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RESEARCH ARTICLE

Abductive analysis in qualitative research

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Abstract

Public administration scholars and practitioners need to know how state-of-the-art research is conducted. This article aims to contribute to the dialogue on qualitative analysis. Focusing on abductive analysis, it further unpacks and explicates the process and practices through which theoretical insight can be created from qualitative data. We offer four principles that guide abductive analysis: (i) embrace surprises, tensions, and doubts; (ii) use knowledges creatively to theorize; (iii) craft through methodological bricolage; and (iv) iterate through the research process. In addition, we discuss the implications of abductive analysis for how we learn, craft, and reflect on qualitative research.

Evidence for practice

- Abductive analysis makes students and researchers more sensitive to and capable of dealing with surprises and the integration of prior knowledges, this way developing practically relevant theoretical insights.
- Practicing and discussing the principles of abductive analysis with other researchers can help both novice and experienced researchers navigate, reflect on, and learn from processes of abductive analysis.
- Reviewers and editors can spur this development, increase insight into analytical processes and support meaningful exchanges with readers by asking for extended methods sections with supporting materials online, keeping in mind the plurality of qualitative methods and analyses.
- With abductive analysis, practitioners can expect a research practice that is open to and interprets tensions in their everyday work and experiences.
- Thinking through and studying our qualitative research practice contributes to clearer insight for practitioners into how theoretical insights come into being and the analytical work through which it is developed.

INTRODUCTION

It is essential that public administration scholars and practitioners who start, supervise, review, read, or use research are aware of how state-of-the-art research is conducted. When it comes to qualitative research—research that generates, accesses, and analyzes data that have or are given the form of language and other forms of human meaning-making not turned into numbers—the dialogue in public administration over the last two decades has been vital. It informed readers, among others, about the

ontological and epistemological foundations of qualitative research, its rigor and relevance, and about properly assessing its written results (Brower et al., 2000; Dodge et al., 2005; Haverland & Yanow, 2012; Mele et al., 2020; Nowell & Albrecht, 2019; Raadschelders, 2011). This article aims to contribute to this dialogue by further unpacking and explicating the analytical process through which theoretical insight is created from qualitative data (Ashworth et al., 2019; Brower et al., 2000; Ospina et al., 2018).

Theoretical insight is crucial to understanding, explaining, and acting in public administration (Dodge

et al., 2005; Emerson, 2022; Hattke & Vogel, 2023). An essential way to theorize is through abductive analysis. In abductive analysis, qualitative researchers work iteratively from surprises and tensions toward theoretical insight. Even if it has been known for a long time that good qualitative research involves iterations between fieldwork and analysis (Miles & Huberman, 1994), with abduction researchers engage theory and other prior knowledge early in the research process and creatively throughout. As an alternative to induction, it is increasingly common in several social science disciplines (e.g., Locke et al., 2008; Tavory & Timmermans, 2014). We also see it mentioned more often in methods sections in public administration journals.¹ Even though various public administration scholars have argued for abductive analysis (e.g., Ashworth et al., 2019; Boswell et al., 2019; Haverland & Yanow, 2012), others still omit it in their treatment and descriptions of qualitative analysis (e.g., McNabb, 2017; Nowell & Albrecht, 2019; van Thiel, 2022). This development calls for further examination of the research practices that abductive analysis entails and abduction's contribution to public administration.

In this article, we offer a renewed view of qualitative analysis. We do not offer strict rules or steps to follow, but a set of four principles for abductive analysis that guide the research process and enable subsequent reflection: (i) embrace surprises, tensions and doubts; (ii) use knowledges creatively to theorize; (iii) craft through methodological bricolage; and (iv) iterate through the research process. There is a need to support the development of abductive practices for those learning to do qualitative research and reflect more on them in our academic journals. Doing so provides the opportunity to show the plausibility of findings and increase the methodological intelligibility needed for readers to "appreciate the richness of the research journey" (Mele et al., 2020: 813).

With abductive analysis, practitioners can expect from scholars not just the open mind needed to investigate practitioners' everyday experiences from the inside out (Ospina et al., 2018), but also the eagerness to enter into a dialogue about what scholars know or thought they knew, and what surprised them. Abductive analysis cultivates a sensitivity toward practical complexity, surprises between theoretical expectations and empirical observations, and tensions between policies on paper and policy-making "on the ground" (Yanow, 2000). This sensitivity supports theorizing. New theories can be developed or existing theories clarified, adjusted, or extended, based on a more subtle understanding of phenomena as they occur in practice (Nowell & Albrecht, 2019). It also allows for the creation of knowledge that is relevant for practitioners (Brower et al., 2000; Dodge et al., 2005; Raadschelders, 2011).

To develop our argument, we make use of classic and recent insights concerning qualitative analysis in public administration and also in policy analysis (e.g., Yanow, 2000),

sociology (e.g., Tavory & Timmermans, 2014) and organization studies (e.g., Klag & Langley, 2013; Pratt et al., 2022). As an interdisciplinary field, public administration has always learned from the disciplines surrounding it (Raadschelders, 2011). It should continue to do so, also when it comes to conducting research. Furthermore, following the broad distinction between (neo) positivist and interpretive approaches in qualitative research, as Haverland and Yanow (2012, cf. Ospina et al. 2018) made over a decade ago in this journal, we start from interpretive ontological and epistemological presuppositions.² Interpretivists do not believe social theory can offer an objective, neutral account of the world. They typically engage in qualitative fieldwork, immersing themselves in a particular practice or human artifacts to understand from the inside out (Haverland & Yanow, 2012). Although some might think that interpretivists do not aspire to make theoretical contributions that have value to understanding phenomena in general, many among them do have this aim (Ashworth et al., 2019; Gioia et al., 2013; Mele et al., 2020). These interpretivists believe that the realities we study are socially and materially constructed and in constant motion, and that the particular processes and practices under study have family resemblances with what happens elsewhere or earlier (Tsoukas, 2009). This allows and welcomes qualitative, interpretive researchers to engage in ongoing theoretical dialogues. To do so, abductive analysis and related ideas are pertinent. Our renewed view of qualitative analysis will help scholars and practitioners in our field conduct, support, evaluate, understand, and use qualitative research better.

