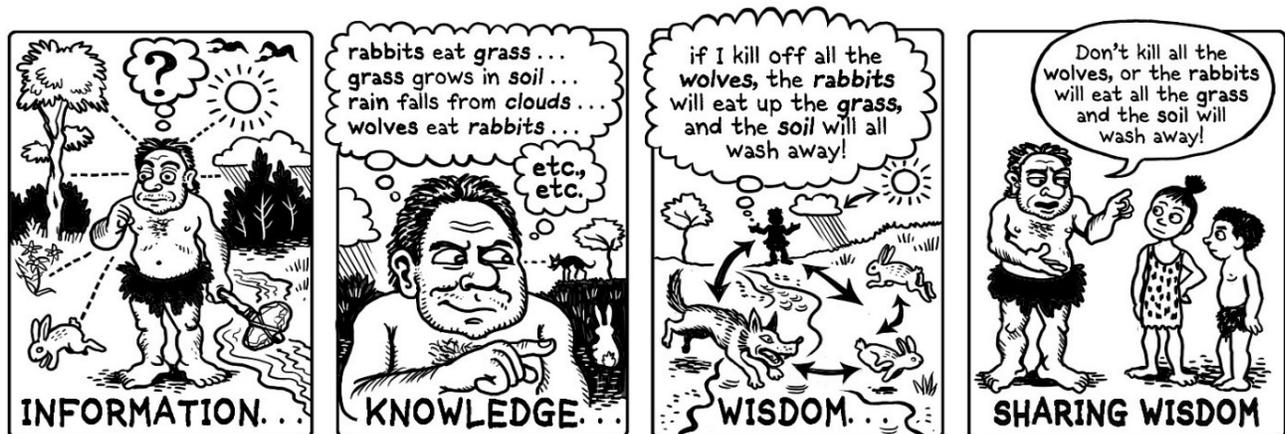


Gaining a Footing in the Landscape of Learning Ecologies

A Guide to Mapping Ecologies of Practice for Learning, Creativity & Performance at Work

Norman Jackson



"We do not learn from experience—we learn from reflecting on experience"
(John Dewey 1916)

It is more beneficial to articulate and codify experience than accumulate similar additional experience. What is learned through reflection can lead to enhanced performance through increased self-efficacy. (Stefano et al (2016) *Making Experience Count: The role of reflection in individual learning*)

