



Towards Urban Sustainability Learning from the Design of a Programme for Multi-stakeholder Collaboration

Martin Westin, Alexander Hellquist and David O. Kronlid, Uppsala University, Sweden;
and John Colvin, Open University, United Kingdom,

Abstract

Owing to rapid urbanisation, cities are becoming a key locus for making sense of, and influencing, social and technological development. Urban sustainability is high on the research as well as on the development agenda. The complexity of modern cities often defies conventional governance mechanisms to promote sustainability, such as regulation, information and economic incentives. This has prompted a growing interest in innovative approaches based on collaborative learning in diverse groups of stakeholders in pursuit of sustainability. In this article, we wish to contribute to, and advance, the research and practice regarding urban sustainability by exploring the experiences of designing and facilitating a programme for multistakeholder collaboration, trust-building and concerted action in six cities in Europe, southern Africa and Southeast Asia. We apply an action research method called 'learning history' to understand the learning processes in the design and facilitation team and in two multistakeholder groups in Makana in South Africa and Malmö in Sweden. The findings illustrate how collaborative learning theory and systems thinking framed useful praxis for facilitating rich learning processes in these three teams. The article is presented in four sections: Section 1 provides the introduction and orientation; Section 2 provides a process description of the design of the SUS Programme; Section 3 provides learning histories; and Section 4 provides reflexive engagement on these.

Section 1: Introduction and Orientation

In 2010, the Swedish International Center of Education for Sustainable Development (SWEDESD) initiated the design of a programme intended to enable multistakeholder collaboration, learning, and concerted action in a number of cities in Africa, Asia and Europe. The intention was to contribute to, and advance, research and practice regarding urban sustainability. This article aims to explore the experiences of designing the *Supporting Urban Sustainability (SUS) Programme* (see also Bharti & Bansal, this volume). The intention is both to deepen the learning within the design and facilitation team¹ and to make the thinking, experimentation and arguments of the team available to others to critique, debate and potentially learn from.

The SUS Programme, which is ongoing, seeks to engage with two key global dynamics, the first being concerned with accelerating urbanisation (UN-HABITAT, 2012) and the second with the recognition that human activities have crossed, or are about to cross, critical ecological boundaries of the planet (e.g. Rockström, Steffen, Noone, Richardson, Crutzen & Foley,

2009). Cities have always been at the forefront of new ideas, new applications of technologies, new cultural movements, and social change. They can be understood to constitute significant nodes within networks for disseminating innovations (Snyder & Wenger, 2004). In parallel, in an urbanised world, cities are facing a number of interconnected crises ranging from loss of ecosystem services, to climate change impacts, to growing inequalities and financial instabilities (UN-HABITAT, 2012).

During the design of the SUS Programme, the design and facilitation team drew a boundary around a specific set of complex situations in urban development within which the SUS Programme might make a difference. The nature of these situations has been described as *wicked* due to their complexity (Rittel & Webber, 1973; Ritchey, 2007; Ison, 2010). Wicked situations are characterised by: uneven power relations involving a diversity of stakeholders, often from a multitude of sectors and comprising diverging interests; and complex causal inter-actions that are emergent, and difficult to determine or control. Confronted with such situations, stakeholders are seeking to deal with issues that may be difficult to define, are contested and ever-changing. To add to the complexity, the understanding of the nature, causes and solutions of problems in wicked situations varies among stakeholders (e.g. Rittel & Webber, 1973; Ison, 2010).

It has been argued that transformation of wicked situations defies simple policy solutions. Instead, comprehensive and context-specific approaches are needed where stakeholders build trust, as well as apply various forms of knowledge and ways of knowing, to jointly deconstruct and reframe their understanding of the situation and of the solutions needed. Under enabling conditions, this kind of *collaborative learning* can potentially lead to shared understanding of the situation and to shared ownership of concerted action among stakeholders and gradually transform the situation (SLIM, 2004; Verweij & Thompson, 2006; Steyaert & Jiggins, 2007; Ison, 2010). However, other experiences demonstrate the difficulties of getting such multistakeholder learning off the ground (e.g. Duit, Hall, Mikusinski & Angelstam, 2009, in Andersson, 2009:342; Scott & Gough, 2003). This article draws on *and* contributes to the growing literature on multistakeholder collaboration in complex sustainable development situations (e.g. Ison, 2010; Blackmore, 2010; Wals, 2007; Ison, Collins, Colvin, Jiggins, Roggero, Seddaiu, Steyaert, Toderi & Zanolli, 2011; Wei, Ison, Colvin & Collins, 2012), while also extending it into a new space, namely that of urban sustainability. Against this backdrop, the inquiry guiding this article is: *How can a programme be designed so as to enable multistakeholder collaboration, learning, and concerted actions towards urban sustainability?* In this article, we reflect on this inquiry through the lenses of three interconnected learning processes within the broader SUS Programme: learning within the design and facilitation team, and learning within each of the two multistakeholder teams in Makana in South Africa and Malmö in Sweden.

