Chapter 3
A New View of Practice: Practices Held in Place by Practice Architectures

Defining Practice

In previous chapters, we have said that critical participatory action research, like other forms of action research, aims at changing people's practices, their understandings of their practices, and the conditions under which their practices are carried out. What 'practices' are, however, we have left unexamined until now.

Describing the ubiquity of the use of the word 'practice' and the vagueness of its meaning in many discussions, Bill Green (2009, p. 2) noted:

> [Practice] is a term that circulates incessantly, and seems constantly and sometimes even compulsively in use, without always meaning much at all. Rather, it seems to float across the surface of our conversations and our debates, never really thematised and indeed basically unproblematised, a "stop-word" *par excellence*. So it is important to be clear at the outset that practice is not simply the *Other* of terms and concepts such as 'theory' or 'policy', as conventional usage would have it, though it might be linked in interesting ways to them…

The reason the term 'practice' is used in many different ways in everyday language and specialised discourses reflects the fact that practice has been the subject of social enquiry for millennia. There is immense diversity among traditions and approaches to understanding and changing social practice. Kemmis (2005, 2010b) listed a number of features of practice derived from a reading of a variety of theories of practice:

- Practices have *meaning and purpose* for participants and others involved in or affected.
- Practices are *structured* by the lived experience of participants.
- Practices are *situated*. They are located in what particular people do in particular circumstances as they make and remake their lives and their work.
- Practices are *temporally located*. They unfold in individual acts and collective action shaped by the biographies, personal and professional of the participants.
- Practices are frequently *systemic*. They are often maintained and developed through professional roles and functions that are usually institutionally protected (and contained).

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- Practice is always *reflexive*. It shapes the consciousness and identities of participants, and it also changes the social situation in which it occurs.
- Practice involves *practical reasoning.* In the course of their practice, participants deliberate about what to do in uncertain situations, always guided by moral intent and prudence.

Kemmis et al. (2014), give this definition of practice:

> A practice is a socially established cooperative human activity in which characteristic arrangements of actions and activities (doings) are comprehensible in terms of arrangements of relevant ideas in characteristic discourses (sayings), and when the people and objects involved are distributed in characteristic arrangements of relationships (relatings), and when this complex of sayings, doings and relatings 'hangs together' in a distinctive human social project.

We think this definition of practice is broad enough to embrace not only a practice like medicine or education, that is, practices at a very high level of generality, but also more specific practices like teaching or professional learning or leading, as well as even more specific practices like teaching the Periodic Table in Chemistry at Genius High School or making boiled eggs in winter at my house. The definition also embraces critical participatory action research as a practice.

This definition of practice nevertheless excludes some things that are not in themselves practices because they do not hang together with one another in a coordinated project:

1. Although practices are partly constituted by what people *say* and *think* in and about them, they are also distinguishable from things people happen to say and think. People say many different kinds of things in the course of a practice, usually relevant to the projects (tasks and ends) at hand, but practices also have characteristic discourses (*sayings*) associated with them, particularly those that serve the specialised functions of describing, interpreting, explaining, orienting and justifying the practice.
2. Practices are distinguishable from movements, behaviours, (intentional) actions, and activities (that are forms of *doings*) that may contribute to practices but are not *in themselves* practices. Activities (*doings*) that are part of a distinctive practice are coordinated towards the project of the practice, and characteristically connect with the sayings that make the practice comprehensible, the relatings that make the practice part of the social life of a group, and the distinctive project that is realised through the practice.
3. Although practices are also partly constituted by the ways people *relate* to objects and to one another in the course of the practice, they are also distinguishable from *relatings* in general. While practising a practice might involve relating to others in many different kinds of ways, distinctive practices also involve characteristic kinds of relatings. These characteristic patterns of relatings may include (a) relating to specialised objects like *raw materials*, *resources* and *tools* (like pencils and algorithms) and *set-ups* of objects (like a classroom or an arrangement of desks for small group work) and *products* (like a Year 5 student's presentation to her class about 'deforestation') that serve special purposes within the

practice, and (b) relating to other people in less or more specialised *roles* characteristic of the practice (for example, in terms of relationships within administrative and professional *systems*, as between teacher and student in a classroom, for example, or between a Regional Director of Education, members of staff in the regional education office, school principals in the region, and the staff and students of the schools in the region; or in terms of *lifeworld* relationships, in relationships like the one between interlocutors in an ordinary conversation, or the relationship between a mother and daughter in a family).