The rest of this article is structured as follows. We first introduce the idea of abduction. Then we look at practices that allow qualitative researchers using abduction to move from data to new or revised theory. Next, we argue that abductive analysis should go hand in hand with methodological bricolage and look at the overall research process in which abductive analysis takes place. In the discussion, we elaborate on the implications abductive analysis has for research practice, training, and reflection, and we conclude with ideas for future research.

ABDUCTION: SURPRISE AND PRIOR KNOWLEDGE

Charles Peirce, cofounder of pragmatism, developed the idea of abduction at the end of the 19th century, but only in the last 15 years has it become prominent in the social sciences (Locke et al., 2008; Schwartz-Shea & Yanow, 2012; Tavory & Timmermans, 2014). If induction is about slowly building a general account through a large dataset, abduction is about creatively puzzling with data and theoretical ideas. Both inductive and abductive analyses involve iteration (Agar, 2010; Brower et al., 2000; Kapiszewski et al., 2022; Locke et al., 2022): the ongoing cycling or back and forth between different practices and materials. However, if induction puts the focus on making

sense of data generated or accessed in the field, abduction urges us to start sense-making from *surprising* observations made during fieldwork. For an observation to become surprising, “it needs to clash explicitly or implicitly with a vision of what the world should be like, how processes should unfold, and how actors should behave” (Tavory & Timmermans, 2014: 42). This basic idea has been part of methodological practice in the social sciences long before abduction became prominent. In Michael Agar’s work on ethnography (1986), for instance, he suggested that researchers work from breakdowns in their expectations. Working abductively is also central to the idea of “casing” where researchers ask themselves, over and over, what the phenomenon they study is a case of (Ragin, 1992: 5–6; Soss, 2021).³

What surprises researchers in the field depends on what they expect based on what they already know about the phenomenon they study, their “prior knowledge” (Schwartz-Shea & Yanow, 2012). Tavory and Timmermans (2014, Timmermans and Tavory 2022) highlight the importance of theory as the background against which observations can surprise. Researchers should, therefore, become familiar with a range of theories that might be relevant to their topic before they do fieldwork. If both induction and abduction require having an open mind when entering the field, the latter also sees usefulness in “a head full of theories” (Weick, 2007: 16). In contrast to inductive ways of working as grounded theory classically depicts it (Glaser & Strauss, 1967; Strauss & Corbin, 1990), qualitative researchers working abductively use theory from early on in their projects.⁴ Schwartz-Shea and Yanow (2012: 27) suggest that “in some sense, the researcher is simultaneously puzzling over empirical materials and theoretical literatures.” For Yanow (2000), however, there is more to prior knowledge than the academic literature (see also Agar, 1986; Emerson, 2022; Schwartz-Shea & Yanow, 2012). Prior knowledge can consist of experience, education, or training. This might include what researchers have learned through contact with practice or as practitioners themselves. Such knowledge may be thought of as an embodied “feel for the game” (Boudieu, 1990: 66). Yanow (2000) also points to the tensions qualitative researchers can experience in the field (Timmermans & Tavory, 2022: 115–131). In particular, she refers to the tensions between policies on paper and policies as they are enacted on the ground. Studying and understanding these tensions as they play out in practice in particular contexts and eras has been and continues to be relevant to public administration theory and practice (e.g., Brodtkin, 2012; Maynard-Moody & Musheno, 2003).

MOVING TOWARD THEORETICAL INSIGHT

Abductive analysis starts iterating from surprises and tensions and theorizes them creatively. This becomes

particularly helpful at the moment researchers want to move from data to theory. Klag and Langley (2013: 149) observe that “there is almost always an element of difficult-to-codify insight in developing theoretical contributions from qualitative research: a shady area of methodology to which no failsafe recipe can guarantee access”. When researchers are surprised or encounter tensions, they need to construct a research puzzle around it and then generate a plausible theoretical account that solves the puzzle. As Agar (1986) explained, in response to a breakdown of expectations, researchers modify their initial interpretations until the breakdown is resolved and coherence is restored. The puzzle can be solved with the help of reinterpreting data they already generated, additional fieldwork and often with both (Timmermans & Tavory, 2022; van Maanen et al., 2007).

Theoretical insight is sometimes depicted as coming in a flash or as an epiphany (Locke, 2011; Timmermans & Tavory, 2022: 16–7). Gioia et al. (2013), who developed a version of grounded theory in organization studies, talk about “shazam”—a moment when something suddenly makes sense, and the researcher can write a theoretical account of what happens in practice. We are warned however, that theoretical insights do not come down to one magical moment (Klag & Langley, 2013). Or rather, even if such moments might be experienced, a set of practices precedes and surrounds them and there usually are at least multiple “moments” and setbacks in between. Importantly, those who develop new theoretical insights abductively see that theory can take the form of “a guess, conjecture, speculation, supposition, proposition, hypothesis, conception, or model, with those at the formal end of the spectrum more likely to be in print” (van Maanen et al., 2007: 1147). Abductive analysis, not limiting itself in theoretical forms, is more about theorizing than about theory (Weick, 1995).⁵

Researchers, from the start of their research projects, are on the lookout for surprises and tensions. Yanow (2000) advises to dwell on, even cherish them. For example, in their recent study, Klemsdal et al. (2022) adopted an approach to actively discover and resolve surprising observations. Studying the work of street-level managers in public reform, they expected managers to be oriented toward reforms. However, the managers’ work proved to be to a large extent oriented toward situations they had to deal with instead. Building on Dewey’s concept of situations and their transformation from indeterminate to determinate, the authors develop the concept of situational work. Wong (2024) wrote in a similar fashion about the tension she observed in her data and how she worked through it. She studied health managers’ attempts to get their workers to execute a performance measure. While managers stressed the importance of the measure in interviews and sought to improve organizational performance on that measure, they laughed about and critiqued it during meetings with other managers. Wong delved into the role of laughter and encountered

theories of role distance that could explain managers' coping practices. Translating these observations for practical use, she concludes that organizations must continue to provide avenues for feedback for when managers disagree with policies and practice, encouraging them to embrace and take charge of their work rather than distancing themselves from it.