Theoretical framework

Action research cycles

From the outset of the SUS Programme, the design and facilitation team sought to be reflexive and to inform their practice by way of theory. In doing so, they wanted to engage in what is sometimes referred to as *praxis*. Freire (1970:51) defines *praxis* as 'reflection and action upon

the world in order to transform it'. It has been argued that action research is well placed both ideologically and practically to help develop effective praxis. This is because the researcher as an explicit (co-learning) subject in the research process contributes with research-based (or evidence-based) knowledge and experience to the transformation process. Action research also confronts the challenge of creating knowledge that is useful to people in the everyday conduct of their lives, that is, action research values knowing-in-action (Reason & Bradbury, 2008). The core process of action research involves cyclical iteration between reflecting and planning, experimenting with new and different forms of action, noticing what happens, and reflecting again (e.g. Reason, Coleman, Ballard, Williams, Gearty, Bond, Seeley & McLachlan, 2009; Reason & Bradbury, 2008). This cyclical rhythm of action research structured the work of the design and facilitation team and, later on, the city-based multistakeholder collaborations.

Although action research brings systematic discipline to people's actions and can help to develop good praxis, development and research processes cannot be predefined in detail, because they deal with the messiness of everyday life. Our worlds don't stand still as we engage with them, so our work emerges over time as those involved learn more about the issues at hand, try out new ways of acting, develop relationships, and gain confidence in their exploration (Reason *et al.*, 2009). As the design and facilitation team went through action research cycles, it gradually developed an emerging theoretical framework. Below is a brief description of two of the key concepts, *collaborative learning* and *systems thinking*, which will serve as a theoretical framework for this article.

Collaborative learning and systems thinking

Drawing on the literature on experiential learning, social learning, inquiry-based learning, organisational learning and transformative learning (e.g. Kolb, 1983; Wals, Van der Hoeven & Blanken, 2009; Loeber, Van Mierlo, Grin & Leeuwis, 2007; Collins & Ison, 2009; Argyris & Schön, 1996; Torbert, 2004; Taylor, 2007; Preece, 2003), the design and facilitation team chose to use the term *collaborative learning* to describe their developing, shared understandings of learning theory and praxis. Specifically, the design team came to use 'collaborative learning' to refer to an understanding of learning that emerges through interactions in which stakeholders with initially divergent norms, values and constructions of reality, over time progressively build trust, co-create shared knowledge and engage in concerted action. This is coherent with assumptions about learning in transformative learning research in which 'learning is understood as the process of using a prior interpretation to construe a new or revised interpretation of the meaning of one's experience in order to guide future action' (Mezirow, 1996:162). Accordingly, collaborative learning can be described as emerging through a dialogic and action-based process in which stakeholders try to achieve an inclusive, systemic and shared understanding of a given set of policy and practice issues and of how to manage them in an ongoing, adaptive manner. It can also be argued that collaborative learning offers possibilities to orchestrate effective performances as part of the adaptive governance of common resources (Collins & Ison, 2009; Blackmore, 2010).

Scholars (e.g. Schön, 1983) have stressed the importance of values and beliefs for understanding learning processes. These scholars claim that, as actors engage in 'reflection-in-action' (Schön, 1983:54), cognition cannot be separated from values and beliefs, nor can

cognition be separated from action. Central to Schön's work is the idea that people act on the basis of what he calls 'theories-in-use', that is, a mental map of theoretical, normative and empirical considerations applied to solve a problem. Schön views learning as the process of reviewing such a map in the light of crisis and surprise. Unexpected misfits between the specificities of the problem situation and the theory-in-use may lead an individual to change the theories, beliefs and values that underlie his or her actions. It has been argued that the more complex a certain situation, the more learning becomes a question of sense-making or negotiation of meaning in groups, that is, collaborative learning (Wals *et al.*, 2009). The process of deconstruction of the ideas, conceptions and assumptions stakeholders have previously held and the embracement of new ways of understanding constitute a key process in collaborative learning, often referred to as 'reframing' (e.g. Wals, 2007).

Wals *et al.* (2009:28) argue that *dissonance* is an important prerequisite for collaborative learning. They ask: 'How can the dissonance created by introducing new knowledge, alternative values and ways of looking at the world become a stimulating force for learning, creativity and change?' They claim that the conflicts in a collaborating group and their underlying sources need to be explicated rather than concealed, since:

...[by] explicating and deconstructing the oftentimes diverging norms, values, interests and constructions of reality people bring to a sustainability challenge, it not only becomes possible to analyse and understand their roots and their persistence, but also to begin a collaborative change process in which the kind of shared meanings and joint actions emerge that will ultimately help create a more sustainable world.

The concepts of single-, double- and triple-loop learning are relevant for the aim of this article, since they describe different levels of intensity and scope of learning. Pahl-Wostl (2009, drawing on Bateson's 1972 original work) has synthesised the work around these concepts. She claims that single-loop learning refers to a refinement of actions in order to improve performance without changing guiding assumptions and calling into question established routines. Incremental changes in established practice and action aimed at improving the achievement of goals might be results of this kind of learning. Double-loop learning refers to a change in the frame of reference and the calling into question of guiding assumptions. This implies reflection on goals and problem-framing, and assumptions of how goals can be achieved. Triple-loop learning refers to a transformation of the structural context and factors that determine the frame of reference. This kind of societal learning refers to transitions of the whole regime, for example a change in regulatory frameworks (Pahl-Wostl, 2009:358–359).

In research on learning there is a strong emphasis on the need to contextualise the research design so as to grasp the specific historical, cultural, political, environmental, economic and spatial conditions for learning (e.g. Blackmore, 2010). For contextualising the SUS Programme, we drew on systems thinking (e.g. Checkland & Poulter, 2006; Blackmore, 2010) for understanding the context of the participating cities as a basis for the design and facilitation of collaborative-learning processes. *Systems thinking* (e.g. Checkland & Poulter, 2006; Ison, 2010; Blackmore, 2010) developed during the 20th century as a critique of reductionist thinking.

