adaptation and shared responsibility. Facilitation strengthens epistemic navigation across institutional, disciplinary and stakeholder boundaries. Especially under remote conditions, it creates shared interpretive frames and stabilizes collaboration without enforcing sameness. While some teams may fear that formal facilitation limits autonomy, this study suggests it fosters flexibility by offering scaffolding for adaptive learning and resilience. Treating facilitation as a core design element may improve not only efficiency, but the emotional and epistemic quality of interdisciplinary co-production in digitally transformed research environments.

Reflecting on the methodology, the insider stance enabled my access to the affective, embodied and infrastructural dimensions of facilitation in digitalized work, but it also implicated me in what I observed. To work with rather than deny the entanglement of researcher and facilitator, I cycled between participation and reflexive distance, including deliberate role segmentation and time-boxing before putting emerging interpretations into dialogue with digital traces and project documentation. Further incorporating informants' feedback from external presentations and team commentary, I aimed at coherent meaning-making, while maintaining a visible researcher presence, engagement with data beyond the self and theoretical orientation.

As for limitations and future research, this single-case design prioritizes experiential depth over generalizability. While the findings are situated, they offer transferable insights into digitally mediated facilitation. Transferability depends on fit to comparable hybrid, multi-organizational settings. The study's findings invite future research examining how facilitation evolves across multi-institutional project constellations. They also call for an analysis of how institutional tool policies and compliance logics affect alignment. Finally, future work could examine how facilitators apply interactional expertise in interdisciplinary contexts with the help of digital tools or even explore facilitation's potential role as continuous infrastructuring (Star, 1999) in hybrid knowledge production.

Facilitation in interdisciplinary, hybrid teams is not a luxury; it is foundational. It stabilizes the fragile alignments needed to navigate disciplinary diversity, digital complexity and shifting priorities. This study reveals that the facilitator is a central enabler of reflection, integration and emotional navigation. It contributes to the literature by distinguishing process-from content-related responsibilities, offering a model to address invisible labor, role ambiguity and friction in digital settings. As digital transformation reshapes research ecologies, not only tools or structures require redesign but the human practices that stabilize them. Facilitation is one such constellation of practices. Making it visible and valued is a crucial step for interdisciplinary collaboration. Digital tools may help, but technology alone is not the fix. It is how we structure and facilitate the navigation of developing practices.

## Appendix

Extended Versions of the Vignettes and Autoethnographic Reporting for **"Making process work visible: Enacting facilitation in digitally mediated interdisciplinary research teams"**.

## Prologue

My involvement in the research project described in this case study started with mixed feelings. I was highly motivated by the main subject of the research and its novel fieldwork approach using innovative technology. I felt lucky to have the chance to do research on a specific subset of questions that I was personally very interested in. Additionally, I was looking forward to the opportunity to refine my project management skills through this responsibility. My still fairly fresh scholarly career had been preceded by non-academic work in co-creation and innovation facilitation through which I had received training and gained relevant experience in different modes of project, workshop and collaboration facilitation. In my other work obligation, I oversaw implementing collaboration concepts inspired by agile methodology to foster interdisciplinary research. A fitting background I thought. And to complement this, I had just

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concluded an extensive training course to achieve the Scrum Master certification. I felt ready. Ready to bring some of that into the project.

And I was nervous and a bit afraid. I hadn't led a team like that before: mainly remote, me feeling somewhat outsider-ish as some of the colleagues had known each other somewhat, bursts of imposter syndrome about my role, existing experiences with the logics of academic work starkly contrasting memories from other collaboration settings.

Driven by this energizing motor of mixed feelings, I remember starting my work in this project with quite a load of different things I wanted to achieve in my role as project manager. Equipped with those motivations, intentions and cautionary reminders, I was quite puzzled to still run face-first into frustrations and tensions. Experiences for which – I was sure – someone had to be responsible. Someone specific. Someone other than me.

Luckily not much later, I had the chance to present and discuss some of these dynamics at a conference. I was searching for a fitting analysis framework to move into a more productive mode of sense-making. The range of reactions was limited. All somewhere between knowing smirks and unimpressed shrugs. No eyebrows raised in surprise. It's not just me then. There, I sensed – no, feared – I had to take a hard look at myself. Autoethnography then, I thought. I started wondering: How would my project management approach and the tensions line up when looked at through the filter of the four central facilitation functions?

**Strong personal involvement in things that should be a product of collaborative decision making – and my initial inability to accept that.**

*Vignette #1 – Pushing Process, Losing Neutrality*

Highly motivated, I had specific intentions from the beginning on how to scaffold the process. For example: Investing time in collaboratively building a pre-structured process that would still allow flexible changes along the way, quickly deciding on the collaboration tools and platforms used so that it would align from the beginning with the task of putting the project report together at the end as well as aiming to establish different meeting formats depending on the different purposes of planning, working, learning or social events. Both didn't work in the way I was envisioning it. And my journal is quite clear on the frustration that this raised within me. How ridiculous. I'm forcing the function of process guide, collaboration tool giver and process educator while completely forgetting that of the neutral third party.