A particular arrangement of sayings, or of doings, or of relatings does not by itself constitute a practice. A practice is constituted only when particular flexible and fluid arrangements of sayings, doings and relatings *hang together* and cohere with one another purposefully in characteristic and distinctive patterns as parts of the *project* of the practice.

Braxton High School
Once Jane was approached by the Center for Global Education and the Cities As Green Leaders program, she realized that their recycling effort was the project of a practice: "I was so impressed with how well our students could keep up with the scientist and the other students and teachers in the video conference. The students could see how what we were doing was part of what other students all over Alberta were doing to improve recycling." Jane identified that their recycling initiative was the project of practice comprised of common sayings, doings and relatings of other school recycling groups.

Learning a practice is like other forms of learning. As Kemmis et al. (2014) argue, following Wittgenstein (1974, § 151, § 179), *all* learning is finding *how to go on* in the various different practices people learn during their lives. This view challenges one commonsense view of learning as the transmission of knowledge (in forms such as concepts, skills or values) from one person (or text) to another person; unless, that is, we take the view that the process of 'transmission' is a process mediated through practices. Participants in critical participatory action research also 'learn how to go on' in a project—the general project of critically exploring the conduct and consequences of their practices with the aim of making them irrational or unreasonable, less unproductive or unsustainable, and less unjust and exclusive.

Practices and Practice Architectures

The next step in thinking about critical participatory action research is to focus more directly on the nature of a social practice. Although there are many conceptualisations of the notion of a 'practice', the one we present here is intended to draw attention to the kinds of activities that change, and typically must change, if a practice like education is to be changed.

The complexity of this initial discussion might come as a surprise to people who think of action research only in terms of an individual teacher trying to improve his or her own teaching, using the traditional plan-act-observe-reflect cycle to reformulate plans and action and proceeding through a series of cycles, becoming a spiral of changing practice, changing understandings and changes in the situation in which the practice occurs. This is, of course, a very good thing to be doing, but it understates what is happening. Current teaching is both enabled and constrained by many features that permeate classroom life. These features all help to constitute educational practice, but we are not always aware of them simply because teaching is a very complicated activity which requires us to think, act and make judgments by habit much of the time.

Braxton High School

Brad, who was the Science Department Head, reflected on the complexity of changing classroom practices to prepare students for the climate change video conference. "The irony is that I became a biology teacher to do exactly what this recycling group is doing [outside of class time], but I envisioned energizing students around such issues *in* class." Brad explained that he had been teaching for over 30 years and found that he stuck to a more traditional lecture-style approach that didn't lend itself to issue-based, inquiry-driven learning. "I'm not sure that the students will learn all of the content required unless I lecture, but the more I lecture, the less actively involved they are in the content. It is an oxymoron really." Jane, too, found that she did a lot of the teaching to prepare students for the videoconference outside of her regular teaching time. "I think I would do it so differently next time, but we didn't have the lead time and our content is heavy, so I didn't trust that I could expose students to what they needed by focusing on prep for the videoconference."

As the science teachers planned their next biology unit in Science 10, they shared the outcomes with the students and then had them create tutorial videos by using varied materials (network of students online, Khan Academy videos, their textbook, mini-lectures from their teachers or peers). As they reflected on what they learned by letting go of their routine classroom practices, they recounted how difficult it was to convince the students to also let go of traditional read-and-answer questions learning activities that were the mainstay of their high school experience. The teachers also found that using new technologies (iPads) and apps (*bContext* and *Explain Everything*) increased students' engagement and their test scores were in keeping with what was expected, although not higher than usual. The teachers concluded that exploring diverse ways of teaching that placed students in the drivers' seats of their learning was the way to go, but the constraints such as heavy curricula, diploma exams, and limited time created complexities that could not be handled well without having each other's mutual support. Even though Jane's leadership of the recycling project and Brad and Jim's support role within the project convinced them of the need to explore issue-based teaching, they required many months before venturing down this new teaching path.