In reductionism, it is argued that knowledge and understanding are generated by breaking phenomena down into their constituent parts and then studying these simple elements in terms of cause and effect. In systems thinking, the belief is that the world is best understood systemically. This means that phenomena are understood to be emerging properties of an interrelated whole. With systems thinking, it is argued that meaningful, valid knowledge and understanding come from building up whole pictures of phenomena, including how these phenomena interrelate, and not by breaking them down into parts (Flood, 2008). As regards the aim of this article, it is important to distinguish hard from soft systems thinking. According to Checkland and Poulter (e.g. 2006), hard systems thinking advocates an approach to systems as having, from the human perspective, an independent standing in the world. Crudely speaking, this suggests an ontological and epistemological realism according to which the world is accessible, that is, knowable, as relevant information not subject to knowledge systems, interpretations or language in use. In contrast, soft systems thinking suggests that it is the social construction of the world that is systemic (e.g. Flood, 2006; Checkland & Poulter, 2006).

Methodology

In describing and understanding the work of the design and facilitation team and of the two selected multistakeholder groups in Makana in South Africa and Malmö in Sweden, an action research method called *learning history* is applied in this article (see Reason *et al.*, 2009; Gearty, 2008). This method has been selected for exploratory reasons, because it carries the potential for deepening the learning in innovative groups and for supporting the diffusion of learning to other groups and organisations (Roth & Bradbury, 2008; Gearty, 2008). It seems to be well suited to studying systems thinking and collaborative learning in the context of wicked situations. Crucially, as the name suggests, a learning history is a story-based approach. By including the messiness of human endeavour, the potential for learning from others' experiences and contexts is retained. Roth and Kleiner (1998) suggest that the potential for learning in any situation is increased if one has access to the thinking, experimentation and arguments of those who have encountered a similar situation. They propose using learning history as a way of getting beyond distilled best-practice guides that imply change as a linear sequence of carefully executed causes and effects. As research on transformative learning suggests, the making of meaning, or learning, involves an aspect of 'opening that leaves us unable to seek firm grounds, to find legitimation for our actions and our practices'; hence the learning-history method may help us capture the sudden, non-linear and 'in some ways unpredictable' change of forms in transformative learning processes (Steinnes, 2004:270). The voices of those involved are included as direct quotes in the learning histories. This keeps the narrative close to the original experience and brings it to life for the reader, increasing his or her learning potential. In the histories, the researchers reflect and comment on the narrative, note themes and make links to theory (Bartunek & Louise, 1996). As with other forms of action research, knowledge based on rational argument and analysis is combined with other kinds of presentational knowing such as art, poetry or story. The result is intended to be an accessible, engaging account that works on multiple levels. According to the readers' interests, situation and indeed preferred mode of working, they can concentrate on the elements of the account that may seem relevant, while ignoring others (Gearty, 2008).

As with all methods, there are traps when applying learning history, including the risk of telling stories in which protagonists behave in idealised ways (Snowden, 2001). Another trap is that of the heroic victory narrative in which a myth arises around one person in the account, thus excluding the possibility for any non-hero to do anything similar (Gearty, 2008). A third trap is what Snowden has called 'retrospective coherence', that is, when a story is told in which all actions seem to have been mindfully taken in the service of achieving a carefully designed process towards a desirable end. When this happens, chance, luck and serendipity are not acknowledged and everything reverts to the logical view of change as a sequence of well-planned and controllable steps (Snowden, 2004, in Gearty, 2008:86). That rarely corresponds with the messiness of human endeavour.

An important basis for the narrative methodology in this article is the distinction between first- (for me), second- (for us) and third-person (for them) research developed by Reason and Bradbury (e.g. 2008). This distinction has been applied by researchers to create a framework in order to ensure the methodological rigour of action research endeavours (e.g. Reason & Bradbury, 2008). In this article, one of the authors (Martin Westin) engages in first-person research, seeking to understand his learning process when designing the SUS Programme. Martin's learning history, presented in Section 2, describes his experiences of the design process. Furthermore, the authors of this article engage in *second-person* research alongside the participants in the SUS Programme in the two selected cities: Makana in South Africa and Malmö in Sweden. The learning histories that have been elicited through interactions between the researchers and these two multistakeholder groups are presented in Section 3. Additionally, in Section 4, the authors of the article engage in *third-person* research by seeking to link the learning histories to the theoretical framework presented above, and to articulate lessons learnt regarding future design of multistakeholder collaboration, learning and concerted action towards urban sustainability.

The data in this article has been collected mainly through two processes: (a) as an integral part of the action research cycles during the design and facilitation of the programme; and (b) through interaction among the researchers and the multi-stakeholder groups in Makana and Malmö in 2012 after the first set of learning activities in the SUS Programme. In the first phase of research, the lead researcher (Martin Westin) worked with data generated during the Programme and originating from: planning documents; concept papers; educational tools; the programme learning management system; journal writing and records from city team discussions and the seven workshops during the programme process in 2011; strategic inquiry plans; personal learning journals; the cities' contributions to the programme web platform; and the learning history which each city team developed jointly. The lead researcher developed stories, and identified themes, patterns and links to theory on the basis of this data set. This resulted in three learning histories: (a) about the design process (Section 2); (b) about the process in Makana (Section 3); and (c) about the process in Malmö (also in Section 3).

