

LEARNING ABOUT LEARNING AS SYSTEMIC PRACTICE IN THE CONTEXT OF ENVIRONMENTAL DECISION MAKING

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Abstract

This paper has been written as the author is beginning a new phase of researching learning, investigating what supports people in their environmental decision making. This process of inquiry has arisen partly as a result of the development and teaching of the UK Open University's Masters' level course *Environmental decision making – a systems approach*. The implications of approaching an inquiry with a view of 'learning as systemic practice' is considered, drawing on insights into practice, skilled behaviour and learning systems from Lave, Wenger, Schon, Varela, Ison and Russell, among others. The relevance of various action research approaches for learning about learning as systemic practice is discussed. The paper finishes by identifying and exploring three focuses, that seem both challenging and important to the author to take account of as the research progresses. They are the needs for (i) systemic praxis (ii) an awareness of distinctions made by those who participate in the process of inquiry and (iii) using an approach with an epistemological dimension.

Keywords: learning, systemic, practice, environment.

Systemic practice

Etienne Wenger in his book 'Communities of Practice' (Wenger, 1998) considered the way in which a particular group of people, who were claims processors in an American insurance company, did their jobs and worked together. In this context he described the concept of practice as "*connoting doing, but not just the doing in and of itself. It is doing in a historical and social context that gives structure and meaning to what we do. In this sense, practice is always social practice.*" This highly contextualised definition of practice I would describe not just as social practice but as *systemic* practice. Wenger himself in a later work (Wenger, 2000) seems to have given more thought to 'systems' and focused more on the broader social learning systems of communities of practice and organisations.

Donald Schon (1991) claimed that engineers encounter unique problems of design and are called upon to analyze failures of structures or materials under conditions which make it impossible to apply standard tests and measurements. He cited a private communication with Harvey Brooks in stating that "*The unique case calls for an art of practice which 'might be taught, if it were constant and known, but it is not constant.'*" This example too I read as an example of systemic practice because it acknowledges not only the relationship between practice and its environment but also its dynamic nature.

Systemic means literally 'of' or 'associated with' a system. Capra (1996) described systemic thinking as contextual thinking. I take systemic practice therefore to mean practice that is acknowledged as contextualised and will go on to say more about what I mean by it in the course of this paper. I deliberately refer to 'systemic' rather than 'systems' practice. The distinction I would make between the two (which is not necessarily one shared with my colleagues in the Open University Systems Discipline), is that systemic practice includes approaches that use systems ideas and techniques both implicitly and explicitly whereas

systems practice makes explicit use of systems ideas and techniques. I think it is a useful distinction purely because I think some may recognise their practice as systemic but not necessarily as systems. (Note, I do not dismiss 'systematic' (step-by-step) approaches in focusing on systemic practice. In most projects I have worked on recently with colleagues from the Open University's Systems Discipline we have advocated using *both* systemic *and* systematic thinking and action, recognising that systemic thinking often provides the context for systematic thinking and action.)

So, isn't all practice systemic or contextualised? Why the need for an adjective at all? In the sense that Wenger describes it practice *is* doing in a context that gives structure and meaning so all practice could be thought of as contextualised. But in my experience, particularly when thinking about learning associated with practice, it is not unusual to find practice considered as if it were independent of context. For instance, I have come across lists of largely content-based learning outcomes for university courses which claim to be for people who are involved in professional practice, yet these outcomes seem to take little account of students' contexts. As a practitioner in UK Higher Education, I often receive educational and training materials and notices of events, sent to me supposedly to help me in my practice but of little use to me because they make inaccurate assumptions about my social and historical context as a practitioner. Colleagues around me who are developing new ideas, facilities and technologies to support practice also get concerned about lack of 'take up'. Perhaps in some cases they too are not taking sufficient account of practitioners' contexts? Some experiential learning models that include the 'doing' of practice also focus on individuals out of any collective context, limiting their usefulness. I will come back to this later but mention it here as an example of where thinking about practice does not seem to be contextualised.

Would reminders of the systemic or contextualised nature of practice help in these situations? It is hard to tell. However, researchers such as Lave, Wenger and Chaiklin (Lave & Wenger 1991, Chaiklin & Lave 1993, Wenger 1998, 2000) do seem to have built up a deep appreciation of practice and the learning needs of many practitioners through taking account of their systems, boundaries and environments or contexts, that is to me, their systemic practice.

