Author(s): Pennanen, Matti; Bristol, Laurette S. M.; Wilkinson, Jane; Heikkinen, Hannu L.T.

Title: Articulating the Practice Architectures of Collaborative Research Practice

Year: 2017

Version: Accepted version (Final draft)

Please cite the original version:

Pennanen, M., Bristol, L. S. M., Wilkinson, J., & Heikkinen, H. L. (2017). Articulating the Practice
Architectures of Collaborative Research Practice. In K. Mahon, S. Francisco, & S. Kemmis (Eds.),
Exploring Education and Professional Practice : Through the Lens of Practice Architectures (pp.
201-217). Springer. https://doi.org/10.1007/978-981-10-2219-7_12

12. ARTICULATING THE PRACTICE ARCHITECTURES OF COLLABORATIVE RESEARCH PRACTICE

Matti Pennanen, Laurette Bristol, Jane Wilkinson, and Hannu L. T. Heikkinen

Abstract: This chapter explores a collaborative practice of comparative data analysis through the researching activities of four researchers from Australia and Finland. We interrogate the ontological and empirical reality we experienced while engaged in a practice of analysing narrative data on mentoring. In this chapter, we are not reporting on the outcomes of our analysis of mentoring practice; instead we focus on our collaborative engagement, articulating the practice architectures of our research practice. This collaborative research practice was pre-figured by: 1) philosophical traditions instituted through a theory of practice architectures; and 2) normalised practices of researching mentoring, narrative data analysis, and research collaborations. By examining these preconditions we are attempting to understand the multifaceted space of research collaboration and the practice architectures of our collaborative research practice.

The study shows that the three kinds of arrangements that comprise the practice architectures of research practice (that is, cultural-discursive, material-economic, and social-political arrangements) are foregrounded differently at different stages of research analysis. In the researchers' collaborative engagement, the material-economic arrangements were most visible and explicit in the beginning of the analysis (first order analysis). However, more of the cultural-discursive arrangements and social-political arrangements became apparent after further contemplation (second order analysis). Analysing the differing degrees of visibility of these three types of arrangements in our analysis is significant since they occur as an enmeshed ensemble in reality.

It is the norm that most research papers, books, and theses that examine reflective research focus on the range of relationships that evolve while in the process of doing research with others (e.g., participants, practitioners, and other researchers) and the ethical dilemmas that may emerge from this process. Whatever the rationale, reflecting on research is complex; it is a critical metacognitive exploration that is not easily defined. It leads to the creation of metaphors to "help explain, appreciate and create different meanings", uncover the "effects of blind spots" (McClintock, Ison, & Armson, 2003, pp. 716-717), and make sense of research encounters. The literature on reflective practice indicates that much of the writing in the area tends to focus on the social, political, and emotive (ethical dilemmas) effects and affects of engaging in research with others (Hickson, 2011). This chapter, however, examines a rarely considered aspect of reflecting on research practice. We reflect, at a general level, on research actions and, at a particular level, on collaborative research as a practice in itself. In other words, our intentions are not oriented towards forging new identities, but towards exploring with fresh appreciation the practice conditions which prefigure our collaborative research practices. In so doing, we aim to make sense of how we *do* research in collaborative sites.

We explore the created and discovered (as already pre-existing) practice of data analysis through the researching and sensemaking (Weick, 1995) activities of four researchers from Australia and Finland. By 'created and discovered' we mean that we utilised research methods that already existed, but also combined and modified them to

serve our purposes, eventually leading to the creation and development of new researching methods. Our aim is to explicate the practice architectures of a research practice that emerged in a collaborative study. Making sense of what enables, sustains, and constrains an empirical exploration of a research topic requires a consideration of the arrangements in which researchers and researching mentoring practices are enmeshed.

Theories and research methodologies can be seen as practice architectures enabling and constraining a scholarly investigation. However, our experience shows that cultural-discursive, material-economic, and social-political arrangements are foregrounded differently at different stages of analysis. In the interrogation of the data in our respective studies, the material-economic arrangements and (to a lesser extent) the cultural-discursive arrangements appeared to be more explicit than the social-political arrangements. To reveal the enmeshed practice architectures as a whole, we needed to do further investigation to make the initially implicit social-political arrangements visible.