Ecologies of Practice Website

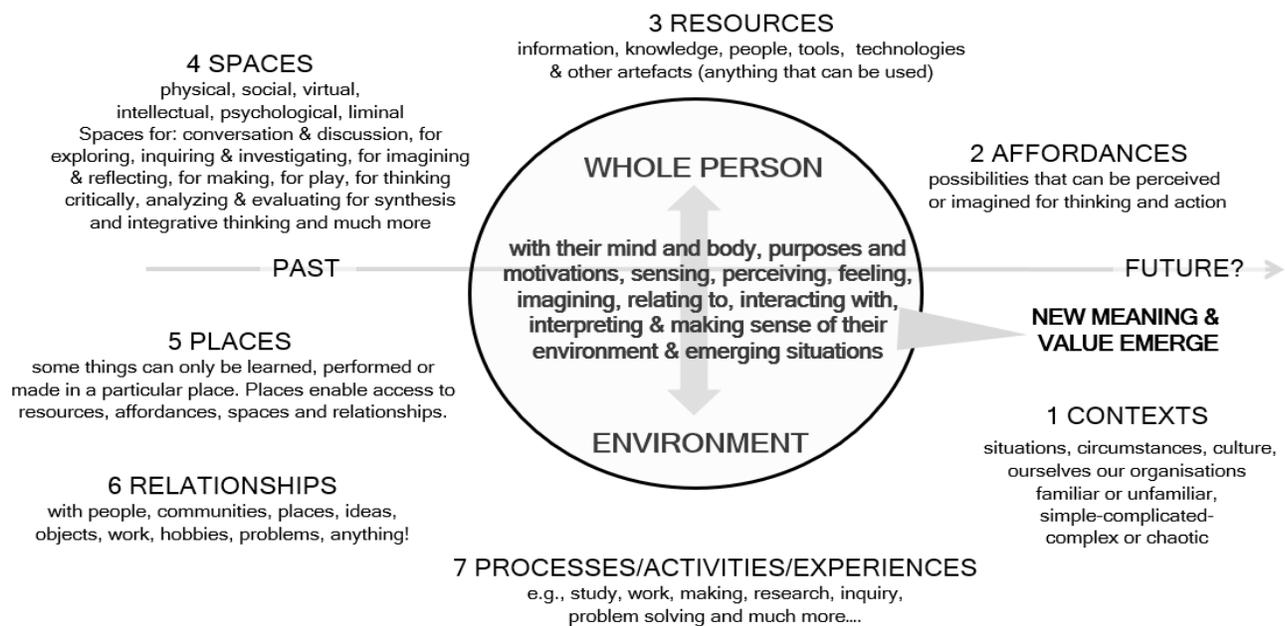
<https://ecolila.weebly.com/>

Introduction

These guidance notes have been prepared for participants in the first meeting of the LILA 2019 inquiry into learning ecologies which seeks to ‘gain a footing in the landscape of learning ecologies’. A companion article (1) introduced and developed the ideas of organizational and learning ecosystems and presented a heuristic (Figure 1) to capture the essence of an *ecology of practice* as a way of representing the way we engage and interact with our environment in order to perform, learn and create.

The guide assumes that learning, practice, performance and creativity are ecological phenomenon emerging as we interact in purposeful and accidental ways with the particular environments we inhabit in order to do the things we need to do. Guidance is intended to help people use the heuristic to map and evaluate their own ecologies of practice in order to reflect on how they learn, perform and create new value. The final section includes a few thoughts on how these ideas might be connected to the idea of ‘workflow learning’ in an organizational learning ecosystem.

Figure 1 Heuristic to aid understanding of an ecology of practice for learning and performance (2,3) . Learning can be the primary focus for practice or be a necessary or unimportant bi-product of performance. A companion article provides background information about the heuristic (1). A set of questions to aid reflection is provided in Appendix 1.



In order to gain a footing in the landscape of learning ecologies we must dive in, experience the messiness of learning as we practice and perform in our work environments and pay attention to the details of ourselves as we interact with the world. We must become the mental cartographers of our own experiences mapping our processes and their effects, and the changes that happen to us as we perform and learn. The first stage in this developmental project is to develop self-awareness by making physical maps of our experiences and our engagements with a world in continuous formation. This

Guide provides some simple methods for mapping our ecologies of practice in order to perform, learn and create new value.

Developing ecological awareness

Programmed into every human being is a need to understand themselves and the effects of their thinking and actions on the world. This type of learning or self-awareness enables us to perform better and create better versions of ourselves and feel more fulfilled as we appreciate the way we can influence our own destiny. Self-awareness is key to understanding that we are all implicated and involved in an ecological world of practice and learning, and *to think and practice with greater ecological awareness we must become cartographers and analyzers of our own experiences*. Experiences that become ever more complex and challenging to understand causal links. In the words of Harold Jarche (5)

- Our world is getting more complex as everything gets connected.
- Complex problems require more implicit knowledge.
- Implicit knowledge can only be shared through conversations & observation.
- Collaborative and distributed work is the norm.
- Knowledge-sharing and narration of work make implicit knowledge more visible.
- Transparent work processes foster innovation.
- Learning is part of work, not separate from it.

To which we might usefully add:

- “We do not learn from experience we learn from reflecting on experience”(John Dewey - 6 p.78)
(The cover image by Tom Chalkley captures this fundamental principle very well).