Following the definition of practice given by Kemmis et al. (2014), we have referred to practices as being composed of *sayings*, *doings* and *relatings* that hang together in the *project* of a practice. We have also indicated that *sayings*, *doings* and *relatings* are made possible by *arrangements* that are found in or brought to a site where the practice occurs: *cultural-discursive* arrangements that support the sayings of a practice, *material-economic* arrangements that support the doings of a practice, and *social-political* arrangements that support the relatings of the practice. These arrangements (cultural-discursive, material-economic and social-political) hold practices in place, and provide the resources (the language, the material resources, and the social resources) that make the practice possible. Thus, for example, teachers discussing (sayings) their inquiry teaching practice use a specialised vocabulary for talking about it—that is, they use the resources of the specialised cultural-discursive arrangements of 'inquiry learning and teaching'. They also do (doings) particular kinds of things in class—like having students explore actively to find answers to questions that are genuinely perplexing for them—doings made possible by the particular material-economic arrangements (material resources) of the classroom or school—arrangements of things and places in space and time. And the people involved in the practice relate to one another (relatings) in particular ways made possible by the social-political arrangements found in or brought to the site—relationships between people trying to understand one another, for example, or role-relationships characteristic of the site (teacher-student, or teacher-principal, for example).

Braxton High School
Jane noticed the arrangements that supported the practices (that is, the common sayings, doings and relatings, and the central project of the practice) of the many groups who got together in the videoconference. She said: "I think that the students finally found their 'recycling' friends who could talk the same language, exchange meaningful stories, and offer advice about what to do next because all of the individuals were part of groups who aimed to reduce Greenhouse Gas emissions, in part, through recycling. It reminds me of how science teachers get together and trust that they know what each other is talking about. You need those groups who 'get' what you're saying and 'do' what you're doing so that you can share ideas to address challenging questions."

We call the arrangements (cultural-discursive, material-economic and social-political) that hold a practice in place—that make the practice possible—*practice architectures* (Kemmis and Grootenboer 2008; Kemmis et al. 2014). We are interested in these practice architectures because they are the preconditions for practices of different kinds. They enable and constrain, or "prefigure" (Schatzki 2002), practices without determining them. We think that it is important to think and talk about practice architectures that shape practices because changing practices requires more than changing participants' *knowledge* about practices; it also requires changing

the *conditions* that support their practices—the *practice architectures* that enable and constrain their practices. To have new practices, with new sayings, doings and relatings, we must also have new practice architectures to support them: new cultural-discursive arrangements, new material-economic arrangements, and new social-political arrangements. Only when these new practice architectures are in place can new practices survive.

Braxton High School
Jane found that connecting students with other students online took some pressure off her to be the person who kept the practice architectures of the recycling project going. "The ideas are actually quite complex and with only weekly meetings and some students looking more deeply into Greenhouse Gas emissions through their in-class studies, it was hard for me to keep our group thinking about the larger effect of what we were doing related to climate change." Once the students had an online forum, this network fuelled the new sayings, doings and relatings of the practice, and had the students drawing on and exploring the languages of Greenhouse Gas emissions and recycling (cultural-discursive arrangements), the different kinds of activities and work and material resources and effects that are associated with recycling (material-economic arrangements), and the different kinds of relationships between people and with the natural world associated with recycling (social-political arrangements—and ecological arrangements). These are the practice architectures that would (or, in their absence, would not) hold the practice of recycling in place.

On this view of practices, the *site* is crucial. The site is where these arrangements are or are not to be found—where the relevant practice architectures do or do not exist. While other social theories hypostatise 'social structures' that are meant to hold practices in place, our view is that it is *sites* that hold practices in place—real, everyday places like your home, or your school, or the supermarket where you shop. If no-one speaks the language of climate change or sustainability in the school, the practice of Education for Sustainability will not take hold in that site. If there are no material resources—books, websites, times, places—for Education for Sustainability activities in the school, Education for Sustainability will not take hold there. And Education for Sustainability will not take hold if appropriate social arrangements are not to be found there—relationships between teachers and students and communities, and between people and the environment and energy use and Greenhouse Gas emissions and other species and the planet.

In *Changing Practices, Changing Education* (2014), Kemmis, Wilkinson, Edwards-Groves, Grootenboer, Hardy and Bristol introduce and explain the theory of practice architectures in detail. They regard the theory of practice architectures as a theory about what practices are made of (sayings, doings and relatings), and about how *practices* are formed (by the cultural-discursive, material-economic and social-political arrangements—the *practice architectures*—found in or brought to a site).