The exploration of collaborative practice is significant as the research literature suggests that the results and outcomes of collaborative research practices may be quite contradictory. On the one hand, team research is reported as promoting analytical richness and depth. On the other hand, there are suggestions that "fragmented interpretations" can occur in collaborative methods, leading to incoherent or inconsistent thoughts and theories[1] (Sumsion, 2014, p. 153). With this enquiry we explicate the practice architectures of collaborative research practice and illustrate how this practice is enabled and constrained in an effort to answer the demands of the traditions of research practices. The chapter is organised in three key movements which highlight stages in the development of our reflective process. First, we describe our collaborative research practice. Where it is typical to open the argument with a description of the epistemological framing, we start with our methodological assumptions and description of the particular research practice. Second, we illustrate the thinking that prefigures our actions as researchers. Third, we render visible our reflective narratives and then move between these narratives in order to make explicit the practice architectures which conditioned our collaborative research practices.

Collaboration Built Over Time and Within International Research Sites

Before outlining the nature of the collaborative research practices that form the basis of the inquiry, we briefly describe how we first came to work together and the research sites which prefigured these practices. Matti Pennanen started his academic working career in 2012 after graduation from the teacher education department at the University of Jyväskylä, Finland. He was accepted for doctoral studies in August 2013 in the University of Jyväskylä and Hannu Heikkinen was designated as Matti's supervisor. Laurette Bristol is originally from Trinidad and Tobago and she completed her doctoral studies at the University of Sheffield, UK. She continued her postdoctoral career at Charles Sturt University, Wagga Wagga, Australia. Jane Wilkinson is an Australian scholar who was working at Charles Sturt University when Laurette moved to work for the same university. Hannu Heikkinen has made his career on action

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[1] The phrase 'fragmented interpretations' refers to the attendant risks that may flow when a team of researchers from different backgrounds do not collaboratively examine the differing perspectives or theories they bring to a collaborative study. When the differing epistemological and ontological assumptions of researchers are not made explicit, this can lead to eclecticism and potentially incoherent and inconsistent theories and conclusions.

research and narrative research among other areas, while working at the University of Jyväskylä.

Hannu, Jane, and Laurette first met in 2010 at a Pedagogy, Education, and Praxis (PEP) international research network meeting in Australia. At the time of the research meeting in 2010, both Hannu and Laurette were being initiated into the research and learning practices of the researchers in the network. In this practice site of international research collaboration, Jane, Hannu, and Laurette realised that, despite the differences evident in their distinct cultural and national backgrounds – and to a lesser extent, their research interests – they shared commonalities through their core philosophy and researching practices, which were being made manifest during the week of research conversations. These evolved around an interest in social justice, the nature of in-service mentoring, and the means through which systems can be navigated to enhance teacher capacity and professional learning. These connections were strengthened as time passed via virtual meetings, cross-national collaborative projects, annual PEP international research meetings, and conference presentations.

At the local levels, collaborative synergy was supported through research projects between Laurette and Jane in New South Wales, Australia; where they undertook a study which explored the practice of school transformation in a rural context and the ways in which the constitutive practices of professional learning and leading in cross disciplinary teaching teams at the Secondary (High) school level were enhanced through peer-mentoring practices. For Hannu and Matti in Finland, collaboration was harnessed through research projects on mentoring and through the mentoring relationship between Hannu and Matti, in which Hannu fulfilled a system position as Matti's PhD supervisor.

In 2013, Jane and Laurette were visiting scholars in Jyväskylä and, during that visit, initiatives were taken to organise a research collaboration with the team of four researchers: Matti, Hannu, Jane, and Laurette. Eventually, the two collaborative projects being enacted in Australia and Finland came together through a month of research conversations between the team members in Australia in 2014. In this shared space, our first collaborative publication was realised: *What is "good" mentoring? Understanding mentoring practices of teacher induction through case studies of Finland and Australia* (Pennanen, Bristol, Wilkinson, & Heikkinen, 2015). The reflexive component of collaborative research (Wang, 2013), the collaborative projects that were fostered through partnerships (Godoy-Ruiz, Cole, Lenters, & McKenzie, 2015), and the boundaries that were blurred (Meerwald, 2013) through the processes and practices of the collaborative research experiences, form the basis of the inquiry in this chapter.

Depiction of the Research Practice

Picture 1. "La condition humaine" by René Magritte (1933):

"*In front of a window seen from inside a room, I placed a painting representing exactly that portion of the landscape covered by the painting. Thus, the tree in the picture hid the tree behind it, outside the room. For the spectator, it was both inside the room within the painting and outside in the real landscape. This is how we see the world. We see it outside of ourselves, and at the same time we only have a representation of it in ourselves.*"

(Leatherbarrow & Mostafavi, 2005, p. 39)

Method of reflective narrative

We begin with a description of the method of explicating our research practice. Our aim was to produce as accurate a representation of our practice as possible, similar to the idea in Picture 1[2]. The painting (in front of the window) represents the view from the window and tries to mimic the visual experience. However, the technique, the *point* of view, and the window prefigure and frame the visual experience. From another perspective, and with a different technique, the visual experience of the painting will be of a different kind. We aimed for an accurate representation (with reflective narratives) of our research practice with the given method, perspective, and frame (of practice architectures), and the understanding that it offered a view of reality within limitations. In the discussion that follows, we explain how we created our representation of our research practice using reflective narratives.

