

Action research

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Key methods discussed in this chapter

Narrative inquiry, learning history, cooperative inquiry

Connections to other chapters

This chapter links well with other chapters that explore more qualitative and interpretative ways of dealing with stakeholder engagement as investigated in Chapter 9 (Facilitated dialogues) and Chapter 19 (Qualitative content analysis), and knowledge co-creation as discussed in Chapter 8 (Participatory data collection).

SUMMARY TABLE: ACTION RESEARCH	
DISCIPLINARY BACKGROUND	KNOWLEDGE TYPE
<p><i>The methods in this chapter are derived from or have most commonly been used in:</i> Qualitative Research</p>	<p><i>The methods in this chapter are primarily used to generate the following types of knowledge:</i></p> <ul style="list-style-type: none"> • Exploratory • Explanatory
RESEARCH APPROACH	PURPOSE OF METHOD
<p><i>The methods in this chapter originate from or most commonly adopt the following research approaches:</i></p> <ul style="list-style-type: none"> • Interpretive/subjective • Collaborative/process 	<p><i>The most common purposes of using the methods in this chapter are:</i></p> <ul style="list-style-type: none"> • Stakeholder engagement and co-production

TEMPORAL DIMENSION	SYSTEMIC FEATURES AND PROCESSES
<p><i>The methods in this chapter are most commonly applied to the following temporal dimensions:</i></p> <ul style="list-style-type: none"> • Present (typically within the last 5–10 years) 	<p><i>While most methods can do many things, the methods in this chapter are particularly good (i.e. go-to methods) for addressing the following:</i></p>
SPATIAL DIMENSION	<ul style="list-style-type: none"> • Diversity • Power relations • Transformation • Social learning • Collective action and collaborative governance • Evaluating policy options • Exploring uncertainty
<p><i>The methods in this chapter are primarily either or both:</i></p> <ul style="list-style-type: none"> • Non-spatial <p><i>The methods in this chapter are most commonly applied at the following spatial scales:</i></p> <ul style="list-style-type: none"> • Local • Regional (provincial/state to continental) 	

Introduction

The term ‘action research’ is sometimes co-opted to signify any research that is participative and designed for ‘action’ and for change to happen as a result. However, action research signifies a coherent and well-established set of approaches, methods and values with a rich history (Torbert 1976; Reason and Rowan 1981; Gustavsen 2003). In this deeper tradition, action research gives a practical and empirical approach to investigating the complex, interconnected and emergent social-ecological world. It is embedded in a view of the world as ‘systemic, participative, radically interconnected and evolutionary’ (Reason and Bradbury 2001, 12).

Due to this focus on the dynamic and emergent nature of situations, there is no insistence in action research on an initial research hypothesis against which to gain evidence, nor a requirement that methods are defined in their entirety at the beginning. Allowance is made for surprise and shifts in focus through following and illuminating the detailed pathways of what happened and how. As the world does not stand still as we engage with it, project methodologies and interests in part emerge over time as those involved learn more about the issues, try out new ways of doing things, develop relationships and gain confidence in their exploration (Marshall, Coleman, and Reason 2011, 29).

Action research runs counter to the idea that change and agency can be understood through investigating the objective, the average, the universal. It does not give preference to objective, ‘scientific’ evidence but includes evidence that is more subjective. Our subjective experiences – of values, intuitions, relationships – and our perceptions – of what is changing, what is stuck, what is emerging – are valued and included. Action research is an appropriate approach to investigating the complex world precisely because it pays attention to these subjective perspectives, to the particularity of situations and to the way things emerge and change over time. Action research methodologies are designed to surface the complex multi-faceted ways in which people and processes interact and in which change happens and systemic patterns form or break (Boulton, Allen, and Bowman 2015).