In the second phase of the research process, the lead researcher shared the histories with the co-researchers, the design and facilitation team, and the multistakeholder teams in Makana and Malmö. The design and facilitation team and the city teams then read through the histories and made comments and suggested changes. In the next step of the process, the lead researcher,

together with the co-researchers, compiled the final versions of the histories. In terms of third-person research, three of the researchers (Martin Westin, Alexander Hellquist and John Colvin) had been part of the design and facilitation team, while the fourth researcher (David O. Kronlid) entered into the research process when the histories had been elicited. The third-person research took shape through a dialogical process in which the researchers blended their experiences and perspectives in order to draw out the lessons learnt for future design and facilitation of collaborative learning towards urban sustainability.

Following this introductory section, we present the learning history about the design process of the SUS Programme in Section 2. Thereafter, in Section 3, the learning histories about the work done at Makana and Malmö towards urban sustainability, are presented. In the concluding section, Section 4, the histories are linked to the theoretical framework and lessons learnt are articulated.

Section 2: Designing the SUS Programme

The initial design of what would later become the SUS Programme started in April 2010. In this section, I² chose to focus on the formative sequence of events in the design process during the period April to December 2010. I joined the SWEDESD team after agreeing with the Director and Scientific Leader to lead the development of a programme on ‘Sustainable Cities’. At this stage, I had worked with educational development at the Swedish International Development Cooperation Agency (SIDA) for about three years. SWEDESD was by then a recently established centre, within the sphere of Swedish development cooperation, charged with the mission of contributing to capacity development in the field of education for sustainable development (ESD). The Centre was to collaborate with organisations in countries where Sweden is engaged in development cooperation. Together with the SWEDESD Director and the Scientific Leader, I worked out an initial framing of the programme and laid down a process for continuing framing and development. We wanted to assign quite some time to openly exploring ways in which this programme could contribute to urban sustainability, given SWEDESD’s profile and strengths. The first project plan covering the period April 2010 to April 2011 had the aim of developing the framework of the programme. It included consultations and communications, building partnerships, drawing up a research proposal, arranging two ‘expert seminars’, and developing the programme outline. During the first couple of months, I met with key professionals, attended seminars and conferences, and had frequent discussions with the SWEDESD team. It was an intensive period with much discussion of our original framing.

By August 2010, the organisational structures for the design had been established in the form of a partnership of seven organisations under the leadership of SWEDESD³, a design and facilitation team backed up by the Director and the staff of SWEDESD, and an independent consultant (John Colvin). New relationships had been formed and old ones had been deepened. These relationships influenced the design process greatly. A mail from me to John illustrates how the new relationships inspired me:

Wow! I have spent a couple of hours to start looking into the material you shared with

me and it is so relevant for my and our work! The entry points are so many that I hardly know where to start. Anyhow it is very clear to me that it would be great to have you on board as a dialogue friend during the development of our programme. (Martin to John in a mail in June 2010)

The individuals brought in their experiences, interests and habits into the process. This introduced new momentum as well as tensions. An intensive process to lay down the structure and content of the programme started with a view to inviting participants from cities in Africa, Asia and Europe towards the end of the year. Gradually, the tensions between design principles, theoretical traditions and narratives started to surface. These tensions also affected the dynamics among the people involved in the design. At this point, we had formulated the main characteristics of the programme in a draft announcement intended to be advertised as a means to invite participants. Here, we said that the programme would contribute to capacity development in urban settings by facilitating individual learning revolving round 'a sustainability project'. However, this initial framing met with resistance and a period of reframing was about to commence. In October 2010, a workshop was organised to establish relations with a group of experts in collaborative learning, thereby enabling inputs on the continued design of the programme. These experts provided inputs on the design of the programme, including the development of knowledge resources, ways of recruiting participants, and building a community of practice among the participants. Their strong recommendation was to apply design principles such as action orientation, iteration, participation, context sensitivity, co-evolution and reflexivity.

The workshop left me with the realisation that we needed to strike a balance between what we were comfortable with and what was needed in order to make a difference. How could the more common way of fully pre-specifying the structure and content of the programme and subsequent implementation be reconciled with the iterative and context-specific approach catering for the needs of each city, as suggested by the experts? As one of the team members said during the reflections after the workshop 'It [the workshop] brought our planning into disarray!'

After the workshop, I realised that we needed to reframe the programme design based on our learning. The SWEDESD team held an internal workshop facilitated by John as our independent consultant. The objectives of this workshop were to undertake more detailed design and planning for the 2011 programme and to contribute to team development, including a better understanding of our roles and responsibilities. We also wanted to support our individual learning and competencies, including programme design and facilitation. During the workshop, we experienced differentiation and tensions in the team in relation to the balance between open-ended, explorative engagement and linear, fixed planning. For example, a team member advocating linear, fixed planning said 'It is still not clear what we are selling', while a team member who argued for a more iterative design said: 'This kind of adaptive and iterative programme is more difficult to work with but this approach is needed if we are to practise what we preach.' I was concerned and wrote in my journal: 'Tensions in the team about what kind of programme we are developing. How can we move our positions?'