Dwelling on surprises and tensions also means researchers should make doubt central to research (Locke et al., 2008). Doubt grows when we no longer are certain in our beliefs, when sense breaks down and we are facing a puzzle that we are not able to instantly solve. For novices starting on research, doubts are to be expected. Doubt at the start of a career, however, can also become paralyzing self-doubt. Experienced researchers and practitioners risk becoming convinced that a particular theory or way of seeing is superior, which is why doubting can also be a demanding activity later on in a (research) career. Doubting can be a generative practice if it feeds the researchers' quest for plausible, coherent accounts for surprises and of tensions. In Barley's (1990) unique reflection on a longitudinal ethnographic study of a radiology department, he reflects on how the doubt and fear of overlooking important details kept him alert throughout his study. He kept returning to the field for more data and applied multiple analytical strategies as he feared making a mistake or missing something. The extensive research process led to seminal work on how technologies influence professional work.

To theorize, abductive analysis makes use of intuitions, hunches, and associations researchers have based on their prior knowledge. Subsequently, these might lead them to further delve into a particular theory or try out various heuristics (Abbott, 2004; Klag & Langley, 2013). Using theory like this does not start from deductively developing formal hypotheses. Rather it is a process in which many ideas are generated and evaluated (Sætre & van de Ven, 2021), some of which slowly develop into new theoretical insights. Feldman and Pentland (2003), for instance, first in their own projects and later in their collaboration, started to look at organizational routines in terms of *performances* instead of *structures*, which allowed them to see flexibility and change. Over time, a strong routines-as-performances strand of literature has developed in organization studies (Feldman et al., 2016). Recently, Visser and Van Hulst (2024) borrowed insights from this strand to understand the routines of social workers. They were surprised by the ongoing change in social work routines, whereas street-level bureaucracy theory had viewed routines as static. In their search for explanations, they found fitting theoretical conceptualizations in the routines-as-performances strand. Also here, the insight generated is both theoretically and practically relevant, as public organizations can now better see that routines-in-use might change rapidly can develop them in a way that enables ongoing improvement.

Here, we should also mention *casing* again: the ongoingly asking of what the phenomenon one studies is a

case of (Ragin, 1992). Casing can be seen as a form of coding but at a higher level of abstraction. In that sense, it is an attempt to leap toward a (new) way of seeing. In her research on frontline work, Løberg (2023) looked at the way counselors worked with digital intake data on clients. To her surprise, she saw that counselors tried to recreate clients' life stories from the limited data available. This way of *complicating* perceptions of clients challenged the theoretical expectation that street-level bureaucrats generally cope with the challenges of their work by simplifying cases. Actively engaging with this surprise, she conceptualized the activities as complication strategies and re-cased them as a form of coping to theoretically contribute to the street-level literature. The reconceptualization led Løberg to advise practitioners to include more contextual information in information systems to save public resources and produce more responsive services.

CRAFTING RESEARCH THROUGH METHODOLOGICAL BRICOLAGE

Looking for and working with surprises and tensions, embracing doubt, and using prior knowledge to theorize creatively are practices that fit an understanding of research *as a craft* (Baer & Shaw, 2017; Boswell et al., 2019; Mills, 1959; Wildavsky, 1993). Like other craftspeople, qualitative researchers spend a long time developing the knowledge and skills needed to properly conduct research (Dreyfus & Dreyfus, 2005). They start as novices and might end as experts. As novices, researchers typically first learn to follow precise guidelines with detailed rules but later work from general guidelines or rules of thumb. Experienced qualitative researchers come to know how to deal with different and unexpected situations, including surprises and tensions (Bartels & Wagenaar, 2018). Over time, they have developed an intuition for doing research.

Qualitative researchers working abductively also learn how to craft their work methodologically. This has been called *methodological bricolage* (Denzin & Lincoln, 2000; Klag & Langley, 2013; Pratt et al., 2022). Bricolage is about making do with the situation encountered and the tools at hand (Blijleven & van Hulst, 2021). In qualitative research, it points at "an active choice of moves from a broad set of methods" (Pratt et al., 2022: 217). To understand the idea of methodological bricolage, it is useful to first think of ethnography. Ethnographers use their methods for generating data flexibly and pragmatically to develop their understanding of what the people in the field are up to. They can, for instance, engage in informal conversations with informants today to better grasp observations they made during last week's meeting. In a parallel manner, using methodological bricolage in qualitative analysis means finding a fitting way to analyze one's particular data. This might lead to a significant amount of imagination, improvisation, and trial and error.

Yanow's (2000) research into community work is a good example. During her fieldwork, she was puzzled by the prominent use of the metaphor of a "supermarket" to talk about community centers. To understand how this metaphor could give meaning in the policymaking she studied, she chose to dive into theories of metaphor and then apply a metaphor analysis to her data. This allowed her to show how the supermarket-metaphor worked and what implications its use had in practice. Also informative is a recent study by Nielsen et al. (2023) about the ongoing communicative work of public managers who attempt to shape frontline workers' expectations of digital transformation. They saw an important role for narratives in the practices they studied and subsequently read about narrative theory and did a narrative analysis of their data. Such examples should remind us that to analyze qualitative data, researchers might use a variety of analytic methods (narrative, framing, and discourse analysis, to name a few – see van Hulst et al., 2024 for a comparison; see Yanow & Schwartz-Shea, 2014: xxxii for a list), all with their theoretical underpinnings and potential contributions. At the same time, methodological bricolage also entails the use of generic analytical practices like developing visuals, tables, or vignettes.⁶ These can be used in various moments during the analysis, to order data, to create overview and to develop new ideas. All and all, as various analytical choices can be combined in multiple ways, this leads to a plurality of possible paths through every research project (Pratt et al., 2022).

RE-VIEWING THE RESEARCH PROCESS

Now that we have gone over the elements of abductive analysis, it is time to zoom out to review the process as such. Abductive analysis, understood as a particular way of doing qualitative research, conflicts with the idea of a linear, predictable research process in which the researcher follows predetermined steps in a set order. Earlier, we called abductive analysis iterative, and we should get back to that notion now. As said, inductive and abductive analyses both proceed iteratively. Abductive analysis, however, does not just iterate between generating and accessing data and then analyzing them. Seeing all elements of the qualitative research process that are "intertwined" (Dubois & Gadde, 2002: 555), it also includes multiple iterations between data and theory (van Maanen et al., 2007). Yanow (2000: 84, 86) talked about interpretive research as going through "iterative loops", in which the researcher "makes provisional sense, engages in further inquiry, revises his understanding, engages in further inquiry, and so on, moving in a reiterative fashion from field to analysis to question to study design to field to analysis to writing to analysis, and so on."