We used the question *what are the practice architectures of our collaborative research practice?* to generate our reflective narratives. This is similar to what is understood as autoethnography in research (du Preez, 2008). Our inquiry was a means of making evident the practice arrangements which constituted our practice of collaborative research. In other words, we produced a meta-analysis; we analysed our research practice when we investigated two cases of mentoring practices in Finland and Australia. For this current inquiry, we made explicit the *sayings, doings, and relatings* of our collaborative research practice. We, authors of this chapter, had multiple roles: we were the participants in the collaborative practice; we were the reflectors who produced the data for this chapter; and we are now explaining the method and results of the narratives. We gave ourselves the task of constructing individual critical narratives that described, from our own points of view, how we made sense of the collaborative research practice we engaged in during 2014 when we collaboratively analysed case study data collected in Australia and Finland. As such we created a "communicative space for personal narratives around a common theme" of *what we were doing as we made sense of the data together* (Cardiff, 2012, p. 608). 'Making sense' refers to a certain philosophy or an approach that we utilised in our practice to formulate a linguistic (written and spoken) and comprehensible description of our research practice.

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[2] All pictures included in this chapter have been reprinted with permission.

Sensemaking is a process where "circumstances are turned into a situation that is comprehended explicitly in words" (Weick, Sutcliffe, & Obstfeld, 2005, p. 409). Sensemaking is not about finding the "correct" answer; it is about creating an emerging picture that becomes more comprehensible through data collection, action, experience and conversation (Ancona, 2005). The concept is well named as it literally means the making of sense (Weick, 1995), which also involves the interplay of action and reflection. People do not *just* perform and afterwards reflect on their action. Rather they start to interpret the world immediately as their actions unfold, and during the actions they are able to plan their upcoming moves according to interpretations to achieve the desirable outcome. In this instance, we needed to make data (reflective narratives) of our practice while producing a comprehensible description of the practice architectures. The description is not merely a post-action reflection as it involves the thinking involved during the research action.

Once generated, our narratives were subjected to collective scrutiny where we followed a line of reasoning similar to what we applied to the investigation of mentoring practices in our first empirical paper (Pennanen et al., 2015). Thus, for this current interrogation we engaged in two types of reasoning for our reflective narratives: inductive reasoning (first order analysis – seeing what was there; Ary, Jacobs, Sorensen, & Walker, 2013) and abductive reasoning (second order analysis – identifying what was missing; Josephson & Josephson, 1996). Interrogating our research narratives through these questions we itemised first, *what was there, the obvious* — the sense that we made of collaborative research. This highlighted the research actions that we understood collectively — the cultural-discursive and material-economic arrangements that prefigured our practice(s); for instance, how we spoke to each other and characterised ideas.

Second, we identified *what was not as clearly seen, the less obvious* — the unstated but very active dimensions of (for example) ethnicity, culture, gender, previous relationships, (such as members of an international research network and student-supervisor relationships), and also traditions of doing data analysis as individuals. These were among the social-political arrangements and the cultural-discursive arrangements that shaped how we worked together, what was said and not said, and what was done and not done; the compromises we made and negotiations we engaged in as we sought consensus for research actions. Before we identify these unstated dimensions, we need to point out what was obvious in our research practice.

Identifying the practice architectures of our research practice

According to the theory of practice architectures, ontologically speaking, practices are located in sites, which have their own peculiar practice landscapes and practice traditions. In these sites, people and objects are enmeshed in an interactive practice in activity-timespace, which is also part of a historical continuum (Kemmis et al., 2014). Figure 12.1 is a general modelling of the *obvious* elements of our collaborative research practice, which emerged from our reflective narratives. By depicting the elements, we are able to form a structured conception of the practice and also an outline of the arrangements of our research practice that were evident in our reflective narratives.