After the workshop, John and I decided to draft three alternative generic designs of the programme, the purpose of which was to enable an informed choice of direction based on our learning thus far. The three alternative designs were chosen to illustrate how the choice of the underlying theory influences the design, structure, methods and content of the programme. In this, we drew heavily on systems thinking, especially the distinction between hard and soft systems thinking (see Section 1). These traditions gave us a language for thinking around and discussing the choices facing us. Design Alternative 1 was framed as an open iterative learning process with emerging structure (in line with soft systems thinking), while Design Alternative 2 was framed as a linear sequence where ends and means were formulated at the start of the programme (in line with hard systems thinking). Design Alternative 3 was framed as a mix between soft and hard systems thinking, allowing some design elements to be linear and defined in advance, while space was also provided for iterative exploration and emerging structure.

We agreed to carry on designing the programme according to the third design alternative, thus striking a balance between a soft and hard systems perspective on design. This middle way was also seen as a way of drawing on the expertise in the SWEDESD team, which was unlikely to be fully utilised with a clear soft systems approach.

Table 1. Original framing as compared with reframing

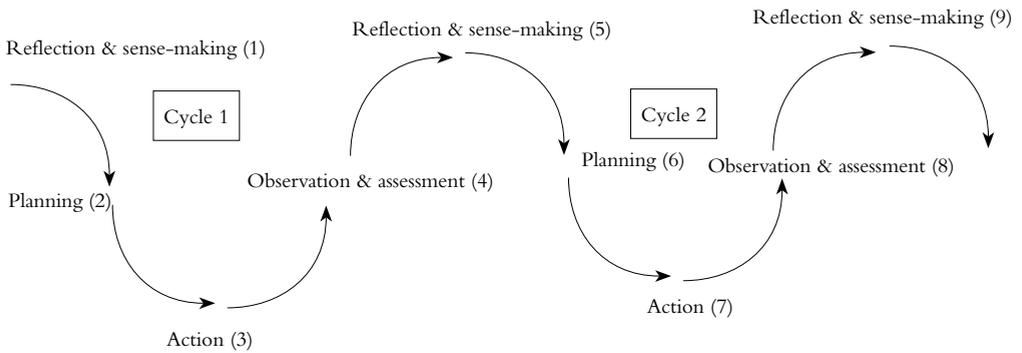
	Original framing	Reframing
Objectives	Capacity development	Capacity development
Impact	Sustainable poverty alleviation	Sustainable poverty alleviation
Participants	Individual decision-makers	Teams of urban stakeholders
Main focus	Sustainability project	Strategic inquiry
Learning structure	Not clearly articulated	Learning cycles
Selection process	Open call for applications	Dialogue with urban organisations
Underlying theory	Not clearly articulated and discussed	Mix of hard and soft systems, as well as collaborative learning

When looking at the differences between our original framing before the workshop in October and the subsequent reframing, it appears that the objectives and intended impact remained the same, while the means to reach the objectives and impact changed. The reframing meant that we placed increased emphasis on collaborative learning, and this led to shifting the choice of participants from individuals to teams of stakeholders. With the reframing, the main focus of the programme changed from a ‘sustainability project’ to a ‘strategic inquiry’. This reframing was inspired by the critique of ‘projectification’ (e.g. Ison, 2010). We thought that using the term ‘project’ and the underlying practice tradition might make it difficult to contribute to ongoing work in the cities and that we would run the risk of creating ‘islands of development’ which would disappear when our outside support was withdrawn. Instead, we moved away from our habits and comfort zones and chose the term ‘strategic inquiry’ as the pedagogical focus of the programme. Here, we draw on the tradition of action research based on inquiry (e.g. Torbert, 2004). The word ‘strategic’ was chosen to emphasise the city-wide nature of the stakeholder

collaboration and was also meant to imply action. We assessed that the strategic inquiry approach would make it easier to integrate the SUS Programme into current activities in the participating cities, while reframing and adding new value to the ongoing processes. The open-endedness of the inquiry process is intended to facilitate collaborative learning and to allow for joint action in shorter cycles of planning, action and reflection.

The reframing also led us to a more clearly articulated structure for the participants' learning. We decided to invite the participants to go through experiential learning cycles so as to pursue their inquiries. The cyclical learning process we designed for the participants is visualised in Figure 1.

Figure 1. Pursuing a strategic inquiry through learning cycles



Our application of experiential learning theory was based on the idea of cycles of: (a) reflection and sense-making; (b) planning; (c) action; and (d) observation and assessment. Participants' learning would be driven by reflection on experience in order to identify how a situation or future actions could be improved, and then using the knowledge to actually make improvements. Applying lessons learnt to future actions then provides the basis for another cycle of learning (Kolb, 1983).

The learning and reframing in the design and facilitation team additionally resulted in changes in the process by which we engaged with and selected participants from our partner cities. In the original framing, it had been foreseen that we would go out with an open call for individual applications, while the reframing laid down a dialogical process with city representatives to identify multi-stakeholder groups who would be invited to join the programme. This change was a logical implication of the shift from individual to collaborative learning.

Before the reframing, the design and facilitation team and I had not clearly articulated or discussed our theoretical standpoints. During the formative phase linked to the October workshop, we drafted the three alternative designs. This enabled us to articulate our theoretical assumptions in the language of soft and hard systems and collaborative learning theory (see section one).

Section 3: Towards Urban Sustainability in Makana and Malmö

In this section, we describe the cycles of action and reflection in Makana and Malmö during the SUS Programme. We focus on the first year of the SUS Programme, 2011, when the teams went through the same rhythm of learning cycles over three phases: an engagement period, a development period, and a formative evaluation period.