Even if practices are repeated, they are also always slightly different as the researcher's understanding

constantly changes—ideally progressing toward a coherent account, but possibly breaking down at various moments. Such iteration reminds us of the hermeneutic cycle, in which the meaning of the whole arises from the interpretation of its parts and vice versa. Instead of iterating or cycling to the same point, one might also speak of *spiraling*, as the researcher never comes back to exactly the same point but learns throughout the process (Schwartz-Shea & Yanow, 2012: 31). What then does the qualitative research process with abductive analysis look like? If linear research is shaped in a fashion that offers its activities 1, 2, 3, 4, 5: pose question, design, fieldwork, analysis, write-up. A more iterative version is 1, 2, 3, 2, 3, 4, 3, 4, 5 (Yanow, 2000: 85): pose a question, design, fieldwork, redesign, fieldwork, analyze, fieldwork, analyze more, write-up. Thinking of an abductive, bricolage way of doing might lead us to describe qualitative research even more subtly as $-1a, 1a, 2a, 1b, 3a, -1a + g, 4a, 1j, 3m, 4s, 5, 4f$: the start of a project with developing prior knowledge beforehand ($-1a$), pose initial question ($1a$), initial design ($2a$), pose a new question ($1b$), doing fieldwork in a first case ($3a$), getting back to prior knowledge and read on narrative ($-1a + g$), casing the new fieldwork in terms of narrative ($4a$), and so on. The description of the process becomes rather complex, but complexifying our description is needed to do justice to the actual practice (Tsoukas, 2017).

Another way to re-view the process is to visualize it. Applying it to this article and the ideas we develop in it, in Figure 1 we suggest in broad strokes how practices (e.g., reading literature and developing research questions, designing fieldwork, doing fieldwork, analyzing, casing, initial writing up) and events (surprise, doubt, intuition, hunch) might be patterned in recognizable but always somewhat different manners in different domains (theory and literature, design and analysis, fieldwork). Research practices follow each other through time (from left to right, with temporal overlap as well) and feed into each other (arrows), together spiraling to an initial write-up.⁷

DISCUSSION

Extending previous contributions (Ashworth et al., 2019; Haverland & Yanow, 2012), the abduction-based view we developed here should help those who start, supervise, review, read or use qualitative analysis in public administration. We contribute to methodological conversations in our field, with on the one hand the more abstract debates about epistemology and ontology and on the other concrete instruction for methods, by unpacking the interrelated, abductive practices that unfold in between. These practices can be summarized in terms of four general principles:

1. Embrace surprises, tensions, and doubts;
2. Use knowledges creatively to theorize;

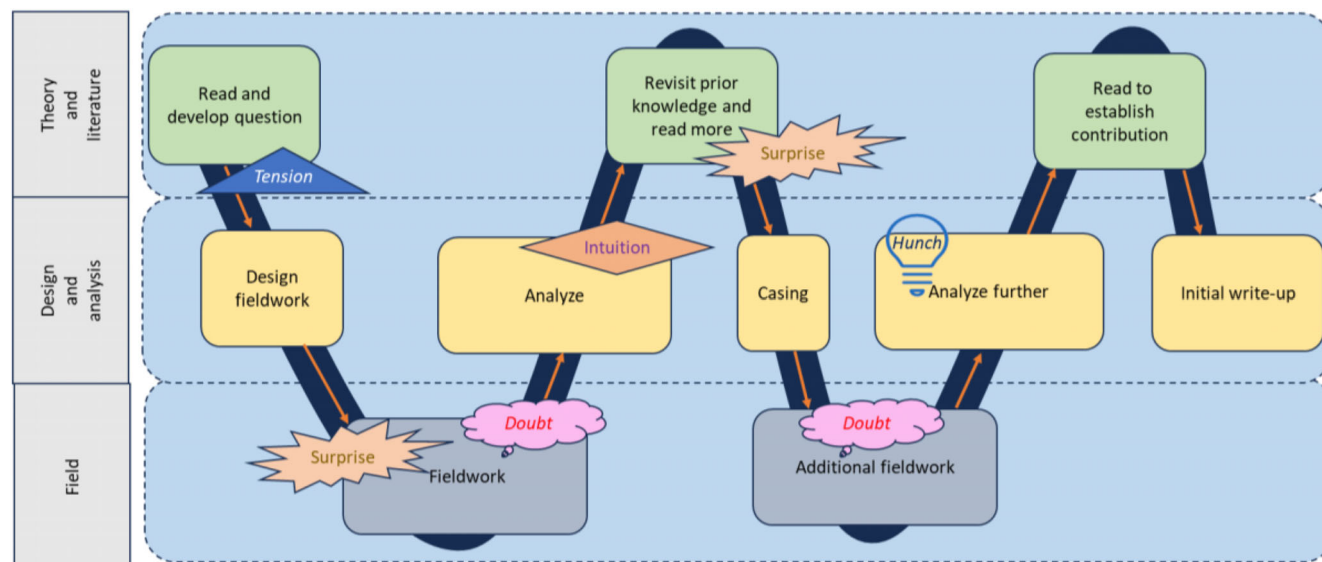


FIGURE 1 Qualitative research with abductive analysis.

3. Craft through methodological bricolage;
4. Iterate through the research process.

Next, we identify implications of each principle and discuss the need to reflect more on our practices.

Implications for research practice

Open to surprises, tensions, and doubts

Being open to and then embracing surprises, tensions, and doubts has implications, in particular, for the kinds of designs we develop and should expect as supervisors, readers and reviewers (Pratt et al., 2022: 233; Schwartz-Shea & Yanow, 2012). It implies a flexible, emergent research design, where researchers respond and adjust to developments and insights along the way. This has always been the case for inductive research (Lincoln & Guba, 1985), but abduction's more dynamic process makes it even more important. At first glance, a more emergent design might seem to lower the bar for researchers. Researchers might develop a "we will see" attitude, as more elements of the design can be left open. However, we believe that it is actually more demanding because the researcher has to work in a systematic and disciplined manner (not anything goes), *and also* engage surprises, tensions, and doubts while moving ahead. With fewer rules and guidance in place and more ways to go, a lot is expected of the researchers' practice in terms of the ability to deal with the unexpected and the knowledge and skills they bring to the research. It also asks researchers to be attentive to developments and tensions in the field of study. The potential gain is a richer dialogue across disciplines and with practitioners to get to (re)new

(ed) theories that build on findings in other disciplines and resonate with and reflect actors' experiences and backstage realities (Dodge et al., 2005; Raadschelders, 2011).