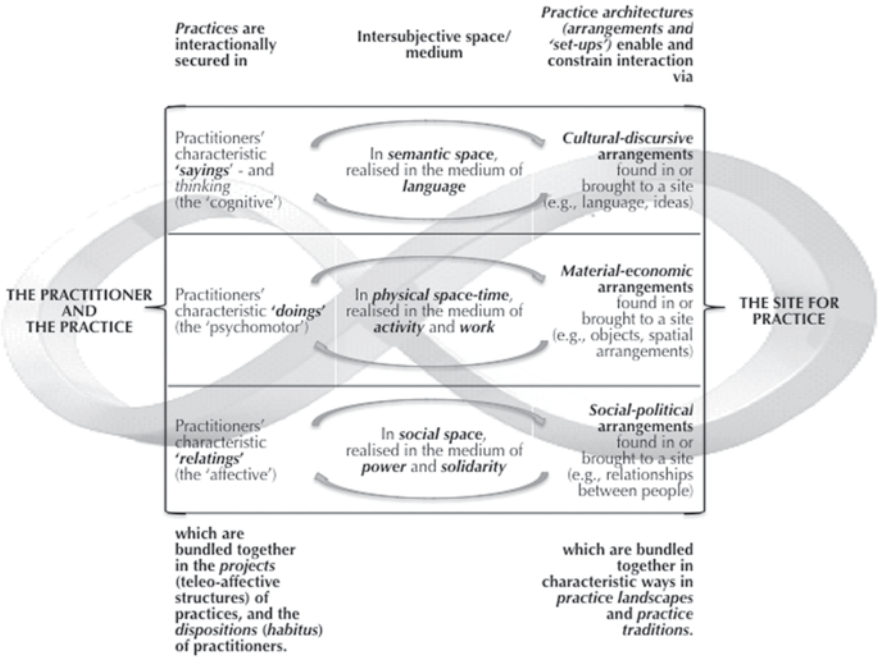

Fig. 3.1 The theory of practice and practice architectures

Kemmis, Wilkinson, Edwards-Groves, Hardy, Grootenboer and Bristol are particularly interested in the formation and transformation of five kinds of practices that together form what they call "Education Complex": practices of *student learning*, *teaching*, *professional learning*, *leading* (by principals, teachers, students and others), and *researching* (this last practice is especially relevant to our concerns in the present book). Since the emergence of mass compulsory school education from the mid-nineteenth century on in the West), they argue, these five kinds of practices continue to be interconnected, influencing one another in different ways at different times and places. They contend that the interconnections between these five kinds of practice can always be observed in a site—how student learning is shaped by teaching but also shapes teaching, how teaching is shaped by professional learning, how student learning is shaped by teachers' researching, and so on. They refer to these interconnections in terms of "ecologies of practices"—relationships of ecological interdependence in which one practice enables and constrains another.

Figure 3.1 is a diagrammatic representation of the theory of practice architectures.

In Chap. 4 (A new view of research), we will use this schematic representation of the theory of practice architectures as a framework to orient our investigation of practices—identifying some questions to ask about our practices as we do critical participatory action research, exploring our practices from 'within practice traditions' (Kemmis 2012).

Kemmis et al. (2014) argue that changing practices is not just a matter of changing the people participating in the practice—their sayings, doings and relatings, and the projects of their practices. According to the theory of practice architectures, for a transformation of practices to be achieved, and for it to be sustained, the practice architectures that hold the practice in place must also be changed (the cultural-discursive, material-economic and social-political arrangements that support the practice). Moreover, according to the theory of practice architectures, for a practice to be transformed and for the transformation to be sustained, the sayings, doings and relatings, and the project of a practice must all change in relation to one another. So: according to the theory of practice architectures, transforming a practice and securing its transformation requires thinking about, making changes to, and monitoring and documenting the variety of things like those identified in Fig. 3.1. We will consider how they can be monitored and documented in Chap. 4, and then see how they become part of the work of an unfolding critical participatory action research initiative in Chap. 5.

Using the theory of practice architectures and Fig. 3.1, we can describe more formally the ways in which social practices are constructed and contextualised. On the side of the *individual* (the left hand side of the Figure), we can see that practices are oriented by *projects*, and composed of *sayings*, *doings* and *relatings*. These sayings, doings and relatings 'hang together' (Schatzki 2002) in the project of a practice, and they are also held together in the interactive capabilities of participants—what Kemmis et al. (2014; following Bourdieu 1990) call *dispositions* or *habitus*. These dispositions might also be thought of in terms of participants' *knowledge* about how to go on in the practice: their *understandings*, *skills* and *values*. In his poem 'Among school children', William Butler Yeats (1927/1996, p. 123) asked "how shall we know the dancer from the dance?" In a similar way, we might ask "How can we know the practitioner from the practice?" The practitioner steps into a practice in the way a dancer steps into a dance—like the Tango, perhaps. But the practice, like the practice of the Tango, is held in place by *practice architectures* that make it possible.