(place Figure 12.1 here)

There were five major categories which were obvious elements for our research practice in our reflective narratives: *researchers, theoretical frame, academic discipline, qualitative data, and methods of analysis*. These five categories are shown in the Figure 12.1, with lines leading from the centre to each category. The most obvious category in our reflections was "researchers", of whom two were employed by the Finnish Institute for Educational Research, and initially (in November 2013) two were employed by the Research Institute for Professional Practice, Learning and Education (RIPPLE), Charles Sturt University. The important notion is that we engaged as individuals in the researching practice and the practice was partly shaped by our different personalities, backgrounds, experiences, expertise, and dispositions. As such, we (as participants) constituted the three kinds of arrangements: 1) the material-economic arrangements as we were (and are) human beings and work in the limitations of human capabilities; 2) cultural-discursive arrangements with our different nationalities and languages; and 3) social-political arrangements with our different ways of relating to each other.

The second category was *theory*, which leads to a theoretical frame of our research practice, that is, the theory of practice architectures. In our reflective narratives we mentioned or described theoretical aspects of *ecologies of practices, site ontologies, praxis, language games, activities, and practices*, which are all parts of the theory of practice architectures. These aspects were significant parts of the theoretical discussion of our research practice as we tried to understand how we individually perceived them and how these ideas were visible in our research topic.

The research topic defined the *academic discipline* (third category) of our research practice. Through the topic (mentoring practices of teacher induction), our practice was located in the field of educational research, more specifically in the subtheme of teacher education and precisely in the area of teacher induction. Theory and the academic discipline together prefigured the practice traditions; for instance, what has been done earlier in the research literature of teacher induction or how the theory of practice and practice architectures was previously applied for analytical purposes. Also these frames prescribed the terminology that was appropriate to utilise and how the concepts were defined. Thus theory and the academic discipline contributed to the practice architectures – at least in the dimensions of cultural-discursive arrangements (shaping how we talked about theory and research) – and social-political arrangements (shaping how we positioned ourselves and our work on this topic in relation to the academic community).

The fourth category represents *qualitative data*. The Finnish data consisted of focus group interviews and written narratives, and the Australian data consisted of individual interviews, focus group interviews, and observational field journals. To some extent, the data prefigured the *analysis methods*, which is the fifth category in Figure 12.1. In our reflections, the two orders of analysis were regarded as significant for processing our qualitative data to produce satisfying answers with respect to the data and the research questions. By 'satisfying', we mean that we were able to reveal the implicit elements of our research practice which did not occur in the first order of the analysis. Data sets and analysis method were also part of the material-economic arrangements as we physically processed our data. They were also part of the cultural-discursive arrangements as the data were collected in two languages (Finnish and English).

These categories represented the *obvious* elements of our researching practice found in our reflective narratives. The physical space (where we engaged in work) did not gain *significant* attention in our reflections, therefore the representation of our practice lacks the description of physical set-ups (although some focus was given to

physical settings). This was because of the practical arrangements, when Jane relocated to a different organisation before the team's meeting in Australia 2014 and thus she participated in the researching practice through virtual communication. What we were describing was the space contributed by joint discussions, intellectual work and material resources of research data, and the physical work of analysis. However, the practice was also constituted by something more, which we regarded as implicit in our first reaction and reflections, yet important and critical with respect to our collaborative practice. Therefore, we needed to make the *less obvious* visible through further analysis.

Prefiguring Conditions of our Research Practice

Picture 2. "La trahison des images" by René Magritte (1929):

"The famous pipe. How people reproached me for it! And yet, could you stuff my pipe? No, it's just a representation, is it not? So if I had written on my picture 'This is a pipe', I'd have been lying!"

(Magritte & Torczyner, 1977, p. 71)

First reactions (to something obvious) are usually quite naïve and shallow, which has been the case with the painting "La trahison des images". Magritte's painting of a pipe has agitated people to rethink the meaning of words and also people's prejudices. In this instance, Magritte is questioning people's understanding of *a pipe* (*leci n'est pas une pipe*; in English, *this is not a pipe*). It is truly a matter of interpretation of what can be regarded as *a pipe* and Magritte refers to the object in the painting as just a representation which lacks the true dimensions of the actual artefact represented. With this image, we want to illustrate that our first reactions will not always grasp the true meaning of something experienced, and our initial thoughts might be coloured by our prejudices. By processing the first reactions and with further contemplation, we could achieve a more holistic conception than we originally had. Investigation of a representation would still lack some dimensions of the natural world and we need to understand this limitation in our conclusions. With this in mind, we next turn to a discussion of the prefiguring conditions of our practice and to some of the contradictions of collaborative research.