Developing prior knowledges

Abductive analysis encourages qualitative researchers to develop a broad theoretical basis and other knowledges to work from (Alvesson & Kärreman, 2007; Timmermans & Tavory, 2022), knowing that combining intellectual resources ("a head full of theories" or "a feel for the game") allows qualitative researchers to better see family resemblances (Tsoukas, 2009), imagine what the phenomena studied are a case of and develop new theoretical insights. This fits public administration very well, as we reach such sophistication ideally both by crossing disciplinary boundaries and through intensive prior or ongoing contact with practice. The theoretical basis creates a sensitivity to the subtleties of meaning embedded in the data and encourages more theoretically powerful interpretations (Brower et al., 2000). It is crucial that we creatively pursue hunches and generate many ideas along the way (Sætre & van de Ven, 2021). New metaphors or theoretical developments in other disciplines, for instance, can be used to understand phenomena in new ways. Abductive analysis makes theorizing relevant throughout the research process. At the same time, it is important to take into account that the practice and contexts of public administration are also always in development. Being familiar with tensions in practice, as they have been written about before, helps researchers develop suited expectations. Researchers *bring along* these expectations when they start to study a new case,

rather than *formally test*, as a deductive analytical practice would suggest. It is this dialogue and dynamic interplay of theoretical insights, experiences in the field, and training that helps qualitative researchers grasp the inherently unstable, variable phenomena under study in public administration scholarship (Emerson, 2022; Raadschelders, 2011).

Developing a methodological repertoire for bricolage

We agree that “the richer our arsenal of analytic practices that is, the more things we have available with which to take the next analytic step, the better able we are going to be to progress our theorizing” (Locke et al., 2022: 279). As better analytical skills can lead to better research and fruitful innovations (Pratt et al., 2022), the need for methodological bricolage invites researchers to work on their repertoire. A crafty research practice entails the ability to create solutions to deal with new or unexpected events and situations (surprise, tension, breakdown, and doubt) and with the specifics of the research process, in which researchers make use of the knowledge, practices and skills they have acquired and appropriated, know how to craft through bricolage, and know how to iterate between data and theory. The potential gain is not just better theory, but also an increased sensitivity to what is different in practice, what surprises, what lingering, or new tension surface and thus deserves researchers to engage practice and practitioners with (re)new(ed) questions to come to new insights. It is therefore crucial that they receive a broad training, seen the wide range of methods for analysis available, and seek help from others to find appropriate ways to analyze their data (Klag & Langley, 2013).

Iterating toward progression

Iteration is about “the repeated application of analytic actions oriented toward theoretical progression. In practice, iteration often takes place through the active work of pursuing the questions and noticings that arise in and from this analytic work with yet more analytic actions” (Locke et al., 2022: 263). At times, however, we doubt and feel that we are progressing, but merely going round in circles or got lost. We suggest, however, those who use abductive analysis to keep on looking for and working through surprise, tension and doubt toward new coherence and to work with an emergent design to form responses that are meaningful in terms of theoretical insight and practical relevance. Furthermore, not just experiences in the field, but also feedback from colleagues and reviewers should be seen as opportunities to further shape analysis and developing theoretical insights (instead of mere obstacles on the way to publishing findings). In the end, researchers should not

worry too much about losing time when they go back to the field, back to theory, or back to their data but consciously go through these movements and accept the slowness of the analytical process moving toward theoretical insight.

Implications for training and reflection

Learning the craft

With a relatively large set of possible surprises and tensions, a broad knowledge base, and a repertoire with many analytical moves in it, the possible trajectory of the research process is extensive (Pentland et al., 2020). Hence, the need for an emergent design. The implication might be that research projects take longer than expected or at least that it is not known how long they will take, and what practices are precisely needed. This realization highlights the decisions that researchers have to make as craftspeople and prevents them from hiding behind templates or fixed designs (Pratt et al., 2022: 232). Methods sections in journals might make readers think qualitative researchers follow a textbook. Guidelines in those textbooks might then be treated as a proxy for trustworthy research (Köhler et al., 2022: 196–7), but textbooks rarely show how experienced researchers actually work (Harley & Cornelissen, 2022; Kapiszewski et al., 2022). When they start off, qualitative researchers may be advised to start working with template-like tools, following them as a rule-book. However, while “novice qualitative researchers often seek shortcuts to accelerate this learning process, looking for standardized approaches to qualitative methods they can emulate” (Köhler et al., 2022: 184).

Becoming a craftsman takes a long time (Baer & Shaw, 2017) and takes place in a community (Lave & Wenger, 1991). Qualitative researchers, ideally, learn how to deal with the restricted time and money within single projects, just as they hopefully develop and deepen their knowledge base and methodological repertoire over time. As craftspeople, qualitative researchers then access “a broader toolbox that contains many items collected over time (e.g., ideas, theories, methods, life experiences, skills, and social connections), sometimes acquired with a view to their potential usefulness but often accumulated in a more undirected way” (Klag & Langley, 2013: 161). Practicing the craft in conversation with others, they work from (often implicit) general principles and develop an intuition for what might work and what is needed in a particular setting. For this to work, good training programs and supervision through which to learn the basic craft are necessary (Stout, 2013). Hopefully, beyond that, both novices and experienced researchers find and create occasions to experiment with new forms of analysis (Ballesterio & Winthereik, 2021) and learn together (Bartels & Wagenaar, 2018).