Practice architectures appear on the right hand side of Fig. 3.1. In particular, alongside sayings, doings and relatings (on the left of the table), the practice architectures that enable and constrain a practice appear: the *cultural-discursive*, *material-economic* and *social-political arrangements* that are found in or brought to the *site* for the practice. Different participants in the practice inhabit the site in different ways, however, perhaps interacting with different people and things, perhaps in different parts of or locations in the site, and perhaps doing different things. The space and places that encompasses these different ways the site is inhabited together form the *practice landscape* for the practice. Over time, moreover, the practice may change or evolve—it may be part of a *practice tradition* that is, at the local level, 'the way we do things around here', or perhaps, as in the case of many professional practices, a manifestation of a widespread way of doing things—a progressive approach to education, for example, or an inquiry approach to science teaching.

Even though we might use the concepts outlined in Fig. 3.1 to think about a practice, when we are practising a practice all of these aspects interact, never occurring

independently of each other. That is why we speak of practice as 'manifold'—as constituted by our selves, our colleagues and other participants, working with and around our individual biographies and the histories of the work of others embodied in the social media and social structures which both enable and constrain our work. The interactions among practices are not random, they are linked by some kind of purpose, but they can be difficult to understand, and to influence with any surety.

In Table 3.1 you can see an overview of the Braxton High School Recycling Project set out using the theory of practice architectures depicted in Fig. 3.1. Table 3.1 provides an example of how the theory of practice architectures can be used to illuminate the key features of a critical participatory action research project.

We have hinted at ways of talking about related practices as they are constituted in bundles of activity—teleoaffective structures or architectures of practice. We have suggested that participants' dispositions and actions are shaped by cultural-discursive, social-relational and material-economic conditions—expanding on the conceptual content used in Fig. 3.1 we used to show the 'content' of numerous changes in practice. So far, we have undertaken quite a conceptual journey but we are not quite to the point where we can talk confidently about how to 'practise the practice' of critical participatory action research.

Practices and Practice Architectures in Critical Participatory Action Research

We have suggested that action research aims to change practices, people's understandings of their practices, and the conditions under which they practice. This is a form of the definition of action research that Stephen Kemmis and Robin McTaggart framed long ago in the earliest version of *The Action Research Planner*, now out of print. Part of the logic that caused us to identify these three as the principal things to be changed through action research came from our reading of Jürgen Habermas's (1972) theory of knowledge-constitutive interests in which he identified three principal media in which social life is structured: language, work and power. These were the underpinnings for our emphases—in our definition of action research, for example—on (a) people's *understandings* of their practices, as expressed in *language*, (b) the activities people engage in as part of their *practices*, as expressed in *work*, and (c) people's *situations* and *the conditions under which they practise* as expressed in relationships of *power*.

Since that time, and especially in the last few years, that formulation of understandings, practices and the conditions of practice seems more fortuitous than we understood at the time. Some new forms of practice theory give redoubled importance to these ideas, for example, the work of philosopher of practice Theodore Schatzki (1996, 2002), and the work of Kemmis et al. (2014). If we apply these kinds of insights to action research, then, neither understandings nor practices nor the conditions that shape practices—sayings, doings and relatings—is logically prior to either of the others. They emerge and develop in relation to one

Table 3.1 Braxton High School's recycling project practices and practice architectures