Learning as Practice

I have begun to link practice and learning and now want to make that link more explicit. My own context as a practitioner is relevant here. I am currently involved in a process of inquiry into what supports environmental decision making, a researching and learning process that has arisen partly through developing and teaching the Masters level course - *T860 Environmental decision making: a systems approach* - as part of an Open University course team (Open University 1997, Blackmore et al 1998, Blackmore and Morris, in press). The course is intended to help students include environmental considerations alongside others in their decision making and action. A course framework has been developed that seems, from students' experience of their project work to date, to have the potential to encourage students to use a systemic approach. Students' environmental decision-making situations range from waste management to transport planning to sustainable land use to development of environmental management systems in professional practice at local, national and international levels. These situations may be urban or rural, many are UK-based but some T860 students are located in other parts of Europe or Africa.

Initially I wanted to challenge my assumptions in relation to this course and other projects I was working on and to check with practitioners, some of them our students, what really supports them in their environmental decision making. I am in the process of doing empirical work in this area and a distinction that arose for me early on was whether I needed to focus on *learning* or on *practice*. Initially this seemed to me an important distinction in working out

the general parameters for our intended conversations. But I then came across an insight from Wenger that I found particularly helpful.

In developing his social theory of learning in 'Communities of Practice' Wenger found that *"...claims processors and managers rarely talk about the job as learning. They talk about change, new ideas, about performance levels, about the old days. The concept of learning is not absent from the claims processing office, but it is used mainly for trainees....One reason they do not think of their job as learning is that what they learn is their practice....What they learn is not a static subject matter but the very process of being engaged in, and participating in developing, an ongoing practice."*

Another insight I have found useful comes from Varela (1999) who in one of his lectures on ethical know-how argued that *"...philosophers and scientists who study the mind have grossly neglected skilled behaviour, which is immediate, central and pervasive, in favour of exploring deliberate, intentional analysis."* Varela's concept of skilled behaviour includes working, moving, talking, eating and responding to the needs of others. He commented on how much of our lives is spent on skilled behaviour rather than in deliberate intentional analysis. An example he gave, regarding what is involved, is 'seeing if you can help in the event of an accident.' His interpretation was that this sort of action does not spring from judgement and reasoning but from 'immediate coping'. 'In effect the situation brings forth the action from us.'

There are different ways of theorising skilled behaviour. For instance, others have written about bounded rationality or limited rationality in decision making and action, (Simon 1982, March 1982.) Claxton (2000) describes something similar – *"And we also know, in our day-to-day lives that many problems are not solved by earnest, rational discussion, or by drawing up a long list of pros and cons for different courses of action. Ideas and solutions often just 'pop into our heads', sometimes in the middle of doing something completely different."* A colleague who read a draft of this paper likened this notion to the type of reflection that Maturana talks about, the ongoing internal dialogue or conversation. It seems to me quite different from what Varela described as immediate coping behaviour as it is removed from the situation rather than brought forth in the moment, but it sounds equally spontaneous.

I began to wonder about the implications of what Varela and others had said about skilled practice, for learning about learning. And whether educational practitioners and researchers – in common with the philosophers and scientists noticed by Varela - neglect skilled behaviour in favour of deliberate intentional analysis. It seemed to me far more likely that the latter would surface if asking people explicitly about their learning. Was I prepared for noticing the ongoing learning associated with spontaneous 'immediate coping' skilled behaviour that Varela refers to or would I too be more inclined to notice deliberative intentional analysis? Many of the students of the environmental decision-making Masters' course I referred to above have certainly reported in their course assessment that limited rationality applies in many of the decision-making situations they experience. What would encourage me to look for the more subtle and hidden outcomes associated with learning and participating in environmental decision making?

My hope is that some of this encouragement will come from my research approach, which at present includes trying to make a systemic start to my process of inquiry through standing back from the apparent issue and exploring the wider context before formulating problems and opportunities. This is an approach we advocate (with examples from our own and others' practice) in T860, the Masters course I mentioned at the start of this section. It aims to avoid what Ackoff (1995) identifies as a common reason for failure, which is to do the wrong things righter rather than the right things. He claims *'It is better to do the right thing wrong than the wrong thing right, the former leads to learning; the latter to reinforcement of error.'* Other features of my research approach are that I am developing theoretical, operational and

methodological aspects side-by-side and adopting a reflective, evaluative and iterative process, drawing in multiple perspectives in the hope that this will help me recognise my assumptions and avoid traps in my thinking. This paper and its review I see as part of this process.