Reflecting on our own action

To prevent that researchers' struggles and the production failures along the way remain out of sight (van Maanen et al., 2007), Dodge et al. (2005, 297) already asked qualitative researchers to make "choices explicit, consistent, and transparent throughout the research process" (see also, Ashworth et al., 2019; Brower et al., 2000; Lincoln & Guba, 1985; Ospina et al., 2018). Similarly, in an attempt to start a debate about methodological reporting, Mele et al. (2020) have stipulated that analytical schemes and techniques (among other things) should be clarified. We propose to expand this, asking researchers to provide detailed descriptions of their analytical processes. With the increase of scholars in our field calling their research abductive (Appendix A), we see more descriptions of the ways qualitative researchers engage with theory and the surprises, tensions, and doubts that have accompanied and fueled their research (see, for example, the recent examples in public administration journals that we discussed above). Researchers can do even more to document their activities, choices, surprises, and doubts along the way so that they can feed into others' research practices. Analyses as they are conducted *and* experienced. Journals and reviewers could ask for extended methods sections with more supporting materials online, which is in some cases already done. Such reflections can increase the methodological intelligibility in the field and meaningful exchanges with readers, including practitioners, supervisors, and reviewers. (Mele et al., 2020).

CONCLUSION

Even if one offers a procedure for abduction with steps to follow in a certain order (Sætre & van de Ven, 2021), good qualitative research in an abductive fashion is neither strict rule-following nor anything goes. It is a creative, dynamic process. Far from mechanistic. There is too much mess and variety in the analytical process that cannot be fixed and controlled in advance and can thus not be captured by a linear design. However, while Harley and Cornelissen (2022: 257; italics are ours) suggest there is "*a fine line* between specifying prescriptive rules [...] and providing overly general criteria that fail to provide a basis for action", we think there is a rather broad band. Much can be said about qualitative analysis that can help researchers to be conscious in their choices and produce rich analyses, without running the risk of being too abstract. This is what we have aimed to contribute here: an elaboration of the process of abductive analysis with a set of four general principles that can guide it. We offer principles that function as a relatively stable background, shaping but not restricting the improvisation needed in research projects. In addition, we provide researchers who use abductive analysis more or less deliberately with a vocabulary to report and reflect on their activities and

experiences. As academics, furthermore, we are serving not just our academic community and students, but also public administration practice. Improving our abductive skills will benefit conversations with practitioners about the development of theoretical insight and possibly also feeds into policymaking. Practitioners can expect qualitative researchers who are receptive to the everyday complexities and dynamics of administrative work and who are eager to engage surprises and tensions that come with it.

Further research is needed that unravels analytical practices—not just in single projects, from start to initial manuscript, but also between projects and in review processes. Approaching research from a practice-theoretical angle might be useful to analyze qualitative research empirically and grasp its improvisational character (e.g., Locke et al., 2022). In particular, more research is needed on "how one goes from abstract codes to full-fledged theoretical models" (Pratt et al., 2022: 233). Scholars in our field might also report on their struggles and failures so we can all learn from them (van Maanen et al., 2007). Furthermore, exploring the role of emotions like doubt would be beneficial, as they shape qualitative research as a practice (Schmidt et al., 2023). Finally, we did not discuss the use of abduction in combination with practices like comparison and digital tools for qualitative analysis (e.g., Boswell et al., 2019; Simmons & Smith, 2021). Further dialogues on these topics, we think, will advance knowledge of the practice of qualitative research, which will benefit the development of both theory and practice.

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ENDNOTES

¹ In developing this paper, we searched eight journals in our field (2000–2023) and found an increase in the use of the terms *abduction* and *abductive* in methods sections (see Appendix A). With a few exceptions, most of these studies reported only briefly on the process of abductive analysis. Ashworth et al. (2019) had already observed that not much is said in journal articles about qualitative analysis. They add that those that do comment on it "tend to demonstrate abductive theorizing (*seldom labeled as such*)" (2019: 323, italics ours). This suggests that abductive analysis may be a more common practice than is reported.

² Interpretive research encompasses a wide variety of approaches and analyses that nevertheless share particular ontological, methodological and epistemological starting points. We do not want to elaborate on this here. This has been done extensively over the last two decades (e.g., Bevir & Rhodes, 2022; Schwartz-Shea & Yanow, 2012; Wagenaar, 2011; Yanow, 2000; Yanow & Schwartz-Shea, 2014). For the sake of readability, we will talk about *qualitative researchers* while we

mean *qualitative researchers with an interpretive approach*. At the same time, we believe that abductive analysis is useful for qualitative public administration research more broadly speaking.

- ³ Tavory and Timmermans (2014: 5) call this the fundamental question in abductive research.
- ⁴ From the beginning, grounded theory, as a much-used inductive approach, had a quite complicated relationship to the use of theory (Glaser & Strauss, 1967). Researchers are expected to be theoretically sensitive (1967: 46), which means that they have the ability to theorize from data. At the same time, using a theory from the start has been perceived as risky as it prevents researchers from looking at their data with an open mind (Glaser & Strauss, 1967; Strauss & Corbin, 1990: 75). Still, Charmaz (2014: 200–4), one of the leading writers on grounded theory, connected abduction (and pragmatism) to grounded theory and seems to propose a more relaxed relationship to the use of theory (also, Reichertz, 2007). Leading grounded theory scholars in organization studies also admit to working more abductively in a later phase of their projects (Gioia et al., 2013: 21).
- ⁵ Similarly, prior knowledge only becomes relevant when researchers are trying to make sense of their experiences and the knowledge is activated. In that sense, it is about the activity of knowing (Cook & Brown, 1999).
- ⁶ Visuals, in particular, even their value for qualitative analysis has been establish a long time ago (Miles & Huberman, 1994), seem still relatively rare in qualitative public administration. They can be, however, very useful element in a broad interpretive repertoire (Langley & Ravasi, 2019). Tables seem pretty common. This is a matter to study more carefully.
- ⁷ Our figure was inspired by Harrison and Rouse (2014: 1263).

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APPENDIX A

See Figure A1 and Table A1

We did a search for articles using or commenting on abductive analysis in PA journals (2000–2023). For this we selected eight well-known PA journals: 1. Public Administration, 2. American Review of Public Administration, 3. Public Administration Review, 4. Governance, 5. Policy Sciences, 6. Journal of Public Administration Research and Theory, 7. Public Management Review, and 8. Policy Studies Journal. Our search words were ‘abduction’ and ‘abductive’ between 2000 and 2023. Some articles used these words in a different sense (e.g. abducting a person).