Mapping and interrogating our ecologies of practice for learning and performance contribute to an environment and culture in which ‘narrating work to make implicit knowledge more visible’ and making ‘work processes more transparent to foster innovation,’ are more likely.

Mapping, analyzing and visualizing one’s own multitudinous experiences is a learning process in its own right and there is research evidence that it is more beneficial to articulate and codify experience than accumulate similar additional experience (7) What is learned through reflection can lead to enhanced performance through increased self-efficacy (7) i.e. “the belief in one’s capabilities to organize and execute the course of action required to manage prospective situations”(8).

The process of making a map becomes a powerful prompt for reflecting on our experiences enabling us to inquire into how, why, when, where we are learning and what we have learnt and created. A set of questions to aid reflection, based on the heuristic, is provided in Appendix 1.

An ecology of practice map is not only a checklist of the actions undertaken to achieve particular goals. Its purpose is to reveal the way the maker deliberately and imaginatively wove together and accessed the affordances in their environment, the ideas, resources, contexts, relationships, spaces and places to learn, perform and create new value. Once codified, we can mine our experience to learn from it and improve our own practices with questions like: ‘*What have I discovered through assembling (or re-visiting) this ecology which should make more effective in the future that I have been in the past*’? Or,

more metacognitively, how could I improve the assembling of an ecology like this one to make it more effective for me? (John Cowan in providing me with feedback on this guide).

I have drawn on my own experiences at the time of writing this guide to reveal the ecologies of practice I developed in order to learn, perform and create new value. Four different approaches to making a map are described.

- 1 Narratives – a story using a timeline to structure events, situations, interactions and achievements
- 2 Diagrams – using a timeline to structure events, situations, interactions and achievements
- 3 Diagrams – using the ecological framework to identify the elements of an ecology of practice A) List B) Narrative
- 4 Diagrams that seek to show the dynamics of an ecology of practice as a snapshot

APPROACHES

1 Narrative mapping

Our ecologies of practice and the learning and performance embedded in such ecologies are revealed in the stories we tell about ourselves as we encounter and engage with new situations, problems, challenges and opportunities. Narratives can be constructed in such a way as to provide a map of our thinking, activities, relationships and interactions with people and the material world as we think, feel and try to accomplish things we value. Here is an example of a narrative that is based on work I undertook over about ten days in early September. Once the experience is codified we can reflect on and evaluate our ecology of practice.

Example 1 of using narrative to map an ecology of practice

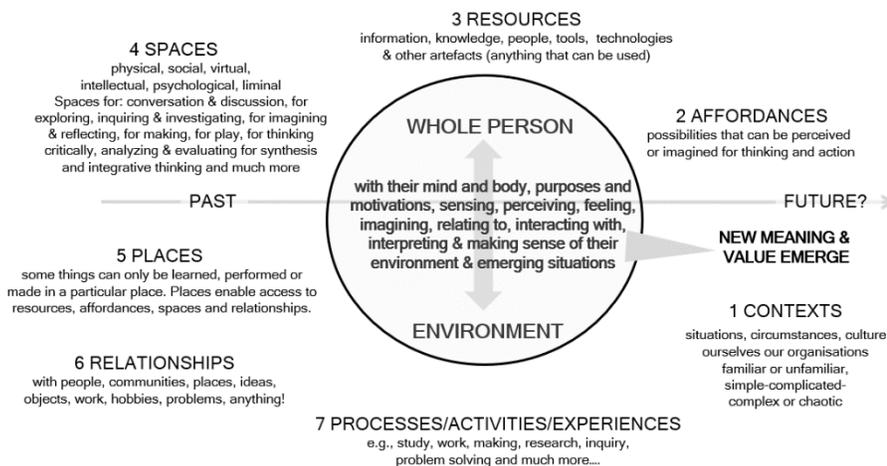
- 1 Relaxing in front of the TV I happened to watch episode 6 of the Chefs' Brigade series televised on September 3rd and recognized that it provided insights into the nature of individual and collaborative ecologies of practice that I could draw on in the LILA project. My curiosity aroused I 'slept on it' so to speak and in the morning I was ready to develop the idea and got up early to make a start.
- 2 I watched several episodes of the series on iplayer (catch-up TV) and made notes on the structure of the story and the ecology of practice. I also did a bit of googling to find out more about the principle character – James Atherton and discovered he was one of the UK's top chefs with 18 restaurants and 4 Michelin stars. In my search I also came across a post made by the production team who talked about the challenges of organising and filming the programme. The more I learnt the more I felt I could use the material to make an interesting case study. By now I felt quite motivated to devote time and effort to this project.
- 3 I decided that I could form a case study around one of the episodes but I did not know how to make video clips from the streamed video so I Googled – How do I record streamed video from iplayer? I read several reviews and discovered many software tools to capture and edit streamed video. I tried to use some free software but the audio and video sound quality was very poor.
- 4 By now I had invested a whole morning in 'playing around' with the idea of making a video-based case study without making any significant progress, but this served to reinforce my beliefs that there was good potential