*Vignette #2 – Shifting Decision-Making as Sociomaterial Practice*

In review, decision-making is a good example for subjects in our project that needed some back and forth within the team to reach a working consensus that I was able to relax into. In Slack, I had started using reaction emojis to support quicker decision-making to move some of it outside of the team-meeting to free up time to address and discuss additional topics. At the request of my colleagues, we later changed back to decision-making only in our Zoom meetings, using Slack only to highlight different perspectives or possibilities to inform the team before the meeting. That didn't make particular sense to me. And that was all right. It felt like a decision pulling the project in the right direction. Then, near the end of the project, several team-members advocated for a little bit of both: to make a distinction between different kinds of decisions to move the process ahead faster through Slack while maintaining room for topical discussions and decisions to be had in our Zoom meetings. And so, we changed the documenting and communicating protocol again.

**To guide a team in a process, get yourself some guidance, too. Anything to keep a clear view of the road ahead. Keep updating along the way.**

*Vignette #3 – Navigating Dual Roles and Temporal Distance*

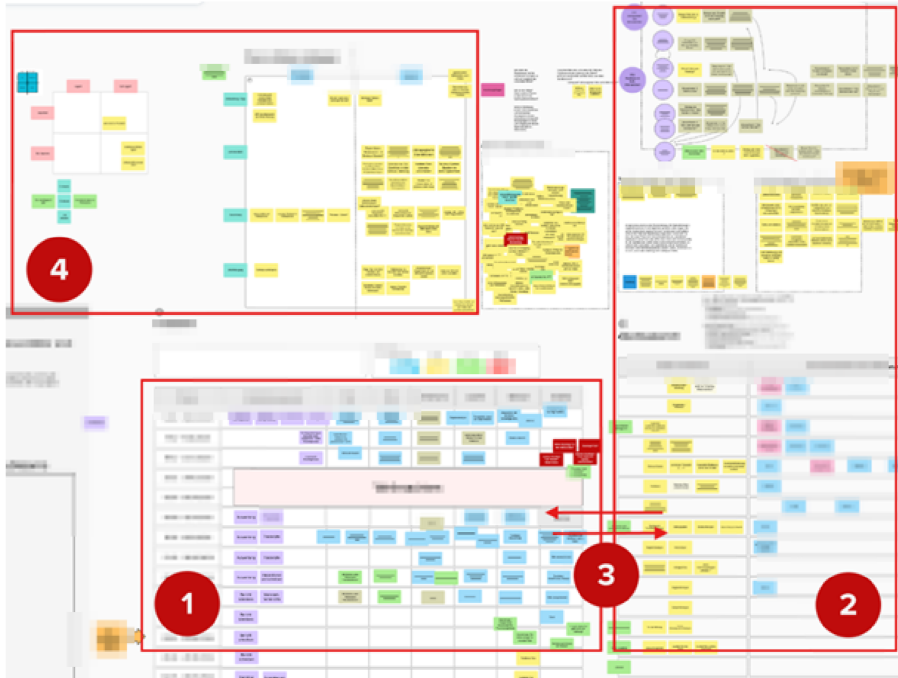
There was a clear change to my project management style at month seven after a return from a three-week vacation. This break was preceded by my preparation for this time of absence by communicating milestones to team members and delegating responsibilities. At this point, I was under the impression that the team was so established in their modes of collaborative working and moving ahead with the project plan that my absence didn't create any delay. Meetings and decisions, as well as their documentation and communication, took place within the set scaffold of the process structure and

important project milestones were met. Most importantly, on a personal level, I was using the distance from the team to ask for feedback on my way of managing this project. This feedback was pre-structured to separate thoughts on the process from aspects relating solely to my person. The PI agreed to receive the feedback for me, to cluster insights and then relay them to me anonymously after my vacation. The results of the feedback helped me readjust aspects of the project management to address team members' requirements to better get the work done. One of the feedback items was a call for even clearer communication of milestones, deadlines and specific task responsibilities. This was challenging feedback for me to receive, as I personally wanted to avoid too much of a directive approach to project management, because I didn't want to position me in a position that was potentially perceived as hierarchical as that would have set up a fourth hierarchy level (PI, project management, doctoral students, student assistants) in a team of seven. In addition to that conflict potential, it would have created another challenge for me: What's the role and hierarchy level I'm operating from, when being mixed up in process tasks and content-related research tasks? How much would I disable self-organization and self-learning in this collaborative process if everything was pre-structured? How could that even work within a process where the research project was evolving due to moving targets and unplanned limitations and sudden roadblocks? How can we learn to productively deal with those tensions, if we're not experiencing, actively approaching, enduring and solving it in a mode that enables self-efficacy?