We did not include those articles. Quite a number of articles (21) was published online in 2022 and 2023, but not yet in a journal issue. We did not include those articles either. After cleaning the list, there were in total 68 articles. Eight articles were not empirical but theoretical or methodological (we left those in our list). Striking is that 42 of the 68 articles were published in the last 2 years. It is also plausible that more papers have been written with the help of iterating between data and literature, but the authors did not report it as abduction, possibly because they did not comment on the logic of inquiry or did not know they have been working abductively.

To be made available online only:

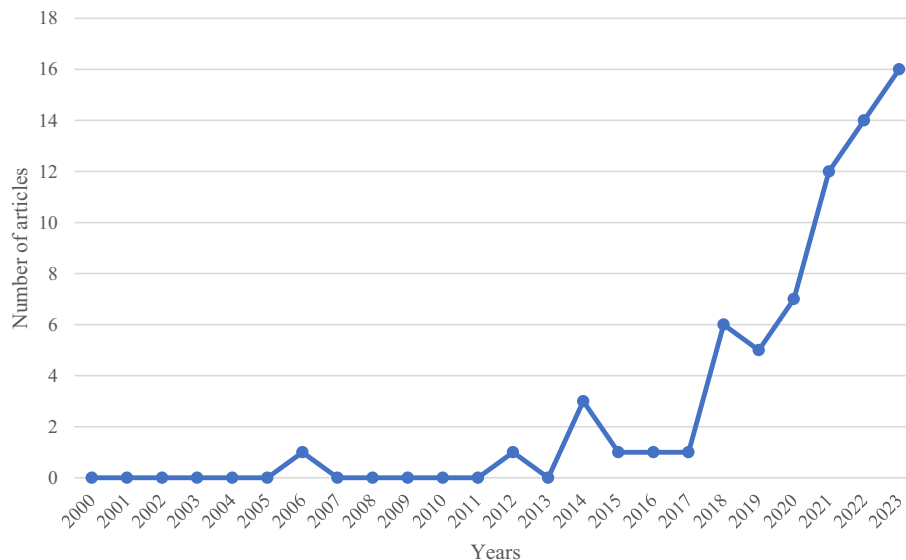


FIGURE A1 Overview of number of articles with terms abduction/abductive in PA journals (2000–2023).

TABLE A1 Articles in PA journals with “abduction” or “abductive” in them (2000–2023).

Journal	Title	Name	Year
Public Administration Review	Understanding the micro-foundations of administrative corruption in the public sector: Findings from a systematic literature review	Kristina S. Weißmüller, Anna Zuber	2023
Public Management Review	Understanding data professionals in the police: a qualitative study of system-level bureaucrats	Isabelle Fest et al.	2023
Policy Sciences	Advice that resonates: explaining the variability in consultants’ policy influence	Martin Bortz	2023
Policy Sciences	The policy integration game? Congruence of outputs and implementation in policy integration	Francesco Sarti	2023
Public Administration Review	How to systematically analyze coproduction to inform future policies? Introducing 5Ws of coproduction	Artur Steiner et al.	2023
Journal of Public Administration Research and Theory	The Potential of Meta-ethnography in the Study of Public Administration: A Worked Example on Social Security Encounters in Advanced Liberal Democracies	John Boswell	2023
Journal of Public Administration Research and Theory	A Mercantile Theory of Expert Knowledge Utilization in Patrimonialist Bureaucracies: Evidence from the Health Sector in Peru	Diego Alonso Salazar-Morales	2023

(Continues)

TABLE A1 (Continued)

Journal	Title	Name	Year
Journal of Public Administration Research and Theory	Assessments of Digital Client Representations: How Frontline Workers Reconstruct Client Narratives from Fragmented Information	Ida Bring Løberg	2023
Journal of Public Administration Research and Theory	Slipstreaming for Public Sector Reform: How Enterprising Public Sector Leaders Navigate Institutional Inertia	Shibaab Rahman et al.	2023
Public Administration	Neutralized, enhanced, tokenistic: The influence of formal employment of service-users on processes of coproduction	Trishna Chauhan et al.	2023
Public Administration	Professional development leadership in turbulent times: Public administration symposium: Robust politics and governance in turbulent times	Clara S. Lund, Lotte B. Andersen	2023
Public Administration	Overlooking the front line: Impacts of front-line worker inclusion on implementation and outcomes of collaborative innovation	Riley V. Livingstone	2023
Public Administration	Integrating citizen deliberation into climate governance: Lessons on robust design from six climate assemblies	John Boswell et al.	2023
Public Administration	Why do public agencies seek accountability? The role of audiences	Thijs de Boer	2023
Public Management Review	Exploring user co-regulation of public services: insights from the Grenoble water user committee	Thomas Blancheta et al.	2023
Public Management Review	In search of legitimacy: conflicting logics and identities of management consultants in public administration	Julia Galwa et al.	2023
Journal of Public Administration Research and Theory	Resisting or Facilitating Change? How Street-Level Managers' Situational Work Contributes to the Implementation of Public Reforms	Lars Klemsdal et al.	2022
Policy Sciences	William Newlin Dunn (1939–2022) “The truest measure of an academic pillar”	Jessi Hanson-DeFusco	2022
Policy Sciences	Policy inaction meets policy learning: four moments of non-implementation	Prudence R. Brown et al.	2022
Public Administration Review	Embracing dynamic tensions: Peacekeeping as a balancing act of complexity	Soili Paananen et al.	2022
Public Administration Review	Core values for ideal civil servants: Service-oriented, responsive and dedicated	Sheeling Neo et al.	2022
Public Management Review	Public health care innovation lab tackling the barriers of public sector innovation	Hannu Torvinen, Kaisu Jansson	2022
Public Management Review	‘I do not want to be one of her favoursites’. Emotional display and the coproduction of frontline care services	Nanna Møller Mortensen et al.	2022
Public Management Review	Introducing strategic measures in public facilities management organizations: external and internal institutional work	Ingrid Svensson et al.	2022
Public Management Review	Conceptual foundations of workforce homogeneity in the public sector. Insights from a systematic review on causes, consequences, and blind spots	Iris Seidemann, Kristina S. Weißmüller	2022
Governance	The reputational basis of policy success in comparative perspective: Evidence from the education sector in Peru and Bolivia	Diego Alonso Salazar-Morales	2022
Journal of Public Administration Research and Theory	The Professional Agency Narrative—Conceptualizing the Role of Professional Knowledge in Frontline Work	Mathilde Cecchini, Gitte Sommer Harrits	2022
Public Administration	Seeding the cloud: Consultancy services in the nascent field of cyber capacity building	Johann Ole Willers	2022
Public Administration	Involuntary back sourcing in the public sector: From conflict to collaboration	Johan M. Berlin et al.	2022
Public Management Review	Evidence use as sociomaterial practice? A qualitative study of decision-making on introducing service innovations in health care	Simon Turner, (eds).	2022
American Review of Public Administration	How Do Frontline Civil Servants Engage the Public? Practices, Embedded Agency, and Bricolage	Wieke Blijleven, Merlijn van Hulst	2021
Governance	Fatal remedies. How dealing with policy conflict can backfire in a context of trust-erosion	Eva Wolf, Wouter van Dooren	2021
Policy Sciences	Power struggles in policy feedback processes: incremental steps towards a circular economy within Dutch wastewater policy	Kasper Ampe et al.	2021
Policy Sciences	Barriers to the digital transformation of infrastructure sectors	Liliane Manny et al.	2021
Public Administration Review	Discretion of the Future: Conceptualizing Everyday Acts of Collective Creativity at the Street Level	E. Lianne Visser, Peter Kruyen	2021