(affordance) in the video materials to make an interesting and useful case study to illustrate my core theme of ecologies for learning and practice.

- 5 Having worked out that I needed to purchase some commercial software I read an on-line review <https://zapier.com/blog/best-screen-recording-software/> to see which of the many tools would best suit my needs and pocket. I decided to buy the Movavi Screen Recorder and Video Editor software and started to experiment. Through trial and error, and making quite a few mistakes, I learned to do basic editing which was sufficient for this project. I also realized that I can use the tool to do more sophisticated editing in future (new affordance).
- 6 I worked on the case study off and on over the next two days. I studied one episode and made 12 clips to tell the story that revealed the components of the ecologies of practice implemented by Jason Atherton and the brigade. I created a short narrative for each clip.
- 7 I decided I needed a website to host the case study so I build a password protected website. I have made many websites using the weebly website building so this was quite straight forward. I uploaded the clips and created some explanatory content and a set of questions to guide inquiry while watching the clips. Having built the site I realized it was a key part of my infrastructure for communicating with LILA participants so I added more pages and content (new affordance had emerged).
- 8 After uploading the clips as large files I realized that some users would have trouble viewing the clips if they did not have a fast broadband connection. Through a trial and error process I worked out the optimum file size for streaming, compressed the files and uploaded them to a hidden page on the website with a link from the page I had previously constructed. I was pleased with this solution as it provided users with two streaming formats to choose from and I had also learnt how to compress the video files.
- 9 A few days later I decided to add another page to the website to document the final episode as it reveals the brigade’s highest level of performance and enables those who are using the case study to see the full extent of their transformative process. It felt more complete.
- 11 Ten days after I watched the TV programme that triggered this process, my ecology is still unfolding as I embark on an analysis of the case study in order to produce a Guide. Interestingly, as I develop new arguments and integrate new information these flow into this document. In other words, while my ecology for learning is active every artefact that is produced is provisional and is interdependent with other artefacts.

Using the heuristic to interpret and reflect on the ecology of practice

In this story we can see an ecology of practice unfolding that begins in an everyday incidental activity (watching TV) that triggers a thought that creates new affordance – the perceived possibility of creating new materials to support learning in the context of my contribution to the LILA inquiry.



At the start I had no idea that any of this was going to happen. Once the idea emerged I entered a liminal space – I didn't know how to achieve my goal but I knew if I tried certain things I would find the way to realize the idea. My preliminary inquiries and fumbling's with the technology convinced me that it was worth committing time, effort and money to the project. My process unfolded over about 10 days. It involved a combination of inquiry, making video artefacts and the evaluation of those artefacts and the production of a guide to help others use them. It was quite a messy process with lots of trial and error. I searched for an appropriate tool and developed some basic proficiency in using it to download and edit streamed video which was my primary resource. I did not need a particular place to make this artefact but I did need a range of tools (computer and appropriate Apps) and access to the internet. My learning was driven by the video content and my inquiry into how it might be used. It bridged and connected my interests in the idea of ecologies and practice and my relationships with the LILA inquiry. Using my narrative as the account of my ecology of practice, its purpose was clearly focused on performance – creating new value in the form of a video case study that can be used to support learning. There is no doubt that I needed to learn new things in respect of the content of the materials and the skills necessary to make use of the materials to create a new resource.