Still, holding all those tensions, I was looking for a way to address the need within the team. I changed the documentation of meetings toward more task and responsibility clarity. For one, through more frequent and visually structured communication of milestones, deadlines and responsibilities in Slack. Furthermore, by delegating some parts of decision documentation to one colleague, this person then initiated the reactivation of project management through the tool Trello to better divide, assign and timebox tasks for the team. This supported a shift in the direction of more pull-over push-management; meaning more self-organizing and less directive management: Team members now had the possibility to independently take on pre-specified tasks, maintain accountability with the team and process, while those tasks were better structured and more clearly communicated.

This seemed to me to be a positive move toward a stable balance between hierarchical and vertical decision-making in our process: Finding the right moments for using directive approaches over self-organized modes of collaboration and vice versa. Still, it resulted in increased tension, which later turned out to be another chance for constructive adaptation to the process on another level. The change in project management created a significant increase in process-related tasks in addition to my tasks of activities of asynchronously preparing meetings, communicating documentation, adjusting for process-changes and facilitating information integration from the sub-teams. After extending my available time for project management, I felt like I was moving toward micro-managing the team. I was overwhelmed with a mix of process-related tasks and obligations in progressing my actual research in the project. Adding to that tension was this internal cringe and contracting feeling of me being a micro-manager. Resistance, frustration, irritation all over the place.

Thanks to previous experience, I was able to properly address this situation and use the experience for improvement and release of tension. While initially it may sound quite paradoxical, I allocated even more time to refining my project management approach. Specifically, I was investing a lot of time in reviewing my own tasks and the structure I had used so far to get them done. This investment proved fruitful. I started setting up a new task prioritization matrix for myself as a first filter before setting my own tasks and delegating some to others. The second filter was a clear planning structure, visually dividing process-related tasks from my research activities. In order to quickly break down milestones and move tasks through this filter system, I set up a customized online whiteboard on Mural for myself (see [Figure A1](#)).



**Figure A1.** Evolution of my project management approach: From 1) Time and team-based planning structure to 2) product-based planning structure with unstructured overview of current and future topical decisions to make to 3) a failed attempt at mixing them to 4) research/process-split and timeboxed work session allocation

The last step in this process was then to create separate timeboxed slots in my work calendar for either project management or content-related tasks avoiding any overlap. At the beginning, this proved especially hard to guard those pre-set time slots against the intrusion of other project-unrelated obligations or to flexibly move the time blocks to accommodate for unexpected changes without abandoning the system altogether. That resource-intensive additional investment shaved off (1) so much wasted time on micro-management in the long run, while (2) significantly reducing my perceived tensions by creating a clear and practically manageable split between research and process related tasks.

#### *And what about process education?*

Some specific moments in the process are noteworthy in relation to acting as a process educator. Vignette #3 already documents some aspects, and so does the project documentation during my longer period of absence: team members delegating tasks among themselves, facilitating their own decision-making processes, moving ahead with the project in my absence, documenting the process and preparing upcoming steps in a way that follows the structure and logic that I have argued for. But that's not the juiciest bit. Here's one particularly firecracker of an anecdote:

#### *Vignette #4 – Emotional Spillover and Reflexive Repair*

I remember one very specific moment at the very end of the project. I was responding to a team member on Slack to reply to feedback I had received from that person. I responded in detail and inquired about the background to the feedback. The research colleague seemed somewhat baffled and, in a follow-up phone call, stated that they had heeded my request from the very beginning of the project. What this person was referring to was that at the project's beginning I had been clear about my approach to project management, my influences from agile methodology and – most of all – that I was depending on early and direct feedback from the team to be able to address individual requests, to improve the process for everyone if need arose along the way. I remembered, I did so to move towards self-organizing and self-learning

collaboration in this project. Furthermore, they replied, they had additionally felt encouraged to do so, as I had later – right before my long vacation – again invited that kind of feedback on my approach of managing the process.

But what's the juicy part? How is that a firecracker? Well, there's more detail to the story:

### Hitting the wall until it splits ... hopefully in clearly separated areas of process-related tasks and research-related tasks.

#### #Vignette 4 – Extended

Well, I wasn't untruthful above. I was just not highlighting a specific sentiment that needed a separate unpacking. Yes, I received feedback. Yes, I inquired about the background. Yes, I responded in detail. But – and this is a translated, yet direct quote from my journal entries a decent while after the incident – I was “being a massive jerk about it”. Holy cow was I on fire! How did that person dare to give me that kind of feedback? Completely unfounded, totally over the top, pointlessly unproductive, hurtful, disappointing. In a long email I raged on about how this feedback gave my entire experience in the project, which I had found to be so positive until then, a heavy, lasting negative tone after the fact with no chance of rescue.

So, what was going on? I received legitimate feedback. And I was lamenting that it was all out of proportion while at the same time, well, I was being the one who was blowing the situation completely out of proportion. Mulling it over for a couple of days, we had a phone call to quite literally clear the air. Both sides were heard and understood. I was ashamed. Yes, I apologized. A lot. And boy, do I mean it.

#### Note

1. Although these roles often travel with self-organizing or agile arrangements, their promise is ambivalent: organizations can combine empowerment with new forms of structural and cultural control, so benefits are not automatic for employees (Wenten, 2019; Sauer and Nicklich, 2021).