Coupled with this view as to ‘how the world is constituted’, there is a strong emphasis on the ethics of social research: methods must allow for the ownership of the research process and outcomes by those who are involved in it. This is not ‘research on’ or ‘research by’ but ‘research with’. As part of the approach, issues of power are typically uncovered and made explicit. Indeed, part of the motivation to undertake action research is to ‘support people who thought they were powerless to find they have power to do things’ (Reason et al. 2009, 10). Action research is ‘unashamedly value-laden, asking what is most likely to help us build a freer, better society’ (Marshall, Coleman, and Reason 2011) and there is often an intention to create resilience for people and the planet.

Action research is also viewed as ‘pragmatic’ (Greenwood 2007), emphasising the importance of research leading to action and that research outcomes and theories are no use of and in themselves. Whereas there are methodologies that action researchers draw on, as discussed below, ‘it is important to understand AR [action research] as an *orientation to inquiry* rather than as a methodology’ (Reason and McArdle 2004).

According to Reason (1998), there are five dimensions of action research: participation and democracy, worthwhile purposes, practical challenges, many ways of knowing, and emergent form. Figure 15.1 demonstrates how these five dimensions are related to one another and how the emergent form – what is really emerging in the situation – becomes the centre of the inquiry. Action researchers aim to address practical challenges and bring research into everyday experience and practice. Action research processes aspire to be ‘worthwhile’ – this is research in order to ‘make the world a better place’ – and what is deemed to be ‘worthwhile’ must be addressed as part of the inquiry process (Reason et al. 2009, 9).

Action research adopts many ways of knowing and favours methods that are experiential and relational and allow for subjectivity and multiple perspectives (Marshall, Coleman, and Reason 2011, 29). Indeed, action research techniques represent key ‘ways of knowing’ in tune with a perspective from complexity science (Blaikie 2007; Boulton 2011). Action

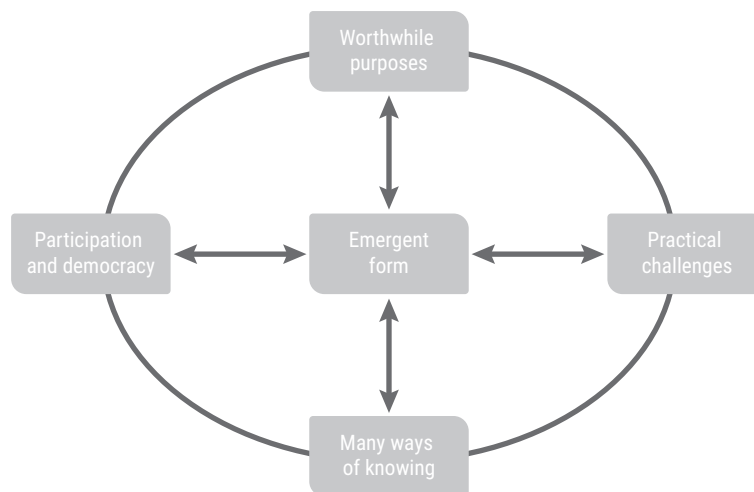


Figure 15.1 Five dimensions of action research (Reason and Bradbury 2001; Reason et al. 2009)

research processes give room for, and do not constrain, the emergence of something unexpected during the research process and enable the tracing of any new factors as they happen. So, for example, in exploring in what ways a project unfolded, the focus is not only on tracing whether and how intended outcomes were achieved; it is also on whether other so-called ‘unintended outcomes’ occurred and whether outcomes were influenced by other interventions as well as the project, by changes in the wider environment or by factors in combination. Action research needs to take place over time to trace the pathways of how change happens (or not), rather than take a snapshot at a particular point in time.

A key element of action research is to recognise that the mindsets, attitudes and biases of the researchers and participants are pertinent to what is uncovered and valued in the process, and to what action is subsequently taken. Strong emphasis is placed on the need for personal reflective practices to explore the so-called ‘inner arc of attention’ (Marshall 2016, 336) whereby the researcher seeks ‘to notice myself perceiving, making meaning, framing issues’. This is followed by attention to the so-called ‘outer arc of attention’, which involves

reaching outside of myself in some way. This might mean actively questioning, raising issues with others or seeking ways to test out my developing ideas ... perhaps seeking to change something and learning about situation, self, issues and others in the process.