Nature of practice architectures for analytical investigation

To make explicit the practice architectures of our research practice, we need to understand the nature of the theoretical frame. For instance, it is easy to recognise that a research team composed of four researchers constituted this practice. The research team, as a collection of human entities, can be understood as part of the material-economic arrangements of the research practice. As we were trying to identify these material-economic arrangements of our collaborative research practice, we immediately entered the dimension of cultural-discursive arrangements. Without language we could not point out or describe the objects which composed the realm of the material-economic dimension. This type of symbiosis of objects and language is one example of the prefiguring nature of practice architectures. In addition to its descriptive nature, language also exposed the interpretive dimension of understanding and recognising (identifying) objects or actions within a particular research tradition (discipline). For example, our analytical approach can be described with some degree of accuracy, but to

recognise it as fully in line with previously established analytical approaches is more complicated.

To describe our activities, we could use words such as applied thematic analysis (e.g., Guest, MacQueen, & Namey, 2011), autoethnography (Jones, 2005), bricolage in qualitative research (e.g., Denzin & Lincoln, 2005), collaborative interpretation (e.g., Lund & Baker, 1999), comparative analysis (Ragin, 1989), critical (action) research (Carr & Kemmis, 1986), grounded theory (Glaser & Strauss, 1967), philosophical empirical inquiry (Kemmis et al., 2014), or 'zooming in' and 'zooming out' in practice studies (e.g., Nicolini, 2012). These methodological constructs would be valid portrayals of our process (to some extent), but highlighting different aspects of our researching activities enabled and constrained different kinds of meanings and understandings. None of these words or set of words alone could explain our process fully, yet all of them elucidate something essential for our analysis. As Ludwig Wittgenstein argued in his *Philosophical Investigations* (2001/1953), words and concepts can only be understood in relation to one another. Language is a fluid structure that is intimately bound up with our everyday practices and forms of life. From this point of view, sensemaking is a matter of using words within 'language games' that we play in the course of everyday life. In most cases, "the meaning of a word is its use in the language", Wittgenstein (2001/1953, p. 20) claimed. In other words, the meaning is not what you say, but the way that you say it, and the context in which you say it; it is how you play the language games together with the other players of the game and thus construe the meanings through discussion and social interaction. This also applies to the processes of sensemaking.

Wording becomes significant when producing a representation of the practice; understandings of the representation will depend on what words we are using. Words also prefigure the understandings and perceptions of an audience in terms of what the researchers are able to discover and identify from the practice (or reality). In research practice, researchers are working as interpreters of experienced reality and they describe the phenomena to an audience with tools and methods that cannot transfer the experience of reality as it is. By using words, researchers are forming a limited interpretation or representation to describe the experience to an audience. Already the form of the interpretation shapes the understanding of how the reality is experienced and how it can be perceived. Individual members of an audience do not form the exact same perception as other members of an audience, because all the members have different kinds of personal experiences, capabilities, and knowledge. These personal attributes affect how individuals perceive the given information as representations of experiences about reality. These differing perceptions are problematic in academic environments, since we should be able to form common terms and unified understandings of reality.

To have continuity and coherence in the usage of words in a specific context, these words need to have the recognition (acknowledgement) and agreement of the research community or academic discipline to be utilised as terms. These cultural-discursive arrangements also become the social-political arrangements when forming a mutual agreement on the suitable description or interpretation of a practice and the actions of practice among the persons involved in the practice and the larger community of researchers. These social-political arrangements of the practice are constantly under negotiation. The participants of the practice form their language to identify, describe, interpret, and recognise the unfolding activity. During the different stages of the process, the practice is explicated in different ways. Our preconceptions of the practice will evolve during the engagement in the practice and retrospectively we might see the

practice conducted differently. Participants have their individual understanding, and how the understanding is perceived by other participants and combined to reach commonly agreed thinking is prefigured by the power relations between the participants in this practice.

Power relations are particularly important from the perspective of research collaboration. Sumsion (2014) has summarised the research literature for collaborative practices of team research over the past 40 years. Based on the findings of her review, team research is widely adopted in the field of social sciences, yet it is still quite unclear how collaborative practices enable and constrain scholarly enquiries. Most definitely, researching activities benefit from having multiple persons concentrating their effort on the same subject, but equally, difficulties may arise due to differences between team members in terms of opinions, personalities, and power relationships (Sumsion, 2014). However, Sumsion asks for a shift of focus from internal politics of team research to broader geopolitical-economic contexts, which she points out as an unfilled gap in the literature on team research (Sumsion, 2014). Sumsion's review leads us to focus on the unstated dimensions of researchers' collaborative practice along with the obvious and already discovered arrangements, and encourages us to investigate our collaborative research practice in relation to broader themes focused on power relations.