Learning about learning as systemic practice

I have now reached a position in my research where I am focusing initially on practice rather than on learning, to be able to take note of insights that pop into people's heads or are to do with their immediate coping as well as those consciously learned. I have started with some fairly broad-ranging semi-structured interviews as an exploratory 'pilot' study and then plan to review my progress before making further decisions about my methodology. I am exploring some different contexts and understandings of environmental decision making and expect to use interviews, workshops and case studies as the research progresses but exactly how, will depend on how I get on with the pilot. I am setting up each interview through personal contact – email/phone/letter - with a request to hear about the individual's experience and contexts. I am prepared to share aspects of my own experience and context if asked but introduce myself as an academic coming mainly from the perspective of trying to 'support' environmental decision making so with a need to hear about the practice of others. What I am claiming to offer the interviewee is an opportunity to reflect, some feedback, discussion and some potential networking opportunities through the research.

I am already finding that in selecting people to interview that each person's environmental decision-making situation, their role in it, their practice and learning can be expressed in many different ways. Use of language seems to be a part of this but also differences in perspective. For instance, individuals who to me seem central to an environmental decision-making situation do not necessarily see themselves in the same light. And those they see as central to decision making don't necessarily share that view either. This has already raised questions for me about ownership of some environmental decisions – i.e. if nobody sees an environmental decision as 'theirs', what implications does this have for their actions?

It is too early in my research process to confirm whether the people I am talking with describe what they do as learning or not and what distinctions they make about practice and learning and how similar those distinctions are to those I make in this paper. But I hope to find out. Hence I have spent time reading and thinking about *how* I can learn about learning as systemic practice as well as trying to do it. The rest of this paper describes a little about where this process has taken me to date.

Action research approaches with strong epistemological dimensions have been advocated as particularly relevant for learning about learning which is about understanding not just what we know but also the second order perspective regarding what underlies our ways of knowing. (Bawden.1994, Ison & Russell 2000, Finger & Asun 2001). Participatory action research (PAR) is recognised as an approach with an epistemological dimension and comes largely from a development tradition. Finger and Asun analysed a wide range of adult education approaches and discussed what these approaches had to offer in terms of 'learning a way out' to bring about social change. They were not uncritical of PAR but felt that it could provide a good starting point in this context.

They compared PAR with critical pedagogy and the work of Paulo Friere and concluded that PAR

- is critical of much development but advocates an alternative smaller and more human scale of development with appropriate tools
- has an epistemological dimension
- is grounded, linking adult learning to community development and concrete problems

- reflects on tools and technology by putting them into a social context and seeing them as playing a significant role when it comes to fostering or preventing learning.

There are other related action research approaches that have epistemological dimensions, for instance Ison (after Russell) describes *systemic* action research as a second order tradition in the context of agricultural extension and development and contrasts it with traditional action research (Ison and Russell, 2000). Ison and Russell's distinctions between systemic and traditional came from working on a systemic action research project that considered how the relationship between rural communities and communities of experts might be better managed. From reading Ison and Russell's account I understand the main characteristics of their systemic action research approach to be:

- the real-world situation is thought of as a system with a boundary, environment and subsystems
- how the researcher perceives the situation is critical to the system being studied
- a whole systems ethic is developed where ethics are multi-levelled. What is 'good' at one level of a system might be 'bad' at another.
- the interaction of the system with its context (its environment) is the main focus of exploration and change
- perception and action are based on experiences of the world.

The Open University course *T860 Environmental decision making: a systems approach* (mentioned earlier) also addresses issues of learning about learning as systemic practice through an approach that has some similarities to that described by Ison and Russell.

Peter Reason also has noted that there are different ways of approaching action research and action learning (Reason 2001). Based on his work with others at the Centre for Action Research in Professional Practice at the University of Bath, he distinguishes action research from more traditional forms of management research on four counts:

- its primary purpose is to develop practical knowing
- it has collaborative intent
- it is rooted in each participants' in-depth, critical and practical experience of the situation to be understood and acted in.
- it takes into account many different forms of knowing.

Each of the accounts referred to above (Finger & Asun, Ison and Russell, Reason) I have found rich in many ways and I do not do them justice in summarising the points they make and taking them out of context. However, what I have sought to do here is to illustrate that these research approaches do seem to offer some of the features I seek in learning about learning as systemic practice. If I were to draw all the bullet points above together into a single list I think I would have many of the features I feel I need. But at this stage, without it being grounded in my research context which I cannot yet do, it would not be meaningful to attempt this sort of synthesis. (Perhaps that will come later.)