This so-called ‘first-person action research’ underpins working with groups, teams or communities (second-person action research) and working with wider systems (third-person action research).

Strong emphasis is placed on following cycles of inquiry. In these cycles, tentative meanings and interpretations are reflected upon with the participants and others. These reflective phases can then lead to reframing understandings and shape further action and further inquiry.

In summary, Reason and Bradbury (2001, xxii) state that action research:

- Responds to practical and pressing issues in the lives of people in organisations and communities
- Engages with people in collaborative relationships
- Is strongly values-oriented, seeking to address issues of significance concerning the flourishing of human persons, their communities and the wider ecology in which we participate
- Is a living, emergent process which cannot be predetermined, but changes and develops as those engaged deepen their understanding of the issues to be addressed.

SES problems and questions

Action research techniques are not focused on commonality or general features. It is largely (but not exclusively) a ‘bottom up’ approach, focused on capturing the details of situations and changes. It allows the tracking of projects, structures or communities through time and uncovers how patterns emerge through reflexive relationships and how they morph and/or break down. It can allow exploration of which practices lead to adaptation and resilience, or their opposites. This focus on so-called micro-practice allows exploration of the way new qualities or characteristics emerge, and of the impact of participation and the role of power. The inference is that, by understanding situations in detail, the complex ways in which change happens can be uncovered. This knowledge and understanding can lead to learnings which may be obscured in approaches to research which are more statistical in approach

(Patton 2011). The focus on the time dimension, on so-called path dependency and history, means that many action research techniques take a narrative approach, which can capture the way things change over time.

Given the strong ethical stance of participation and the collective ownership of the research, action research facilitates exploration and investigation. However, it is emphatically action oriented and can lead to change both of the individuals involved and, potentially, of the systems of which they are a part. Action research approaches provide richness and nuance both in understanding what creates change and in supporting communities, teams or organisations to change things for themselves.

Action research techniques can be used to investigate how people and communities interact with and respond to the environment and are therefore useful to explore the social-ecological or social-technical world. In other words, the way human actions, perceptions and intentions affect and are affected by the wider natural and technological world can be explored systemically (see Boulton, Allen, and Bowman 2015). Attitudes to climate change impact (e.g. the uptake of technology such as solar panels for private dwellings) and political acts (e.g. the removal of incentives to install solar panels) all play their part. These actions and intentions have the potential to shift and be shifted by ecological patterns and norms. What actually emerges is a complex and interdependent weave of the pricing of technology, attitudes to climate change, local peer pressure and other factors. In action research – and this is an important point – there is no presupposition that any particular patterns necessarily exist. The approach therefore allows for the exploration of where various factors (e.g. technology, ecological crises, politics) may have impact, as in the examples above. In some situations, it may also be the case that few stable patterns emerge and that things are chaotic or fast-changing.

Examples of key questions include:

- How do groups of people (in communities, teams, organisations) research the situations in which they find themselves and use these insights to refine their strategies and actions? (Cloete 2017; Lindow, Preiser, and Biggs 2020)
- How can we follow situations over time to inform our understanding of what leads to or mitigates change and share this learning more widely? (Boulton, Allen, and Bowman 2015)
- How can we explore, on a local level, how people, the environment and technology interact reflexively and create norms of behaviour and social-ecological patterns? How can we use insights from these explorations to create resilience and positive change? (Fabre Lewin 2019)
- How can organisations improve the way they address issues of climate change, loss of habitat and pollution, through taking into account human behaviour? (Reason et al. 2009)
- How can we weave shared understandings and intentions about how to address social-ecological issues for our communities and organisations? (Eelderink, Vervoort, and Van Laerhoven 2020)

Brief description of key methods

The methods of action research centre on three highly interdependent levels of inquiry: first-person, second-person and third-person inquiry (Reason and McArdle 2004).

- First-person research practices address the ability of individual researchers to foster an inquiring approach to their own lives, act with awareness and make judicious choices, and assess effects in the outside world while acting.