Explicating the Implicit and Hidden

Picture 3. "Le fils de l'homme" by René Magritte (1964):

"*At least it hides the face partly well, so you have the apparent face, the apple, hiding the visible but hidden, the face of the person. It's something that happens constantly. Everything we see hides another thing, we always want to see what is hidden by what we see. There is an interest in that which is hidden and which the visible does not show us. This interest can take the form of a quite intense feeling, a sort of conflict, one might say, between the visible that is hidden and the visible that is present.*"
(Magritte & Torczyner, 1977, p. 172)

The painting "Le fils de l'homme" is an accurate metaphor for visibility. What we are able to see is easily recognisable, but we might only guess what is hidden by the visible. Investigating something that is not directly displayed is difficult in terms of research. Such investigation is always influenced by the interpretations of the researcher. However, in terms of the method of autoethnography, we were able to use our personal experience as data to investigate also the power relations of our collaborative practice, which were initially implicit. The following excerpt from Matti's reflective narrative provides a sense of concern about what was visible to us as researchers, and illustrates the kind of information that was generated during the analysis of mentoring practices:

> *After the first phase, individual analyses were collated together and this collated material formed an outline of the practice architectures of mentoring practices…. We felt dissatisfaction, because the analyses produced a quite narrow and tilted group of responses for our theoretical frame… Data suggested or gave hints of something more, which was embedded in the responses but was not explicit after the first analysis.*

Four researchers (a group, which represented three different nationalities) collecting data from two different practice sites making sense of the collaborative practice (that emerged) depended not only on our apprehension of the cultural-discursive and material-economic arrangements, but the collaborative research practice was critically shaped by the social-political arrangements within the site of practice. These were less accessible and only became apparent in the second order of analysis when we began to ask what was not there. As Jane suggests in her self-reflection:

> *… issues of power and power asymmetries in practices are frequently hidden or invisible to the naked eye. They are often misread as 'natural' or 'taken-for-granted' relations between people, such as the patriarchal relationship that privileges behaviour that is read as 'masculine' over behaviour that is read as 'feminine'…*

During the collaborative engagement, our focus was not on the social-political arrangements as much as it was on the material-economic arrangements (research data and physical work) and cultural-discursive arrangements (theory and methodology). In our collaborative practice, the social-political arrangements were a silent component, yet just as important as the two other kinds of arrangements. In fact, meanings of power relations can be hidden in words and relations between people, and still power relations influence the work or the *project* (the aim of the practice). To understand how power relations shape our work, we needed to make ourselves aware of the underlying meanings.

In our collaboration, we discussed the meanings of key words, since we had multiple nationalities represented and we needed to translate or explain words from Finnish to English or vice versa. However, the native English speakers were more familiar with the culture and the context where English is a language of the majority, and they could understand these silent meanings of power in words. This formed a power asymmetry between participants affecting communication and argumentation. Besides language abilities, there were formal relationships which affected the research collaboration. In an academic environment, the hierarchy can be found in formal titles and positions. In this instance, the article on the research project of mentoring practices was planned as a part of Matti's doctoral dissertation, which set some requirements for the work, for example, Matti being designated corresponding author of the publication. While Matti was a beginning researcher and had the leading role for the publication, the group was compelled to negotiate this level of involvement; ensuring that Matti would have sufficient space in writing and yet still scaffold his growth as a beginning researcher. Supporting Matti's academic growth was a particular responsibility for Hannu as he was the main supervisor of Matti's doctoral dissertation. More broadly, this process of negotiation relates to the "rite of passage" of a doctoral student who is trying to achieve the formal recognition and membership of a research community.

A concrete example of this kind of negotiating was when a difference of opinions occurred. If Matti as a doctoral student was solely relying on his own vision of how to proceed, would this demonstrate the independence of a beginning researcher or the idiocy of opposing three experienced researchers? Or does Matti as a doctoral student perceive his supervisor's comments as the thoughts of a superior or the thoughts

of a co-worker? Even though the answers to these questions might be inconclusive, the questions capture the hidden tensions for an individual doctoral student during the research project. Most often these situations were solved constructively and dialogically. On reflection, our project was shaped by each individuals' expertise, and this only became apparent when we traced the publication history, research interests and commitment to previous research projects of each member of the team. Along with cultural and formal relations, there was a recognisable bond of academic competence between the researchers, which shaped how the members of the research team related to each other.