Elements of practices	Practice architectures
Project	*Practice landscape*
Braxton's recycling group described what they were doing as improving recycling habits within their school community to grow a culture of environmental stewardship	Ten students and Jane, the lead teacher, met weekly. The Principal, district staff members, head custodian/janitor, parents and teachers who supported certain tasks floated in and out of these meetings
Examples of sayings (communication in semantic space)	*Examples of cultural-discursive arrangements* (*Note: one person's sayings are also practice architectures that enable or constrain others' sayings*)
This core group developed a common language to talk about recycling	Jane accessed videos, papers, policies and newspaper articles about recycling
Common concepts that they studied were: Greenhouse Gas emissions, atmosphere, heat-trapping gases	Jane and her Grade 12 Biology students were the most knowledgeable about this discourse and shared this language with the whole group
They mostly talked about the need to change recycling habits because failing to recycle increased Greenhouse Gas emissions and eroded the capacity of Earth's atmosphere to sustain life	The group contested which human habits most contributed to the problem of Greenhouse Gas emissions in order to consider other ways to develop a healthier community
Jane, the lead teacher, worked hard to develop a common language within the group that supported them to talk about why they cared about recycling	
Examples of doings (activities, often producing or achieving something, in physical space-time)	*Examples of material-economic arrangements* (*Note: one person's doings may enable or constrain others' doings*)
The group developed a meeting structure:	The group regularly met in a boardroom that was located in the office area, but in a quiet space with windows, a sink and comfortable chairs. They had a computer at the table so that it was easy to share and compose ideas
First, they debriefed about what each of them had done over the last week to assess whether and how recycling habits were improving in the community. Some students reported on interviews, observations. Others discussed results of posting messages online to increase awareness about what and how to recycle	Three groups created a vibrant online space of readings and links to videos and sites about recycling for parents, students and staff.
After debriefing, they talked about what to do next based on reflecting on what would help most	The group had spent their money on recycling bins. The Principal provided additional funds for teachers to meet with Jane to work to edit videos, and to develop staff and parent presentations as well as other tasks
They decided how to celebrate gains made and to communicate them	
They ended each meeting by reading, viewing or reading about Greenhouse Gas emissions and why recycling and other changes in everyday habits (for example, reducing idling) improved their community	

Table 3.1 (continued)

Elements of practices	Practice architectures
Examples of relatings (relationships in social space, especially relationships of power and solidarity)	*Examples of social-political arrangements*
The teachers, students and other staff and parents who periodically joined the core group related to each other as equals. There was no one member who dominated conversations	The weekly meetings provided the relational structure that kept the group focused on what they were doing and why
The Principal was the only member who felt that he had to be careful not to say too much or to set direction for funds given to the group. He handled this problem of his position by saying less and floating in and out of the group	They needed a lot of money upfront to buy their bins, which placed a responsibility on this group to carry forward and report on their project
Jane and the Grade 12 students provided materials for the Grade 10 and 11 students to learn about Greenhouse Gas emissions	As highlighted in Chap. 2, this core group was a public sphere and had much communicative power as a result
Because this group engaged in public presentations and received support for their work, they had a sense that what they were doing mattered. This shared purpose held the core group together through tough times (for example, exam time) when it would have been easy not to carry on with their agenda	
Examples of dispositions (habitus; the interactive capabilities of different participants)	*Examples of practice traditions*
Understandings: Participants had to develop a common language to talk about recycling which took several months	As one long-time science teacher had highlighted, when the school opened, they did not buy recycling bins or develop an attitude that recycling mattered. This decision had set in motion a laissez-faire attitude about recycling and the environment generally
Skills: Participants developed many research skills such as taking field notes, transcribing audio- and video-recorded interviews; and presentation skills including creating presentations for varied audiences	There was evidence of professional practice traditions to recycle in nearby schools. Most schools had recycle bins, communicated about their recycling efforts as well as other ways that they sought to reduce Greenhouse Gas emissions. This milieu of environmental stewardship inspired this core group at Braxton High School to take up this issue
Values: Participants came together because they cared about the environment and being more agentive about helping their school community to become more environmentally responsible	

another. Understandings may form intentions, but practice does not simply enact intentions—the doing is always something more than and different from what was intended. Nor does practice alone form understandings—thinking and saying are also discursively formed, in the common stream of a shared language used by interlocutors who stand in some particular kind of relationship with one another. Nor are the conditions that shape practices entirely created by this or that person's understandings or practices—they are formed through larger, longer collective histories of thought and action.

Understandings, practices and the conditions of practice shape and are shaped by each other; as Schatzki (2002) put it, they are "bundled" together (p. 71). In Schatzki's view, in the case of routinised or specialised or professional practice, sayings, doings and relatings "hang together" (p. 7) in comprehensible ways, in characteristic teleoaffective structures as projects with characteristic purposes, invoking characteristic emotions. And they often unfold in accordance with general rules about how things should be done. Schatzki believes that practices are "densely interwoven mats" (Schatzki 2002, p. 87) of sayings and doings (and relatings) in which people encounter one another in generally comprehensible ways. For this reason—because practices are enacted in dense interactions between people in sayings, doings and relatings—Schatzki describes practice as "the site of the social".