#### References

- Adelle, C., Pereira, L., Görgens, T. and Losch, B. (2019), “Making sense together: the role of scientists in the coproduction of knowledge for policy making”, *Science and Public Policy*, Vol. 47 No. 1, pp. 56-66.
- Akemu, O. and Abdelnour, S. (2020), “Confronting the digital: doing ethnography in modern organizational settings”, *Organizational Research Methods*, Vol. 23 No. 2, pp. 296-321, doi: [10.1177/1094428118791018](https://doi.org/10.1177/1094428118791018).
- Anderson, L. (2006), “Analytic autoethnography”, *Journal of Contemporary Ethnography*, Vol. 35 No. 4, pp. 373-395, doi: [10.1177/0891241605280449](https://doi.org/10.1177/0891241605280449).
- Arnold, M.G. (2022), “The challenging role of researchers coping with tensions, dilemmas and paradoxes in transdisciplinary settings”, *Sustainable Development*, Vol. 30 No. 2, pp. 326-342, doi: [10.1002/sd.2277](https://doi.org/10.1002/sd.2277).
- Bammer, G., O'Rourke, M., O'Connell, D., Neuhauser, L., Midgley, G., Klein, J.T., Grigg, N.J., Gadlin, H., Elsum, I.R., Bursztyn, M., Fulton, E.A., Pohl, C., Smithson, M., Vilsmaier, U., Bergmann, M., Jaeger, J., Merckx, F., Vienni Baptista, B., Burgman, M.A., Walker, D.H., Young, J., Bradbury, H., Crawford, L., Haryanto, B., Pachanee, C.a., Polk, M. and Richardson, G.P. (2020), “Expertise in research integration and implementation for tackling complex problems: when is it needed, where can it be found and how can it be strengthened?”, *Palgrave Communications*, Vol. 6 No. 1, pp. 1-16, doi: [10.1057/s41599-019-0380-0](https://doi.org/10.1057/s41599-019-0380-0).
- Bednarek, A.T., Wyborn, C., Cvitanovic, C., Meyer, R., Colvin, R.M., Addison, P.F.E., Close, S.L., Curran, K., Farooque, M., Goldman, E., Hart, D., Mannix, H., McGreavy, B., Parris, A., Posner, S., Robinson, C., Ryan, M. and Leith, P. (2018), “Boundary spanning at the science-policy interface: the practitioners' perspectives”, *Sustainability Science*, Vol. 13 No. 4, pp. 1175-1183, doi: [10.1007/s11625-018-0550-9](https://doi.org/10.1007/s11625-018-0550-9).
- Boellstorff, T., Nardie, B., Pearce, C. and Taylor, T.L. (2012), *Ethnography and Virtual Worlds: A Handbook of Method*, Princeton University Press, Princeton.