As we reflected on this emerging practice of collaborative research, we asked again, in relation to our narrating of the practice, 'what was missing?'; 'what were the deeply embedded arrangements that were shaping the ways in which we navigated a shared analytical practice?' Laurette captures the missing in the following way:

> *In the collaborative data analysis space, planning what we did and when we did it, how we spoke and when we spoke it, influenced the social and political understandings of us as researchers in a working team; and exposed the social-political arrangements and traditions implicit in the data being analysed. Thus, as we attempted to map how we were making sense of what was being seen in the data we collected and in the stories of data collection, we slowly and simultaneously arrived at the inescapable. That is, that our discrete discernment of the social-political arrangements of mentoring (the subject of our collective inquiry) was intimately connected to our conscious apprehension of the social-political arrangements which were conditioning our doings and sayings as researchers investigating the thing that we ourselves were experiencing (mentoring, but for research publication).*

Here the personal and the social are intertwined and not easily severed by the simplification of the explicit. This difficulty is present with team research as Sumsion's (2014) literature review reveals. Collaborative research practice is a practice of contradictions; Sumsion's review summarises benefits of collaborative practices that produce, for example, analytical richness and rigour, yet also points to examples that lead to fragmented interpretations, creating illusions of greater understanding. Our reflexive method was dialogical and constructivist and it was difficult to say whose effort or which ideas were neglected or processed. If a personal opinion was expressed, then it was elaborated by others; either overruled, reconstructed, or supplemented. The personal had become social. What can be said about our practice is that it was not only enabled and constrained by the micro-politics of our team, but it was enabled and constrained by the relations to and within the wider theoretical frame (the theory of practice architectures); the methodological approaches we adopted (qualitative analysis and inductive and abductive reasoning); and also 'the industry of research publishing', which means that there is a high pressure for academics to produce many publications, especially in international journals. How did we realise this? It was the moment when we moved closer to the discovery of the "unknown landscapes", or as Hannu remembers it:

> *I also remember feelings of dissatisfaction after the content analysis. Then we started to think what was still missing. What is somewhere there beyond the practices, which we did not see? We had to go somewhere beyond the actual data and ask each other and ourselves what was missing. Then we started a discussion on another level. I think we actually created new data simultaneously when we studied the outcomes of the first order analysis. This data was our discussions as we strove towards something unknown. I think that*

was the most important step: to start the journey together to some unknown landscapes, so as to find the hidden and not-spoken structures or constraints which prefigure the different practices of mentoring in Finland and in Australia.

In this chapter, we have drawn on the 'created and discovered data' that we generated through our collaborative research practices (in our discussions and reflection in action and after action). What then is to be said about the practice architectures of a collaborative research practice?

Conclusions

Some practice architectures of our collaborative practice were more obvious to us than others in the first order of analysis (illustrated in Figure 12.2). Social-political arrangements were the least obvious, even though they were critical components of the practice architectures, as were the other two kinds of arrangement. The distinctiveness of the arrangements was also a difficulty for the analysis; there are named three kinds of arrangements in the theory of practice architectures and for analytic purposes we needed to make a judgement of what elements belonged in what category. How to recognise different elements as of one kind of arrangement or another (according to the theory and in reality) when they occur in an intertwined and enmeshed ensemble is an issue that every researcher (using this theoretical frame) needs to evaluate and solve in respect of their study.

(place Figure 12.2 here)

On the basis of our autoethnographic investigation, we see that theories (such as theories of practice and theories of other phenomena which we encounter in our lives) and research methodologies are practice architectures themselves. The use of certain theories and research methodologies prefigures what is possible or desirable in research. This includes

(1) how to speak and write; how to conceptualise happenings, actions and activities, or power and solidarity relations that take place in social reality, for example, in education (cultural-discursive arrangements);

(2) what and how to do, and how to act and behave; what material operations are followed in collecting data or analysing it (material-economic arrangements); and

(3) whose opinions, views, or previous work, either within the research group or outside of it, should be taken into account; whose theories or methods we want to use; or contrariwise, whose ideas we just skip or neglect, who are the ones with whom we feel some sense of solidarity, and what are the 'academic tribes' (cf. Becher & Trowler, 2001) we want to join and be initiated into through initiation rituals such as public defence of a doctoral thesis (social-political arrangements).

All these practice architectures of research seem to have much in common with what Thomas S. Kuhn (2012/1962) calls 'research paradigms'. The outcomes of collaborative research are produced with action and decisions; and also in some instances, just coincidentally.