I can use my narrative to reflect more critically on my practice. For example, what else might I have done to improve the quality of the outcome? At one point I did think that I might contact Jason Atherton with a view to seeking an interview to develop my understanding of the pedagogies he used. But I didn't act on this as I had other things to do and I considered it highly unlikely that such a busy person would respond. But the option is still there in the future. Also, I restricted myself to learning the basics of the Movavi Screen Recorder and Video Editor Apps so I don't know what their capabilities are. I could have perhaps added comments or questions onto the videos to enhance their value. Something That I can revisit in future.

Micro-narratives

A narrative can be created for any scale. Here is an example of a micro-narrative covering a single day.

Example 2 of micro-mapping learning ecologies: A day in my learning life September 18 2019

5.30am I woke up early because I had to catch a train to London to go for my visa interview at the US Embassy. I wanted to take something to read. My current need is to find out more about CLO's so I googled and found a couple of articles that I printed off.

7-8am – On the train. I re-read my draft Guide to mapping a learning ecology and made lots of edits. I identified several places that needed strengthening in the light of the recent conversation I had with the LILA team. I knew I needed feedback on the way I was presenting my ideas.

8.30- 11am It was my first visit to the new US Embassy.. lots of queuing outside and inside. Lots of time spent waiting for things to happen. It gave me time to read the two articles I'd downloaded. Both were interesting but the one by David Koehn 'The evolving role of CLO's' was really grabbed my attention. One passage in particular filled me with hope that my ideas might have some relevance and resonance to CLO's. I had the idea of writing to him to share my ideas and hopefully gain some feedback from someone who knew the CLO's corporate world.

CLO Core Value To support organizational learning, the CLO needs to reinforce the principles of new science (human beings are considered as self-organizing and adaptive in nature). People should not be treated as objects to be manipulated but instead are to be nurtured, enabled and supported as truly self-organizing beings. As such, treating personnel as people, not objects, requires a major paradigm shift in business where command and control just does not work and understanding and applying new science principles does - a vital capability the CLO must address. Otherwise the current mechanistic paradigm of treating people as piece-parts will continue to sub-optimize their future growth, especially where people play the major role in a company or organization.

11.30am -12.30pm On the train home I searched for DK. It wasn't easy the address in his article was no longer relevant. Thanks to a photo in the article I eventually found him and sent a message via the contact form on his website. By the time I got home he had already responded saying send me the article and I will review it. I sent him the Guide that afternoon.

Dear Dr Koehn
I have just read your article on the evolving role of chief learning officer which I found informative and interesting. I have been invited to present my ideas on learning ecologies and ecosystems to a group of CLO's in October and I wondered whether you might find the time to have a look at one of the background articles I have written and offer your views on how best to engage the CLO's in conversations that they will find meaningful and useful. I was particularly struck by a passage in your article which I think offers me a starting point for connecting my ideas to the corporate CLO world. I am also interested in your views on how the idea of mapping our ecologies for learning and performance can be presented positively to the group. If you are able to help me please email me and I will send you my article.

4pm I went for my daily walk around the field next to my house. It's a good space for pondering and the rhythm of walking helps me think. As I walked I thought about my experiences that day I also thought about the LILA event and how I might create an exercise to enable CLO's to understand the idea of mapping a learning ecology in a way that was meaningful within the limited time that was available. The idea of a micro-map of my learning ecology came into my consciousness (a map of one day).