- Bulten, E., Hessels, L.K., Hordijk, M. and Segrave, A.J. (2021), "Conflicting roles of researchers in sustainability transitions: balancing action and reflection", *Sustainability Science*, Vol. 16 No. 4, pp. 1269-1283, doi: [10.1007/s11625-021-00938-7](https://doi.org/10.1007/s11625-021-00938-7).
- Collins, H. and Evans, R. (2007), *Rethinking Expertise*, University of Chicago Press, doi: [10.7208/chicago/9780226113623.001.0001](https://doi.org/10.7208/chicago/9780226113623.001.0001).
- Defila, R. and Di Giulio, A. (2015), "Integrating knowledge: challenges raised by the 'inventory of synthesis'", *Futures*, Vol. 65, pp. 123-135, doi: [10.1016/j.futures.2014.10.013](https://doi.org/10.1016/j.futures.2014.10.013).
- Defila, R. and Di Giulio, A. (Eds) (2019), *Transdisziplinär und transformativ forschen, Band 2: Eine Methodensammlung*, Springer Nature, doi: [10.1007/978-3-658-27135-0](https://doi.org/10.1007/978-3-658-27135-0).
- Dimbath, O., Ernst-Heidenreich, M. and Roche, M. (2018), "Praxis und Theorie des Theoretical Sampling. Methodologische Überlegungen zum Verfahren einer verlauforientierten Fallauswahl", *Forum Qualitative Sozialforschung/Forum: Qualitative Social Research*, Vol. 19 No. 3, doi: [10.17169/FQS-19.3.2810](https://doi.org/10.17169/FQS-19.3.2810).
- Duncan, M. (2004), "Autoethnography: critical appreciation of an emerging art", *International Journal of Qualitative Methods*, Vol. 3 No. 4, pp. 28-39, doi: [10.1177/160940690400300403](https://doi.org/10.1177/160940690400300403).
- Eckhardt, D. (2023), "Ethnografisches Feldnotieren in digitalen Feldern: Perspektiven einer Wissens- und Arbeitspraxis", *Kulturanthropologie Notizen*, Vol. 85, pp. 52-77, doi: [10.21248/ka-notizen.85.21](https://doi.org/10.21248/ka-notizen.85.21).
- Ellis, C. (1999), "Heartful autoethnography", *Qualitative Health Research*, Vol. 9 No. 5, pp. 669-683, doi: [10.1177/104973299129122153](https://doi.org/10.1177/104973299129122153).
- Gherardi, S. (2012), *How to Conduct a Practice-Based Study: Problems and Methods*, Edward Elgar Publishing, doi: [10.4337/9780857933386](https://doi.org/10.4337/9780857933386).
- Guimarães, M.H., Pohl, C., Bina, O. and Varanda, M. (2019), "Who is doing inter- and transdisciplinary research, and why? An empirical study of motivations, attitudes, skills, and behaviours", *Futures*, Vol. 112, 102441.
- Hagemeister, J. (2023), "Teilnehmende Beobachtung auf YouTube: Ein Praxisbeispiel", *Kulturanthropologie Notizen*, Vol. 85, pp. 41-51, doi: [10.21248/ka-notizen.85.17](https://doi.org/10.21248/ka-notizen.85.17).
- Hatton, E. (2017), "Mechanisms of invisibility: rethinking the concept of invisible work", *Work, Employment and Society*, Vol. 31 No. 2, pp. 336-351, doi: [10.1177/0950017016674894](https://doi.org/10.1177/0950017016674894).
- Hilger, A., Rose, M. and Keil, A. (2021), "Beyond practitioner and researcher: 15 roles adopted by actors in transdisciplinary and transformative research processes", *Sustainability Science*, Vol. 16, [Preprint], doi: [10.1007/s11625-021-01028-4](https://doi.org/10.1007/s11625-021-01028-4).
- Hoffmann, S., Deutsch, L., Klein, J.T. and O'Rourke, M. (2022), "Integrate the integrators! A call for establishing academic careers for integration experts", *Humanities and Social Sciences Communications*, Vol. 9 No. 1, p. 147, doi: [10.1057/s41599-022-01138-z](https://doi.org/10.1057/s41599-022-01138-z).
- Hoffmann, S., Deutsch, L. and O'Rourke, M. (2024), "Integration experts and expertise", in Darbellay, F. (Ed.), *Elgar Encyclopedia of Interdisciplinarity and Transdisciplinarity*, Edward Elgar Publishing, pp. 273-276, doi: [10.4337/9781035317967.ch60](https://doi.org/10.4337/9781035317967.ch60).
- Hofmann, B., Salomon, H. and Hoffmann, S. (2025), "Roles of researchers in inter- and transdisciplinary sustainability research: a reflection tool", *Sustainability Science*, Vol. 20 No. 3, pp. 777-792, doi: [10.1007/s11625-024-01619-x](https://doi.org/10.1007/s11625-024-01619-x).
- Hölscher, K., Wittmayer, J.M., Hirschnitz-Garbers, M., Olfert, A., Walther, J., Schiller, G. and Brunnow, B. (2021), "Transforming science and society? Methodological lessons from and for transformation research", *Research Evaluation*, Vol. 30 No. 1, pp. 73-89, doi: [10.1093/reseval/rvaa034](https://doi.org/10.1093/reseval/rvaa034).
- Howells, J. (2006), "Intermediation and the role of intermediaries in innovation", *Research Policy*, Vol. 35 No. 5, pp. 715-728, doi: [10.1016/j.respol.2006.03.005](https://doi.org/10.1016/j.respol.2006.03.005).
- Hui, A., Schatzki, T.R. and Shove, E. (Eds) (2016), *The Nexus of Practices: Connections, Constellations, Practitioners*, 1st ed., Routledge, doi: [10.4324/9781315560816](https://doi.org/10.4324/9781315560816).
- Janböcke, S., Ogawa, T., Kobayashi, K., Browne, R., Taki, Y., Wieching, R. and Langendorf, J. (2022), "Remote international collaboration in scientific research teams for technology development",