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Affiliations

Matti Pennanen (Corresponding author)
Department of Teacher Education
University of Jyväskylä, Jyväskylä, Finland
Email: matti.a.pennanen@jyu.fi

Laurette Bristol
Catholic College of Mandeville
Manchester, Jamaica, West Indies

Jane Wilkinson
Faculty of Education
Monash University, Melbourne, Australia

Hannu L. T. Heikkinen
Finnish Institute for Educational Research
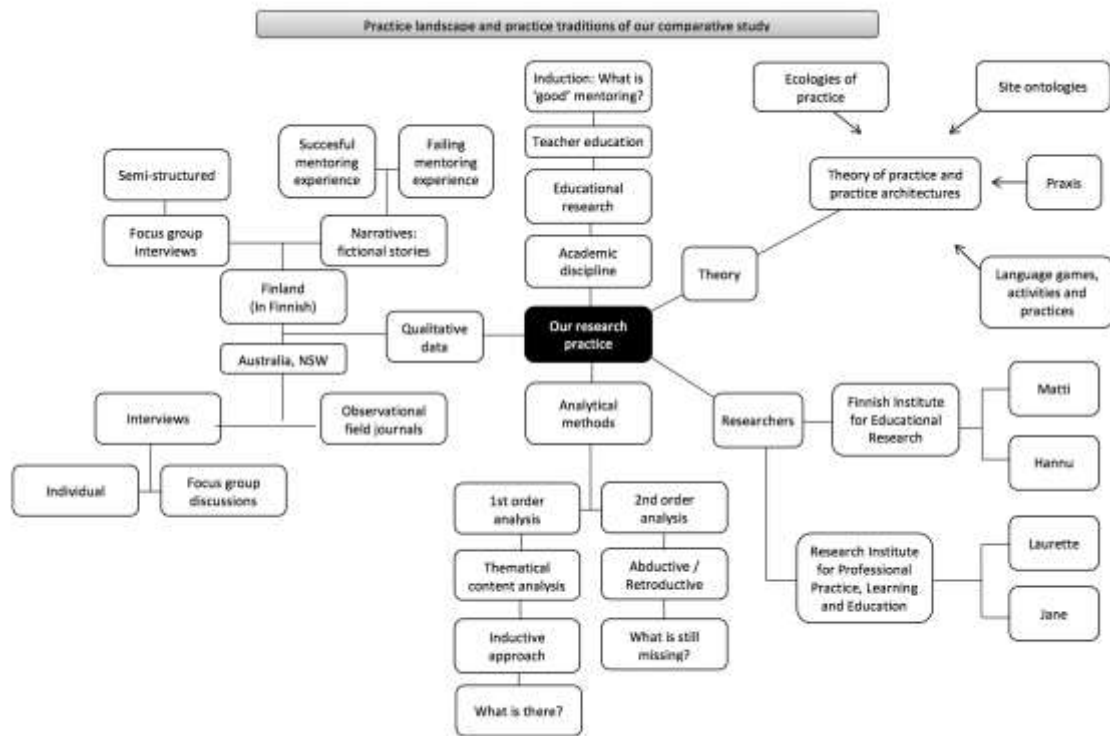*University of Jyväskylä, Jyväskylä, Finland*

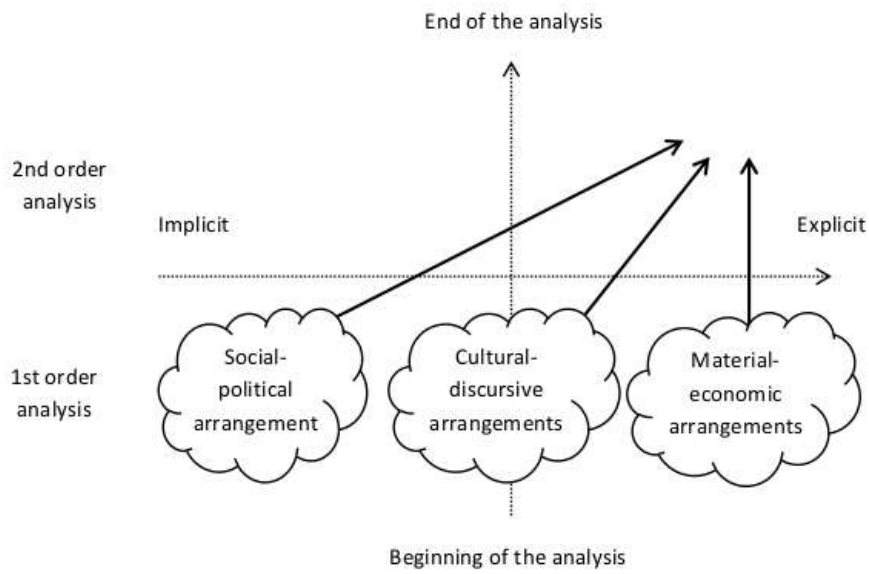*Figure 12.1.* Mind map of the practice landscape and practice traditions.

Figure 12.2. Two orders of the analysis. From Pennanen, Bristol, Wilkinson, and Heikkinen (2015, p. 36). Reprinted with permission.