Makana: Urban agriculture and empowerment

Through established relations with Rhodes University, Grahamstown, South Africa, SWEDESD initiated a dialogue with Makana Municipality (which includes the city of Grahamstown) on an engagement in the SUS Programme. An exploratory mission from SWEDESD to Makana early in 2011 resulted in a joint commitment to the SUS Programme. Following a stakeholder mapping in the city, a team consisting of a variety of players from the public sector and civil society was selected to join the programme. The anticipated work revolved around an ongoing, pro-poor, green economy scheme focusing on urban agriculture and economic opportunity for people living in poverty in Makana.

At an initial ‘engagement’ workshop (which also included teams from Mangaung in South Africa and Arusha in Tanzania), the Makana city team identified two potential situations which could form the basis for its strategic inquiry: (a) restoring a culture of agriculture for the benefit of the poor in Makana Municipality; and (b) education and training programmes in healthy living for people living with HIV/AIDS and other chronic diseases within Makana. During further elaboration of this inquiry, the Makana team decided to combine the two previous options and to develop an inquiry which would look at various ways of bringing ‘culture back into agriculture’ and of ‘supporting healthy lifestyles’, particularly for people suffering from HIV/AIDS, using land for pilot projects related to organic urban farming, tree plantations, medicinal plants, etcetera. Poverty alleviation and reduced pressure on planetary boundaries would be key objectives of its inquiry. This was summarised in the following strategic inquiry: *How can we restore a culture of agriculture for the benefit of the poor in Makana Municipality?*

Initial actions, following the engagement workshop, included identification of relevant stakeholders, workshops to elaborate on the inquiry, and activities to anchor their work in the city administration. During the residential period in Sweden, which took place two months after the initial engagement workshop, the Makana team worked intensively to shape its inquiry further, with a special focus on how to broaden and strengthen stakeholding. Broader ownership of the team’s inquiry was needed to increase the potential for city-wide effects of its work. Links between ecosystem services and people living in poverty were identified, through a participatory mapping method, and action plans were made.

In the next development phase of the team’s work, starting in September 2011, land was secured and cultivated; buildings and equipment were put in place; workshops were held; and home gardens were established and further cultivated. The team sought to contribute to reorientation of agricultural systems towards modes of production that are highly productive, highly sustainable and contribute to the progressive realisation of the human right to adequate food. It paid special attention to establishing forms of decision-making based on

consultative processes involving a broad range of stakeholders, including non-literate and highly marginalised sectors of society. The style of consultation drew on Xhosa traditions of grassroots democratic practice.

At a review workshop in November 2011, the team reframed its strategic inquiry based on its learning during the initial stages of the SUS Programme. Its new strategic inquiry became: *how can we create sustainable, diverse livelihood nodes making green economy and food production feasible?* This new phrasing marked an increased interest on the part of the team, and of the larger stakeholder group, in scaling up and enabling sustainable business models to be developed out of its initial achievements. A quotation from a Makana participant illustrates the importance the team placed on the collaborative process: 'One thing we learnt is that we have grown a lot together as a group. I am very happy with this'.

Malmö: Reconnecting urban and rural

During the early stages of programme design, SWEDESSED initiated a dialogue with the city of Malmö. This initial contact revealed a sense of common purpose and common understanding of the importance of creating enabling conditions for collaborative learning among stakeholders in pursuit of urban sustainability. During the period June to November 2010, a series of meetings took place to explore possibilities for collaboration. The dialogue involved top-level politicians, senior decision-makers in the municipal administration, leaders from civil society, and representatives from academia. Following a decision by these Malmö stakeholders to engage with the SUS Programme, the subsequent dialogue during the period November 2010 to April 2011 focused on identifying ongoing processes in Malmö which might be supported or reinforced by the SUS Programme and on establishing a suitable city team with participants from various organisations in Malmö.

Initial probing by decision-makers in Malmö led to a focus on how Malmö could grow inwards while preserving green areas. This framing included a conflict between, on the one hand, a will to attract new citizens and grow on one side and, on the other, to prevent urban sprawl threatening the rich agricultural land bordering Malmö. Based on this focus, a team gradually formed consisting of a mix of the political levels, civil society and decision-makers in the municipal administration. In addition, an influential group of senior decision-makers in the city was formed to back up the core team throughout the process.

The Malmö team was reflexive throughout the SUS Programme. It engaged intensively in mutual deliberation in order to develop the focus and boundaries of its strategic inquiry. When the team started its collaboration at the engagement workshop in April, a first reframing was deliberated when it changed its focus from the original framing on 'the green and dense city'. Instead, it focused on a shared concern around the trend of unsustainable production/consumption in Malmö, reflected in an increasing ecological footprint – and the failure of critical thinking and of questioning consumption. It agreed to pursue the following inquiry: *How do we work together to address the needs of the citizens of Malmö within a sustainable global footprint, while improving local ecosystem services?* The team also shared a concern about the growing inequalities among citizens of Malmö. Initial activities by the team, after the first engagement workshop, included involving more stakeholders, learning from existing data, exploring

possibilities of integrating its inquiry with existing city programmes, and identifying tools such as eco-budgeting for assessing the value of ecosystem services. The team discussions were intensive and it questioned and reframed its original understandings, as illustrated in this quotation from a team member: 'Do we want to tackle an easy issue or the real problem? Sometimes the goal is not everything, sometimes the road is important. What if we would open up a discussion with a wider group of people and by that dialogue get what it is we should focus on?'