While already prefigured in these ways, however, each new episode of a practice makes possible new understandings that may re-shape the discourses in which it is oriented and conducted; each new episode makes possible new activities that may re-shape the material and economic conditions that enable and constrain the practice; and each new episode makes possible new ways of relating that may re-shape the previously-established patterns of relationship between the different people and kinds of people involved. In such ways, the sayings and doings and relatings that compose practices are restlessly made and re-made in and through practice in each particular time and place (site), by these particular participants, so practices and practitioners and the conditions of practice are transformed as well as reproduced from occasion to occasion. This everyday variation and evolution of practices is the opening through which co-participants in critical participatory action research enter a setting with the aim of "studying reality in order to transform it" as our friend Orlando Fals Borda (1979) put it. In our view, however, that is only half the story: we also think that critical participatory action researchers "transform reality in order to study it".

The transformation of practices involves transformations in how people understand their practices, what they do, and how they relate to one another in the practice. Sayings, doings and relatings can each be transformed, but each is always transformed in relation to the others. For example, transforming a particular kind of educational practice (doing)—like the shift from whole class teaching to project work for individual students—might mean making a paradigm-shift from a *conservative view of education* as transmission of knowledge, skills and values to a *liberal view of education* as self-formation (shifts in thinking and saying and in ways of relating as well as changes in the ways of doing things). Or shifting from project work by individual students to school-community projects—might mean making a shift

from the *liberal view* to a *critical view of education* as cultural, social and economic transformation for individuals and societies. There are parallels in other fields like social work, nursing and medicine: making the paradigm-shift from a conservative view of transformation as improving service delivery to a liberal client-centred view, or to a critical view of practice in these fields as both shaped by and shaping the cultural-discursive, social-political and material-economic arrangements in a community or society. In each case, changing the practices—what is done—will be accompanied by changes in how the doing is thought about, talked about, and justified. And the shifts of sayings and doings will also involve shifts in the ways people relate to each other in the practice, and in the arrangements of things and resources required to do the new practice.

So we can see that changing our practices, our understandings of our practices, and the conditions under which our practices are carried out requires changing the sayings, doings and relatings that compose our practices. If we hope the change will be sustained, we will need our sayings, doings and relatings to cohere—to form coherent patterns that "hang together", as Schatzki (2002) suggested. Under such conditions, he says (following Wittgenstein 1974), we know "how to go on" in a practice—how to continue action and interaction within the practice. To say that sayings, doings and relatings "hang together" does not necessarily mean that they cohere entirely without contradiction or confusion in the saying, clumsiness in the doing, or conflict in the ways of relating—these flaws may long ago have been sedimented into a practice, and only become apparent after longer term consequences emerge, and in the light of critical reflection—through critical participatory action research, for example.

Critical Participatory Action Research as a Practice-Changing Practice

Critical participatory action research aims at changing three things: practitioners' practices, their understandings of their practices, and the conditions in which they practice. These three things—practices, how we understand them, and the conditions that shape them—are inevitably and incessantly bound together with each other. The bonds between them are not permanent, however; on the contrary, they are unstable and volatile. Neither practice nor understandings nor the conditions of practice is the foundation in this ménage. Each shapes the others in an endless dance in which each asserts itself, attempting to take the lead, and each reacts to the others.

Critical participatory action research can be a kind of music for this dance—a more or less systematic, more or less disciplined process that that animates and urges change in practices, understandings and the conditions of practice. It is a critical and self-critical process aimed at animating these transformations through individual and collective self-transformation: transformation of our practices, transformation of the way we understand our practices, and transformation of the conditions that enable and constrain our practice. Transforming our practices means

transforming what we do; transforming our understandings means transforming what we think and say; and transforming the conditions of practice means transforming the ways we relate to others and to things and circumstances around us. We speak about these three things as *sayings*, *doings* and *relatings*. Each—sayings, doings and relatings—is irreducible to the others, but each is always in an endless dance with the others. Each provokes and responds to changes in the posture, tempo and direction of the others' movements.