- Jaremka, L.M., Ackerman, J.M., Gawronski, B., Rule, N.O., Sweeny, K., Tropp, L.R., Metz, M.A., Molina, L., Ryan, W.S. and Vick, S.B. (2020), "Common academic experiences No one talks about: repeated rejection, impostor syndrome, and burnout", *Perspectives on Psychological Science*, Vol. 15 No. 3, pp. 519-543, doi: [10.1177/1745691619898848](https://doi.org/10.1177/1745691619898848).
- Jones, K. and Sharp, T. (2019), *Provoke: The Art of Transformative Facilitation*, Alchemy Worldwide, London.
- Kahane, A. (2021), *Facilitating Breakthrough: How to Remove Obstacles, Bridge Differences, and Move Forward Together*, 1st ed., Berrett-Koehler Publishers, Inc, Oakland, CA.
- Kaner, S. (2014), *Facilitator's Guide to Participatory Decision-Making*, 3rd ed., Jossey-Bass, San Francisco, CA.
- Karhapää, A., Pöysä-Tarhonen, J., Rikala, P. and Hämäläinen, R. (2025), "Being an ethnographic researcher in a modern workplace: advantages and challenges of digital ethnography", *Journal of Organizational Ethnography*, Vol. 14 No. 2, pp. 233-247, doi: [10.1108/joe-11-2024-0085](https://doi.org/10.1108/joe-11-2024-0085).
- Klein, J.T. (2017), "Typologies of interdisciplinarity: the boundary work of definition", in Frodeman, R. (Ed.), *The Oxford Handbook of Interdisciplinarity*, 2nd ed., Oxford University Press, pp. 21-34, doi: [10.1093/oxfordhb/9780198733522.013.3](https://doi.org/10.1093/oxfordhb/9780198733522.013.3).
- Klein, J.T. (2021), *Beyond Interdisciplinarity: Boundary Work, Communication, and Collaboration*, Oxford University Press, New York, NY.
- König, B., Diehl, K., Tscherning, K. and Helming, K. (2013), "A framework for structuring interdisciplinary research management", *Research Policy*, Vol. 42 No. 1, pp. 261-272, doi: [10.1016/j.respol.2012.05.006](https://doi.org/10.1016/j.respol.2012.05.006).
- Koning, P. and West, D. (2020), *Agile Leadership Toolkit: Learning to Thrive with Self-Managing Teams*, Addison-Wesley, Boston Columbus New York San Francisco Amsterdam Cape Town, (The professional Scrum series).
- Kraus, S., Ferraris, A. and Bertello, A. (2023), "The future of work: how innovation and digitalization re-shape the workplace", *Journal of Innovation and Knowledge*, Vol. 8 No. 4, 100438, doi: [10.1016/j.jik.2023.100438](https://doi.org/10.1016/j.jik.2023.100438).
- Kuckartz, U. and Rädiker, S. (2022), *Qualitative Inhaltsanalyse: Methoden, Praxis, Computerunterstützung: Grundlagentexte Methoden. 5. Auflage*, Beltz Juventa, Weinheim Basel.
- Leahey, E., Beckman, C.M. and Stanko, T.L. (2017), "Prominent but less productive: the impact of Interdisciplinarity on scientists' research", *Administrative Science Quarterly*, Vol. 62 No. 1, pp. 105-139, doi: [10.1177/0001839216665364](https://doi.org/10.1177/0001839216665364).
- Marcus, G.E. (1995), "Ethnography in/of the world system: the emergence of multi-sited ethnography", *Annual Review of Anthropology*, Vol. 24 No. 1, pp. 95-117, doi: [10.1146/annurev.an.24.100195.000523](https://doi.org/10.1146/annurev.an.24.100195.000523).
- Meyer, M. (2010), "The rise of the knowledge broker", *Science Communication*, Vol. 32 No. 1, pp. 118-127, doi: [10.1177/1075547009359797](https://doi.org/10.1177/1075547009359797).
- Norström, A.V., Cvitanovic, C., Löf, M.F., West, S., Wyborn, C., Balvanera, P., Bednarek, A.T., Bennett, E.M., Biggs, R., de Bremond, A., Campbell, B.M., Canadell, J.G., Carpenter, S.R., Folke, C., Fulton, E.A., Gaffney, O., Gelcich, S., Jouffray, J.B., Leach, M., Le Tissier, M., Martín-López, B., Louder, E., Loutre, M.F., Meadow, A.M., Nagendra, H., Payne, D., Peterson, G.D., Reyers, B., Scholes, R., Speranza, C.I., Spierenburg, M., Stafford-Smith, M., Tengö, M., van der Hel, S., van Putten, I. and Österblom, H. (2020), "Principles for knowledge co-production in sustainability research", *Nature Sustainability*, Vol. 3 No. 3, pp. 182-190, doi: [10.1038/s41893-019-0448-2](https://doi.org/10.1038/s41893-019-0448-2).
- Nowotny, H., Scott, P. and Gibbons, M. (2003), "Introduction: 'Mode 2' revisited: the new production of knowledge", *Minerva*, Vol. 41 No. 3, pp. 179-194, doi: [10.1023/A:1025505528250](https://doi.org/10.1023/A:1025505528250).
- OECD (2021), "OECD science, technology and innovation Outlook 2020: science and innovation in times of Crisis", OECD (OECD Science, Technology and Innovation Outlook), doi: [10.1787/75f79015-en](https://doi.org/10.1787/75f79015-en).