Before and during the residential period in June 2011, the team started to sharpen and reframe its inquiry again. Gradually, community gardening came into focus and links between urban and rural Malmö became more important. After working intensively and through a series of rephrasings, the Malmö team agreed on the following strategic inquiry: *How to recreate ecosystem services and enhance poverty alleviation which can be mediated through a core of active collaboration between rural and urban issues and stakeholders?* In parallel with shaping its inquiry, the team worked on its division of responsibility and roles.

Following the residential period, the Malmö team engaged in anchoring its ideas in members' respective organisations; exchanged ideas with stakeholders in Berlin on urban farming; organised a meeting between rural farmers and urban cultivators and growers; initiated a process on rural development; diffused its learning into city development plans; and organised a stakeholder meeting on urban agriculture.

Section 4: Links to Theory and Lessons Learnt

In this concluding section, we link the learning histories of Sections 2 and 3 to the theoretical framework described in Section 1, and we offer some of our lessons learnt to the reader. By doing so, we revisit the aim of this paper to: *explore the experiences of designing the Supporting Urban Sustainability Programme*. We start by reflecting on the learning histories through the lenses of systems thinking and collaborative-learning theory. At the end of this section, we summarise our experiences of designing and facilitating multistakeholder collaboration towards urban sustainability.

Exploring the learning histories

Hard and soft systems thinking

When we reflect on the learning histories of Sections 2 and 3, the distinction between hard and soft systems thinking helps us to understand how the implicit or explicit theoretical assumptions underlying a programme influence the approach, methodology, content and structure. A design based on hard systems thinking would view the development, implementation and evaluation of the SUS Programme as a linear process in which clear objectives, activities and expected outcomes are set at the start of the programme and are then gradually implemented by following the original plan. By contrast, soft systems thinking would view the design process as an ever-changing flux of situations in which ends and means are unclear, particularly at the front end of the process. Then the design of the SUS Programme would be defined as a cyclical process of dealing with complex situations, guided mainly by experience, reflexivity

and intuition. This would result in an open-ended and iterative approach to the design, where assumptions and directions are questioned and changed throughout the programme cycle.

In the learning history set out in Section 2, it was described how the design and facilitation team drew on the distinction between hard and soft systems thinking when drafting three alternative designs: Design 1 based on hard systems thinking; Design 2 based on soft systems thinking; and Design 3 with a mix of the two. Eventually, the design and facilitation team chose to pursue Design 3. This design recognised the complexity and messiness emphasised in soft system thinking, while allowing certain elements of the programme to be designed at the front end, according to hard systems thinking. The middle way between hard and soft systems thinking enabled the design and facilitation team to overcome the tensions among members around what kind of programme they wanted to develop. The hard and soft systems traditions gave them a language through which to discuss their differences and agree on the path forward. By developing three alternative designs, the team managed to produce a narrative which enabled it to find a middle way acceptable for the whole design and facilitation team. This design was also seen as the most effective way of utilising the capabilities in the partnership around the SUS Programme. It reminds us of a specific way of understanding the goal of inquiry as indicated by Rorty (1999:25):

We cannot regard truth as a goal of inquiry. The purpose of inquiry is to achieve agreement among human beings about what to do, to bring consensus on the end to be achieved and the means to be used to achieve those ends. Inquiry that does not achieve co-ordination of behaviour is not inquiry but simply wordplay.

Collaborative-learning theory

Drawing on our developing understanding of collaborative learning, we can view the processes described in the three learning histories as parallel learning cycles of action and reflection, guided by three interlinked inquiries (e.g. Torbert, 2004; Kolb, 1983). As we saw in the first learning history, the design and facilitation team came to understand its work in terms of an inquiry into how to develop its own *praxis*, focusing on how to develop skills, activities and tools which could effectively support and guide learning processes among multiple interdependent stakeholders. For the city teams in Makana and Malmö, their inquiries came to be shaped around a will to further urban agriculture and an ambition to strengthen the linkages between urban and rural areas. Reflecting on the learning histories, we can see that structuring the process as learning cycles seems to have resulted in open, systematic and iterative processes which allowed the teams to collaborate, build trust, and act based on a shared purpose. This was evident in the Makana team when it intensively engaged in actions to further develop its urban agriculture scheme, and in the Malmö team when it jointly engaged with a wider group of urban and rural stakeholder to further its inquiry.

Through collaborative-learning theory, we have also identified that the process of *reframing* became central to the stakeholder collaboration in the three teams. Several instances of reframing are described in the learning histories. The lead researcher describes how the inputs of the expert workshop prompted a process of questioning his original understanding and

gradually reframing the programme design. Additionally, the learning history of the Malmö team described how the team reframed its inquiry at several stages during the programme. It started with the move from ‘the green and dense city’ to unsustainable production and consumption, which was followed by a gradual shift to a focus on urban agriculture and the links between the urban and rural areas. In Makana, we saw how the team started with two inquiries, on urban agriculture and on healthy living, which subsequently collapsed into one inquiry. As its learning cycles progressed, the team converged on a reframing during the later stages of the 2011 programme, focusing more on sustainable livelihoods.

We have observed that an important part of the reframing process, for example the deconstruction and reconstruction of the framing of the inquiry situation in Malmö and the lead researcher’s reframing of his original understanding of learning design, was metareflection in order to become aware of one’s own frames (Wals & Heyman, 2004). This coheres with Schön’s (e.g. 1983) writing about learning as the process of reviewing *theories-in-use* in the light of *crises* and *surprises*. Unexpected events and unexpected mismatches between the theories-in-use and the inquiry situations led to a questioning of the original understanding and to gradual adjustments of the theories-in-use.