- Second-person action research practices (e.g. cooperative inquiry) address our ability to inquire face to face with others into issues of mutual concern, usually in small groups.
- Third-person research practices create a wider community of inquiry involving persons who cannot be known to one another face to face. This would include large-scale dialogue and ‘whole system’ conference designs, the ‘learning history’ approach, networks of small groups and approaches that are concerned with larger organisations of people.

These different modes of inquiry not only serve to engage the audience in the research but also help that audience to connect their own experience to the narratives and lived experiences and so learn on their own terms (Reason et al. 2009, 12). In the arena of climate change, for example, many projects are complex multi-disciplinary endeavours involving many views and perspectives.

A number of methods fall under the umbrella of action research. The *SAGE Handbooks of Action Research*, of which there have been several editions since 2001, provide a key source of methods and applications. We highlight narrative inquiry, a learning history approach to narrative inquiry (Gearty 2014), and cooperative inquiry as most relevant for the purposes of exploring social-ecological systems (SES). Table 15.1 provides a summary of key methods used in action research.

Table 15.1 Summary of key methods used in action research

<i>Method</i>	<i>Description</i>	<i>References</i>
Narrative inquiry	Methods using narrative inquiry follow the stories of the ways in which change happens in a local context over time (chapter 19). Narratives are accounts that express the character, detail and lived experiences of people and communicate the messiness and complexity of events as they unfold to form a unique situation.	Key introductory text Clandinin and Connelly 2000 Applications to SES Rogers et al. 2013; Paschen and Ison 2014; Goldstein et al. 2015; Galafasi et al. 2018; Lindow, Preiser, and Biggs 2020
Learning history	Learning history is defined as a shared narrative that reflects on what happened and on what people felt they learnt (Roth and Bradbury 2008). A shared narrative focuses on what happened and on how people felt; it does not seek consensus and is left ‘raw’. This kind of research can use many techniques (e.g. drawing, videos, transcripts). The intention is for those involved to reflect and learn together, and for others to engage with the whole, sometimes messy, narrative as a way of learning from the experience. A learning history attempts to stay close to what happened with limited interpretation (or at least, where it occurs, interpretation that is tentative or suggestive) and limited intentional selection. It allows for ‘narrative continuity’ and for the emergence of patterns and meaning.	Key introductory texts Roth and Bradbury 2008; Gearty 2014 Applications to SES Fazey, Fazey, and Fazey 2005; Gearty 2009; Gearty et al. 2013

<i>Method</i>	<i>Description</i>	<i>References</i>
Cooperative inquiry	<p>Cooperative inquiry is a way of supporting a group to consider an issue and own both the questions and the outcomes. The emphasis is on sharing power and on undertaking a number of cycles of inquiry processes, with time in between to reflect.</p> <p>Cooperative inquiry is a form of second-person action research, described by Heron (1996, 1) as follows:</p> <p>‘[Cooperative inquiry] involves two or more people researching a topic through their own experience of it, using a series of cycles in which they move between this experience and reflecting on it together. Each person is co-subject in the experience phases and co-researcher in the reflection phases. It is a vision of persons in reciprocal relation using the full range of their sensibilities to inquire together into any aspect of the human condition with which the transparent body-mind can engage’.</p> <p>In a cooperative inquiry, McArdle (2004, 62) clarifies: ‘all the active subjects are fully involved as co-researchers in all research decisions – about content and method – taken in the reflection phases’.</p> <p>Cooperative inquiry:</p> <ul style="list-style-type: none"> • Emphasises inquiring with others (rather than on one’s own) • Works reflexively with more than one cycle of inquiry • Moves iteratively between reflection and action • Creates equality between inquirers in developing the process, the content and the interpretation of the inquiry 	<p>Key introductory texts Heron 1996; McArdle 2004</p> <p>Applications to SES Heron and Reason 2001; Swantz et al. 2008; Lotz-Sisitka et al. 2016</p>

Limitations

Active research is an orientation towards inquiry, power sharing, reflexivity, action orientation and the inclusion of the subjective in what is valued and acknowledged. It is a philosophical stance as much as it is a set of methods and in that way it can colour any form of research by reminding researchers to question issues of power and purpose, to reveal hidden assumptions and to ask what is excluded and what is valued.