Braxton High School

It was mentioned earlier that the lead teachers of critical participatory action research projects sometimes faced 'ribbing' by other staff for doing extra work or faced direct confrontations and accusations by staff who claimed that those involved in research received more resources. Although the entire staff had had an equal opportunity to be supported with funds to engage in critical participatory action research projects, most chose not to. One day, a Math teacher, John, who had been listening to this kind of ribbing and complaining, decided to do his own critical participatory action research project not only to change his teaching practices but to speak up about the need for change through critical participatory action research. This story paints the picture of what happened the day that John made his presentation about his critical participatory action research to staff:

John, who is 67 years old, has taught Math for 40 plus years, and he decided on his own to meet with a district consultant to rethink how he taught quadratic equations and parabolas (otherwise known as "French Curves" in Mathematics). He stated, "They [the students] don't get it and yet parabolas are all around us [he showed how the ear on a stuffed bunny is an example of a parabola]). After working with the consultant to shape a unit of study around how he built his new house using these equations to create the balconies along the top floor of his home and involving students in real world applications of this concept, Jack chose to present what he did to staff. When asked why he initiated changing his teaching and then presenting his work, he said, "We need to change the way we learn together. We need to take ownership to rethink what we do or nothing will improve. It isn't just a matter of learning some new way of teaching, but it's coming together to share, to stop blaming others for making us change."

He began his presentation with a Bob Dylan song, *The Times They Are a Changin'*, and after playing it for the staff, he put up a slide that said: *Change is a Comin', Reality Bites*. He then recounted how over the years, he has watched students "skilled and drilled to death in Mathematics," and how many students think they "can't do Math" and "Math has no real world applications outside of a budget." He shared stories about how this different approach to teaching Math is necessary because students are not just shutting down, they "are dropping out!" [Staff nodded, knowing that their province has one of the highest dropout rates in Canada]. He went on to share his lesson and how

connecting students with the quadratic equations used to create the French Curves on his balconies was a "small way to make them care." As he went on, he referred to a need for all staff, "especially the young ones" to pay attention. "Students need you to listen and to stop complaining in the staffroom and to do something differently!" Although Jack was reprimanding his colleagues for resisting change, they didn't want him to stop talking. When he had gone well over time, many said, "Go on, John! Go on!" John had unsettled his own ways of teaching Math and took the time to share his reasons for changing his routines. He was well positioned on staff to unfreeze, unsettle or disrupt ways of talking, acting and relating in PD. John willingly joined the teachers who engaged in critical, participatory action research because he recognized the need to support their work as the shift or movement towards PD as co-inquiry in public spheres took hold.

But if critical participatory action research is the music for this dance, it is also a music that someone has to play. In the example above, John decided to play the music (to explore his own critical participatory action research about his teaching of Math) to make the point that critical participatory action research is necessary to make change happen. Playing the music is also a practice—a particular kind of doing. John called a district staff member, Rhonda Nixon, in order to engage in the planning, teaching, documenting, and reflecting routine characteristic of this approach to professional learning. Action research is also to be understood—understood in terms of particular kinds of thinking and saying. John used the language of action research such planning for a change that was needed in Mathematics and engaging in this change and reflecting on it because change happens by embracing a stance of accepting change as reality. It also involves relationships with others and with the circumstances that shape practices—so it involves particular kinds of relating. Critical participatory action research has its own diverse and changing sayings and doings and relatings. John reached out to Rhonda because he saw her as the main person supporting the teachers with their research and as a neutral person who was not on staff. And, crucially, critical participatory action research aims to be among the circumstances that shape other practices—practices of education or social work or nursing or medicine, for example. Action research aims to be, and for better or for worse it always is, a practice-changing practice. Better because it sometimes helps make better practices of education, social work, nursing or medicine; worse because it may have consequences that are unsustainable for practitioners of these practices or for the other people involved in them—students or clients or patients, for example.

In this chapter, we have outlined a new view of practice, and indicated that practices are held in place by practice architectures. We have argued that changing a practice requires not only changing the sayings, doings, relatings and the project that constitute the practice, but also the practice architectures—the cultural-discursive, material-economic and social-political arrangements—that hold the practice in place. As we have indicated, critical participatory action researchers aim to

change their practices, their understandings of their practices, and the conditions under which they practise, in order that their practices and the consequences of their practices will be more rational and reasonable, more productive and sustainable, and more just and inclusive. To know whether or not they have achieved this, they must collect evidence about their practices—before they change, as they change, and after they change their practices. And they must analyse this evidence to discover whether, in fact, their practices have become more rational and reasonable, more productive and sustainable, and more just and inclusive. Gathering, analysing and interpreting this evidence is the 'research' part of the practice of critical participatory action research, to be considered in the next chapter.

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