When looking at the intensity and scope of the learning described in the histories, we can see that there are examples of both single- and double-loop learning (see Section 1).⁴ When the lead researcher learnt to apply hard and soft systems thinking, it opened up new possibilities for his praxis. The action to draft three alternative designs to facilitate a dialogue in the team on the directions to take can be understood as an example of praxis based on double-loop learning. As we saw in the learning history, the dialogue on the three alternative designs enabled the design and facilitation team to utilise its dissonance and find a joint way forward. A sequence of events in the learning history of Malmö can also be explored through the lenses of single- and double-loop learning. Through its learning cycles, the Malmö team gradually increased its understanding of how to involve a wider group of stakeholders in its work. At the first engagement workshop, the team intensively discussed how to organise its joint work. Ideas ranged from establishing clear SMART (Specific, Measurable, Attainable, Relevant and Time-bound) objectives, in line with hard systems thinking, to keeping the inquiry process open and inviting others to co-construct knowledge, in line with soft systems thinking. Through the subsequent learning cycles, the team explored this tension further and eventually opted for arranging a rather open-ended workshop with a wider group to jointly explore possibilities for collaboration between urban and rural stakeholders. To a certain extent, this action can be understood as originating from double-loop learning, since it opened up new avenues for the team’s praxis.

Conclusion

In this article, we have shown how hard and soft systems thinking, action research traditions and collaborative-learning theory helped us to explore the design and early development of the SUS Programme. As we now reflect on our experiences of this process, we would like to summarise and draw out some lessons learnt with the potential to help us and others engaging in this field of praxis. In doing so, soft systems thinking helps us to refrain from suggesting an

either—or solution to designing collaborative learning programmes for urban sustainability. Rather, we would like to offer these conclusions in order to deepen our own learning of designing multi-stakeholder collaboration and to share this with others.

Action research helped us to develop our praxis

When reflecting on our experiences of engaging in action research, we can see that this research orientation helped us to develop our praxis. The shaping of a joint *inquiry* for the design and facilitation team provided us with a shared purpose, and the *cycles of action and reflection* gave us a structure to further our understanding of collaborative-learning design. The *learning-history method* helped us to deepen our own learning and enabled us to share this learning with others interested in this field of praxis. The distinction between *first-, second- and third-person research* enabled us to structure a research process where our experiences could be explored through a diversity of methods, including first- and second-person learning history and third-person research dialogue among the authors of this paper. Last, but not least, the action research tradition helped us to move away from our comfort zones and to trust emergence.

Systems thinking helped us to make design choices

Systems thinking was useful for us when we needed to work with the dissonance in the design and facilitation team regarding the balance between linear and open-ended design. Through the language of hard and soft systems thinking, we could clarify how our choice of underlying theory would influence the design. By making the implications of the choice explicit through drafting three alternative designs, we enabled a discussion in the design and facilitation team and reached an agreement on the way forward.

Collaborative-learning theory helped us design multi-stakeholder endeavours

When revisiting the programme design, we can see that collaborative-learning theory helped us to understand the relevance of bringing together a diversity of stakeholders to tackle the complexities of urban sustainability and (for the design and facilitation team) learning design – the rationale being that no single player can possess the knowledge and resources needed to tackle complex and contested urban situations. Drawing on collaborative learning theory, we also realised the importance of enabling learning in a multi-stakeholder context based on dissonance in terms of norms, values, knowledge traditions and interests. This directed our focus towards enabling deconstruction and reframing of the stakeholders' theories-in-use. It became equally important to design a process for building trust and developing shared purpose, and to overcome the risk of dissonance overload resulting in destructive conflicts.

Notes on the Contributors

Martin Westin, Alexander Hellquist and Dr David O. Kronlid are Programme Coordinators for Education and Sustainable Development issues at the Department of Education, Uppsala University.

Email: martin.westin@swedesd.uu.se; alexander.hellquist@swedesd.uu.se; david.kronlid@edu.uu.se.

Dr John Colvin is a director at Emerald Network Ltd as well as a visiting senior research fellow in the Applied Systems Thinking in Practice Group, Engineering & Innovation Department, The Open University, United Kingdom. Email: john.colvin@open.ac.uk.

Endnotes

1. The design and facilitation team was responsible for leading the development of the SUS Programme. It consisted of Martin Westin (Programme Coordinator), Alexander Hellquist (Programme Specialist), Shepherd Urenje (Programme Specialist) and Dr John Colvin (Independent Consultant). This group collaborated with a wider group of stakeholders, including members of the wider SWEDESD team and a partnership of organisations comprising Programme, the International Centre for Local Democracy, the World Wide Fund for Nature (WWF) (Sweden), Global Action Plan International and Stockholm Resilience Centre.
2. This learning history is told by Martin Westin, who coordinated the design of the SUS Programme.
3. The Swedish International Centre of Education for Sustainable Development (SWEDESD), the Centre for Environment Education (CEE) based in India, the Southern African Development Community's Regional Environmental Education Programme (SADC-REEP), the Stockholm Resilience Centre (SRC), the Swedish International Centre for Local Democracy (ICLD), Global Action Plan International (GAP Int'l) and the World Wide Fund for Nature (WWF).
4. To study triple-loop learning is beyond the scope of this article, since researching institutional change requires a longer time perspective.

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