Having said this, as already discussed, action research is particularly attuned to exploring ‘the local’, albeit with a view to gaining insight into what creates change and how to act in a complex world. These insights have the potential to inform change practice more

generally. Action research techniques can become unwieldy at large scale, when there are attempts to connect together smaller inquiry groups and to engage with larger-scale change. In third-person approaches, attention must be given to hierarchy, power and the impact of the wider context (Gustavsen 2003; Coghlan and Brydon-Miller 2014).

There is no reason why quantitative data cannot be included in action research processes, in terms of both what data are collected and how these data are investigated in inquiry groups. It is probably fair to say that the local is emphasised over the global and the qualitative over the quantitative, and the practical over the conceptual. However, to use inquiry processes and inquiries that span periods of time can reveal emerging patterns and can suggest new lines of inquiry which can then be addressed with more traditional quantitative and wider-reaching methods of both change and research.

There is sometimes a critique of action research orientations that they can entrance individuals into overly focusing on their 'first-person' inquiries, on their own inner worlds and personal actions. This can be transformational but can also, perhaps, take attention away from addressing wider systemic issues. However, not paying enough attention to personal bias and the impact researchers have on the situations with which they engage can be equally problematic.

Although not excluded in action research thinking, there is perhaps not enough emphasis on integrating the small with the large scale, and balancing thinking/conceptualising with the experiential. These tensions are perhaps addressed more explicitly with reference to complexity theory and systems thinking, and the integration of action research with these approaches is of growing interest (e.g. Burns 2007; Birney 2014).

Resource implications

Action research techniques can be slow and require not insignificant commitments to time. They also require careful ongoing deep reflection from both those leading the inquiries and the participants. Large quantities of rich data are often collected so as not to preselect what is of value, and to allow for multiple explorations and interpretations of those data. Action research requires a strong commitment to reflect on personal practice as a platform from which to engage in wider inquiries and can thus be arresting, challenging and life changing. It needs to be viewed as much as a change process as it does as an inquiry. In a positive sense this means there is no separation between the research phase and the implementation phase, which suggests a degree of efficiency of effort.

New directions

There are those who are keen to preserve the integrity of action research, with its core of first-person inquiry and the importance of 'holding inquirers to the fire' in terms of honest reflective practice, engagement with issues of power and the ethics of participation (Marshall 2016). This is of vital importance as it is beguiling to step too early into interpretation of collective inquiries and action without paying due attention to personal bias and lacunae and to the way change happens in the minutiae of processes.

For others, however, there is an interest in integrating action research practice more explicitly with theories of systemic change (Burns 2007; Boulton 2011; Birney 2014). In this way, more emphasis is placed on ways of thinking about and engaging with the wider context, the bigger picture, the structures and institutions that shape the wider world – so-called third-person action research. The question becomes: how can we influence and change the

wider social-economic-environmental systems of which we are a part? There are also links with ideas of deep democracy (Mindell 2002), deep ecology (Næss 1989), participative politics (Bookchin and Colau 2019), new economics (Bronk 2009) and new ways of living (e.g. eco-villages; Dawson 2006), all focused on goals of equality and sustainability, building on deep reflective practice and shared learning and empowerment. Extending action research in this way, better to address these pressing issues and widen the methods and approaches and framing, is an exciting development.

Equally, there is interest in how the overarching theoretical stance of action research, centred on a systemic, emergent and non-deterministic worldview, has been extended by more recent thinkers such as Freya Mathews (2003) and Donna Haraway (2016), and physicists such as Carlo Rovelli (2018), Basarab Nicolescu (2010) and Karen Barad (2007). These philosophers and scientists explore the nature of reality and bring to the fore the essential uncertainty and complexity at the heart of the fabric of the cosmos. Their work supports the need for approaches of inquiry that are subjective, pluralistic, adopt many ways of knowing and allow for uncertainty and emergence.