TABLE A1 (Continued)

Journal	Title	Name	Year
Governance	Proximity and distance: Think tanks handling the independence paradox	Katarzyna Jezierska et al.	2021
Public Administration	To strengthen or to shatter? On the effects of stratification on professions as systems	Johan Alvehus et al.	2021
Public Administration	Challenging the necessity of New Public Governance: Coproduction by third sector organizations under different models of public management	Caitlin McMullin	2021
Public Management Review	Public leadership and participation: understanding the experiences of South African local government officials' engagement within informal settlements in the Western Cape	Elmé Vivier et al.	2021
Policy Studies Journal	Multiple Partial Couplings in the Multiple Streams Framework: The Case of Extreme Weather and Climate Change Adaptation	Dana A. Dolan	2021
Policy Studies Journal	Dismissing the "Vocal Minority": How Policy Conflict Escalates When Policymakers Label Resisting Citizens	Eva Wolf	2021
Public Management Review	Dynamic persistence in UK policymaking: the evolution of social investment ideas and policy instruments	Alex Nicholls	2021
American Review of Public Administration	Enhancing Methodological Reporting in Public Administration: The Functional Equivalents Framework	Valentina Mele et al.	2020
American Review of Public Administration	The Politics of Open Government Data: Understanding Organizational Responses to Pressure for More Transparency	Erna Ruijter et al.	2020
Public Management Review	Coproduction and the third sector: conceptualising different approaches to service user involvement	Micaela Mazzei et al.	2020
Public Management Review	Paradoxes of collaborative governance: investigating the real-life dynamics of multiagency collaborations using a quasi-experimental action-research approach	Maurits Waardenburg et al.	2020
Public Management Review	Collaborative public management: coordinated value propositions among public service organizations	Erik Eriksson et al.	2020
Public Management Review	Brokering knowledge into the public sector: understanding improvement facilitators' priorities in the redesign of hospital care	Ian McLoughlin et al.	2020
Policy Studies Journal	Exploring the Dynamics of Delegation Over Time: Insights from Italian Anti-Corruption Agencies (2003–2016)	Fabrizio Di Mascio et al.	2020
Public Management Review	Relational public administration: a synthesis and heuristic classification of relational approaches	Koen Bartels, Nick Turnbull	2019
American Review of Public Administration	Organizational Adaptation Under Stress: Tracing Communication Processes in Four California County Health Departments During the H1N1 Threat, April 28, 2009, to March 11, 2011	Louise K. Comfort et al.	2019
Policy Studies Journal	Participation in Multiple Decision-Making Water Governance Forums in Brazil Enhances Actors' Perceived Level of Influence	María Mancilla García	2019
Policy Studies Journal	Defining "Talent": Insights from Management and Migration Literatures for Policy Design	Lucie Cerna, Meng-Hsuan Chou	2019
Public Administration	'We are this hybrid': Members' search for organizational identity in an institutionalized public-private partnership	Stefanie C. Reissner	2019
Journal of Public Administration Research and Theory	Theorizing from Qualitative Research in Public Administration: Plurality through a Combination of Rigor and Richness	Rachel Elizabeth Ashworth et al.	2018
Public Administration	Conflict reconsidered: The boomerang effect of depoliticization in the policy process	Eva Wolf, Wouter Van Dooren	2018
Public Administration	Negotiated compliance at the street level: Personalizing immunization in England, Israel and Sweden	Anat Gofen et al.	2018
Public Administration	Performance regulation in a networked healthcare system: From cosmetic to institutionalized compliance	Judith van Erp et al.	2018
Public Management Review	Interactive identity work of professionals in management: a hospital case study	Marco Sartirana et al.	2018
Public Management Review	New roles for end-users in innovative public procurement: case study on user engaging property procurement	Hannu Torvinen et al.	2018
Public Management Review	Are we all on the same page? A qualitative study of the facilitation challenges associated with the implementation of deliberative priority-setting	Amanda Crompton	2017

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TABLE A1 (Continued)

Journal	Title	Name	Year
Public Management Review	Public value creation through collaborative innovation	Barbara C. Crosby et al.	2016
Public Administration	The Role Of Emotion In Enabling And Conditioning Public Deliberation Outcomes: A Sociological Investigation	Aris Komporozos-Athanasίου et al.	2015
Policy Sciences	'Hoisted with our own petard': evidence and democratic deliberation on obesity	John Boswell	2014
Policy Studies Journal	What Can Causal Process Tracing Offer to Policy Studies? A Review of the Literature	Adrian Kay et al.	2014
Public Management Review	The Visibility of Trust: Exploring the connection between trust and interaction in a Dutch collaborative governance boardroom	Lise A. van Oortmerssen	2014
Journal of Public Administration Research and Theory	What Do We Talk about When We Talk about "Research"? A Guide to Interpretive Research Talk for Natives and Nonnatives	Thomas Catlaw	2012
Policy Sciences	A Paradigm for Practice	Ronald D. Brunner	2006