In contrast to the approaches discussed above, I mentioned in discussing systemic practice in the first section of this paper that some experiential models that focus on individuals out of their collective context have limited usefulness. In Finger and Asun's critique of pragmatic adult education they argue that "*the relationship between (...some of the cyclical models of...) adult learning and societal change remains...mainly wishful thinking.*" I note that Bawden (1994) too is critical of simplistic representations of learning taken out of context. He discusses instead a theoretical framework that has informed the Hawkesbury learning systems approach and presents "*a multi-dimensional model of learning, positing different stages, styles, forms, levels, epistemological states and interest constitutions that suggests a complexity of the process which severely tests the adequacy of the simplistic concept of learning as a cyclical concept*".

Much work has been done on social, social-environmental and collaborative learning (e.g. Bawden 1994, Finger and Verlaan 1995, Daniels and Walker 1996, Macadam et al 1998, Woodhill and Roling 1998, Wildermeersch 1999, SLIM 2001) that takes account of learning at *both* individual *and* collective levels, rather than one or the other. This work indicates that many problems and opportunities need to be addressed collectively as well as individually and in context. Lave & Wenger's (1991) focus on 'person in the world as a member of a socio-economic community' seems relevant here too. Conversely, there are examples from elsewhere in relation to smoking and AIDS/HIV that are critical of information and education programmes that focus merely on individual behaviour change rather than considering individuals in context and addressing these issues more systemically (Edström, J et al. 2000 and work done by USAID). My current research inquiry is about learning environmental decision making in the context of sustainable development. I do consider social, behavioural and systemic change to be relevant here so I will be trying to take account of some of these critiques of models and programmes for learning that focus only on individuals rather than on individuals in their contexts.

So where does this take me?

Three particular points stand out to me at present as particularly important in learning about learning as systemic practice. I will finish by commenting on them in relation to my own practice. The first is about *praxis*. Bawden and Packham (1998) and McWhinney (1997) have stressed the importance of keeping theory and practice together in inquiry and learning, as systemic praxis. In the context of this paper the theories informing my practice (which include those used by Wenger, Lave, Chaiklin, Bawden, Ison, Russell, Reason, Finger and Asun) would not all be recognised as *systems* theories in a formal sense in that they do not all make explicit use of systems ideas. But they are all systemic theories in that they focus on individuals in context, and recognise systems, boundaries, environments and interconnections either implicitly or explicitly. It does not follow that use of these theories in my own context will lead to systemic praxis. It will depend on how I use them. While there does seem to be evidence of quite a lot of congruence between theory espoused and in use in some of the above authors' accounts, I know from my own experience that such congruence is not easy to achieve. However, all of these theories seem highly relevant to the practice of environmental decision making in the context of sustainable development and to date I feel I have made a reasonably systemic start to my inquiry.

Second, I started this paper discussing some of the insights that I found useful from people like Wenger and Varela. Wenger's notion of learning as practice and Varela's points about skilled behaviour are specific distinctions they make that seem to apply in many contexts in relation to learning about learning. Ison and Russell (2000) also discuss the need for researchers to be aware of their traditions of understanding and the distinctions they make. As I proceed with my inquiry I think I need to keep this in mind and be aware of the distinctions I and other people make when talking about and researching learning.

My last point is linked to the point about being aware of the distinctions people make and concerns *epistemology*. Jean Lave (Chaiklin and Lave 1993) makes what I find an insightful analysis concerning distinctions about learning. She challenges assumptions made within some cognitive theories that learning and development are distinctive processes, not to be confused with more general human activity. Lave questions two theoretical claims on which these assumptions are made which I do not have the space to go into here. But I was interested by her comment that "*The difference may be at heart a very deep epistemological one, between a view of knowledge as a collection of real entities, located in heads, and of learning as a process of internalising them, versus a view of knowing and learning as engagement in changing processes of human activity.*" Several authors cited in this paper

have acknowledged similar differences and stressed the importance of using a research approach with an explicit epistemological dimension in the contexts in which they have been working. (eg. Bawden 1994, Macadam et al 1998, Ison and Russell, 2000). The Open University course T306 Managing complexity: a systems approach (Open University 2000) goes into some detail about what it means to be a systemic practitioner and how to become and be aware of one's own epistemology as a part of that. I am also reminded here of an insight from Marcia Salner that Richard Bawden often quotes - " *For general systems learning, with its emphasis on structures rather than on content, epistemic competence may be the most critical competence of all.*" (Salner, 1986) Salner also talks of epistemological 'climates' that are established in teaching situations that either move students forward or reinforce their particular developmental position. Perhaps something similar could be said about researching situations where stakeholders in the research seek situation improvement? My own epistemic competence and the epistemological climate I contribute to seem to me particularly important in learning about learning as systemic practice as they will affect what I and others in my systems of interest find out and whether or not we move forward.

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