Case study 15.1: Low Carbon Works, UK

Low Carbon Works (Reason et al. 2009) (Figure 15.2) was a long-running action research programme undertaken by Professor Peter Reason, Gill Coleman, David Ballard, Michelle Williams, Margaret Gearty, Carole Bond, Chris Seeley and Esther



Figure 15.2 A seminal example of action research applied to SES (Reason and Bradbury 2001; Reason et al. 2009)

(Continued)

Maughan McLachlan at the University of Bath. With an increasing concern about climate change, the focus was on ‘What is it that encourages and inhibits the adoption of low carbon technologies by business and local authority organisations?’ The research assumptions were:

- The barriers to a low carbon economy are not primarily technological.
- Technological, economic and human factors are systemically interlinked.
- Significant human factors in enabling change include awareness of the issues, membership of a community of practice and a sense of agency.
- There are fleeting windows of opportunity for technological transformation.
- The barriers and enablers to significant transformation need to be understood at both micro- and macro-levels.

Six action research engagements were undertaken, including with Ginsters (a food manufacturing company), Holsworthy anaerobic digestion, Thurulie eco-factory (a Sri Lankan manufacturer of lingerie) and Southampton District Energy Scheme.

This process was not a full real-time cooperative inquiry (which can be difficult to set up with busy people in commercial organisations). The process of research consisted of ‘engaging intensively with organisation members both in their everyday meetings and through more formal interviews’ (Reason et al. 2009, 13). The researchers checked back with participants to ensure accuracy, and

then worked with the material, crafting an account which used many voices of those involved to present the story back to organisation members so they could engage with it together and draw from it the learning that was most important to them. We worked with them to explore and articulate key learning points, and then developed learning histories.

In this way, information gleaned from a variety of sources, including written material, could be combined and then presented back to stakeholders in a way that invited inquiry, discussion and reflection.

Learning histories are narratives, “‘jointly told tales” developed in close participation with local actors’ (Reason et al. 2009, 16). It is a process that seeks to bring together analysis and story in a way that has value for those originally involved and those seeking to learn from it. In each narrative, key moments and learnings are highlighted (via text boxes of distinctive colours) and quotes from actors and public documents are included. The narratives are presented from multiple perspectives, include pictures, maps and diagrams, and are not designed to reach unequivocal conclusions or show definitive pathways. They allow the reader to explore, compare, dialogue with their own inquiries and reach their own insights.

The research team viewed the narratives through the lens of a range of theories including the social construction of technology (Pinch and Bijker 1984), the socio-technical transition framework (Geels and Schot 2007), theories of power

(Lukes 2005) and relational practice (Bouwen and Taillieu 2004). The team then reflected on the overall experience with the Low Carbon Works research programme and drew together key learnings and key messages (Reason et al. 2009, 101). These include:

- The way people talk determines what they can see.
- The factors that lead to either innovation or ‘lock in’ are systemic and interdependent and include assumptions, worldviews, institutions, narratives, technology and economics.
- Building relationships is important.

A key conclusion was that because the process of transition is complex, ‘we need to find ways to help people to step into the messiness and complexity of action’ and ‘create their own action maps’. Participants who were successful in contributing to transition ‘were doing so by being in the thick of it’ – reflecting on what they were doing, building relationships, seizing opportunities, questioning their assumptions and recognising the patterns in which they were trapped (Reason et al. 2009, 103).

Key issues for policymakers and research funders included:

- Understanding the systemic nature of change
- Seeking and creating opportunities (when locked-in patterns become unstable)
- Supporting the flourishing of emergent niches
- Actively building coalitions and dialogue
- Spreading accounts of good practice

The work was highly successful in illuminating the complexity of each context and identifying how opportunities and barriers were in general multi-dimensional and synergistic and required the bringing together of the social, the economic and the technical. The immersion in the detailed narrative of each case study inhibited simplistic one-dimensional conclusions and yet still allowed the drawing of broader learnings as to what can support a move to a low-carbon future and what gets in the way.

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