- Oliver, K., Kothari, A. and Mays, N. (2019), "The dark side of coproduction: do the costs outweigh the benefits for health research?", *Health Research Policy and Systems*, Vol. 17 No. 1, 33, doi: [10.1186/s12961-019-0432-3](https://doi.org/10.1186/s12961-019-0432-3).
- Orel, M. (2023), "Autoethnography in the modern workplace: a reflexive journey", *Journal of Organizational Ethnography*, Vol. 13 No. 2, pp. 144-160, doi: [10.1108/JOE-06-2023-0038](https://doi.org/10.1108/JOE-06-2023-0038).
- Orlikowski, W.J. (2007), "Sociomaterial practices: exploring technology at work", *Organization Studies*, Vol. 28 No. 9, pp. 1435-1448, doi: [10.1177/0170840607081138](https://doi.org/10.1177/0170840607081138).
- O'Rourke, M., Crowley, S. and Gonnerman, C. (2016), "On the nature of cross-disciplinary integration: a philosophical framework", *Studies in History and Philosophy of Science Part C: Studies in History and Philosophy of Biological and Biomedical Sciences*, Vol. 56, pp. 62-70, doi: [10.1016/j.shpsc.2015.10.003](https://doi.org/10.1016/j.shpsc.2015.10.003).
- Pohl, C., Rist, S., Zimmermann, A., Fry, P., Gurung, G.S., Schneider, F., Speranza, C.I., Kiteme, B., Boillat, S., Serrano, E., Hadorn, G.H. and Wiesmann, U. (2010), "Researchers' roles in knowledge co-production: experience from sustainability research in Kenya, Switzerland, Bolivia and Nepal", *Science and Public Policy*, Vol. 37 No. 4, pp. 267-281, doi: [10.3152/030234210x496628](https://doi.org/10.3152/030234210x496628).
- Pohl, C., Klein, J.T., Hoffmann, S., Mitchell, C. and Fam, D. (2021), "Conceptualising transdisciplinary integration as a multidimensional interactive process", *Environmental Science and Policy*, Vol. 118, pp. 18-26, doi: [10.1016/j.envsci.2020.12.005](https://doi.org/10.1016/j.envsci.2020.12.005).
- Purvis, B., Keding, H., Lewis, A. and Northall, P. (2023), "Critical reflections of postgraduate researchers on a collaborative interdisciplinary research project", *Humanities and Social Sciences Communications*, Vol. 10 No. 1, p. 10, doi: [10.1057/s41599-022-01494-w](https://doi.org/10.1057/s41599-022-01494-w).
- Saldaña, J. (2021), *The Coding Manual for Qualitative Researchers*, 4th ed., SAGE Publishing, Thousand Oaks, CA.
- Sauer, S. and Nicklich, M. (2021), "Empowerment and beyond: paradoxes of self-organised work", *Work Organisation, Labour and Globalisation*, Vol. 15 No. 2, doi: [10.13169/workorglaboglob.15.2.0073](https://doi.org/10.13169/workorglaboglob.15.2.0073).
- Schatzki, T.R. (2001), *The Site of the Social: A Philosophical Account of the Constitution of Social Life and Change*, Penn State University Press, doi: [10.5325/j.ctv1rmpjpt](https://doi.org/10.5325/j.ctv1rmpjpt).
- Schermuly, C.C. (2024), *New Work - Gute Arbeit gestalten: Psychologisches Empowerment von Mitarbeitenden. 4. Auflage 2024*, Haufe-Lexware GmbH & Co. KG, Freiburg.
- Schmitt, J.B., Goldmann, A., Simon, S.T. and Bieber, C. (2023), "Conception and interpretation of interdisciplinarity in research practice: findings from group discussions in the emerging field of digital transformation", *Minerva*, Vol. 61 No. 2, pp. 199-220, doi: [10.1007/s11024-023-09489-w](https://doi.org/10.1007/s11024-023-09489-w).
- Schwaber, K. and Sutherland, J. (2020), "Der Scrum Guide: Der gültige Leitfaden für Scrum: Die Spielregeln", (Version 3.2), Scrum Alliance.
- Schwarz, R. (2016), *The Skilled Facilitator: A Comprehensive Resource for Consultants, Facilitators, Coaches, and Trainers*, 3rd ed., Wiley.
- Silvast, A. and Foulds, C. (2022), "A Sociology of Interdisciplinarity", in Silvast, A. and Foulds, C. (Eds), *Sociology of Interdisciplinarity: The Dynamics of Energy Research*, Springer International Publishing, Cham, pp. 91-120, doi: [10.1007/978-3-030-88455-0\\_5](https://doi.org/10.1007/978-3-030-88455-0_5).
- Simon, S.T. and Schmitt, J.B. (2023), "Agile science: Co-creating research on digital transformation", *Easy Social Sciences*, Vol. 3 No. 1, [Preprint], doi: [10.15464/EASY.2023.02](https://doi.org/10.15464/EASY.2023.02).
- Staines, K. and Martin, H. (2016), "Greasing the wheels: invisible labour in interdisciplinary environments", in Callard, F., Staines, K. and Wilkes, J. (Eds), *The Restless Compendium*, Springer International Publishing, Cham, pp. 165-171, doi: [10.1007/978-3-319-45264-7\\_20](https://doi.org/10.1007/978-3-319-45264-7_20).
- Star, S.L. (1999), "The ethnography of infrastructure", *American Behavioral Scientist*, Vol. 43 No. 3, pp. 377-391, doi: [10.1177/00027649921955326](https://doi.org/10.1177/00027649921955326).
- Star, S.L. and Strauss, A. (1999), "Layers of silence, arenas of voice: the ecology of visible and invisible work", *Computer Supported Cooperative Work (CSCW)*, Vol. 8 Nos 1-2, pp. 9-30.

- Straus, D. (2002), *How to Make Collaboration Work: Powerful Ways to Build Consensus, Solve Problems, and Make Decisions*, Berrett-Koehler, San Francisco.
- Suckow, S., Schmitt, J.B., Saba, S., Beese, K., Staudte, M. and Wenninger, A. (2024), "Was macht interdisziplinäre Teams erfolgreich? Entwicklung eines Fragebogens zur Evaluation interdisziplinärer Zusammenarbeit in der Digitalisierungsforschung", Discussion Paper 40, Weizenbaum Institut, Berlin, p. 36, doi: [10.34669/WI.DP/40](https://doi.org/10.34669/WI.DP/40) (accessed 20 January 2025).
- Tagare, D., Exter, M.E. and Ashby, I. (2023), "The many hats – accidental roles in an interdisciplinary research and implementation project: a collaborative autoethnography", in Hokanson, B., Schmidt, M., Exter, M., Tawfik, A.A. and Earnshaw, Y. (Eds), *Formative Design in Learning: Design Thinking, Growth Mindset and Community*, Springer Nature Switzerland, Cham, pp. 267-280, doi: [10.1007/978-3-031-41950-8\\_21](https://doi.org/10.1007/978-3-031-41950-8_21).
- Trifan, C.-A., de Waegh, R., Zhang, Y. and Ooi, C.S. (2024), "Autoethnographic reflections on creating inclusive and collaborative virtual places for academic research", *Journal of Organizational Ethnography*, Vol. 13 No. 2, pp. 176-195, doi: [10.1108/JOE-06-2023-0037](https://doi.org/10.1108/JOE-06-2023-0037).
- Verwoerd, L., Klaassen, P., van Veen, S.C., De Wildt-Liesveld, R. and Regeer, B.J. (2020), "Combining the roles of evaluator and facilitator: assessing societal impacts of transdisciplinary research while building capacities to improve its quality", *Environmental Science & Policy*, Vol. 103, pp. 32-40.
- Vienni-Baptista, B. and Klein, J.T. (Eds) (2022), *Institutionalizing Interdisciplinarity and Transdisciplinarity: Collaboration across Cultures and Communities*, 1st ed., Routledge, Taylor & Francis Group (Research and Teaching in Environmental Studies), London and New York, doi: [10.4324/9781003129424](https://doi.org/10.4324/9781003129424).
- Viseu, A. (2015), "Caring for nanotechnology? Being an integrated social scientist", *Social Studies of Science*, Vol. 45 No. 5, pp. 642-664, doi: [10.1177/0306312715598666](https://doi.org/10.1177/0306312715598666).
- Waizenegger, L., McKenna, B., Cai, W. and Bendz, T. (2020), "An affordance perspective of team collaboration and enforced working from home during COVID-19", *European Journal of Information Systems*, Vol. 29 No. 4, pp. 429-442, doi: [10.1080/0960085X.2020.1800417](https://doi.org/10.1080/0960085X.2020.1800417).
- Ward, V., Tooman, T., Reid, B., Davies, H. and Marshall, M. (2021), "Embedding researchers into organisations: a study of the features of embedded research initiatives", *Evidence and Policy*, Vol. 17 No. 4, pp. 593-614, doi: [10.1332/174426421X16165177580453](https://doi.org/10.1332/174426421X16165177580453).
- Weisbord, M.R. and Janoff, S. (2007), *Don't Just Do Something, Stand There! Ten Principles for Leading Meetings that Matter*, 1st ed., Berrett-Koehler, San Francisco.
- Wenten, K.-A. (2019), "Controlling labor in Makeathons: on the recuperation of emancipation in industrial labor processes", in Meyer, U., Schaupp, S. and Seibt, D. (Eds), *Digitalization in Industry*, Springer International Publishing, Cham, pp. 153-177, doi: [10.1007/978-3-030-28258-5\\_7](https://doi.org/10.1007/978-3-030-28258-5_7).
- Wittmayer, J.M. and Schöpke, N. (2014), "Action, research and participation: roles of researchers in sustainability transitions", *Sustain Sci*, Vol. 9 No. 4, pp. 483-496.
- Yang, L., Holtz, D., Jaffe, S., Suri, S., Sinha, S., Weston, J., Joyce, C., Shah, N., Sherman, K., Hecht, B. and Teevan, J. (2021), "The effects of remote work on collaboration among information workers", *Nature Human Behaviour*, Vol. 6 No. 1, pp. 43-54, doi: [10.1038/s41562-021-01196-4](https://doi.org/10.1038/s41562-021-01196-4).
- Yin, R.K. (2018), *Case Study Research and Applications: Design and Methods*, 6th ed., SAGE, Los Angeles.

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