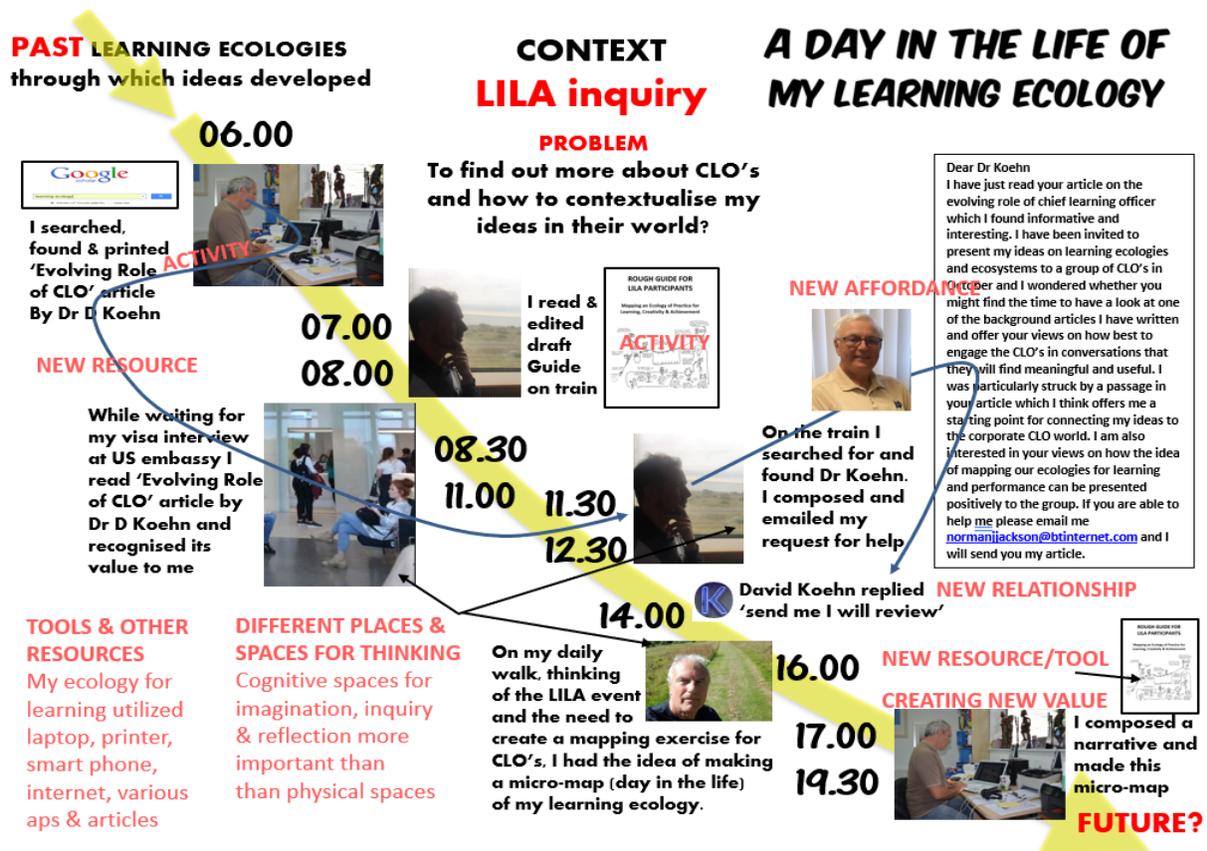
5- 7.30pm After my walk I sat down and crafted this narrative to record the events of the day. A day in which I had to accomplish a particular task – attend an interview for my visa at the embassy and which therefore controlled my activities at least in the morning. A day in which my time and thinking about my problem (LILA) were distributed through lots of different physical spaces and places – office, train, car, London streets, US Embassy, field. A day in which I searched for and found new knowledge resources (articles) that I was able to read (thanks to the tools I have – laptop, smart phone, printer, internet, aps) which stimulated new ideas. Furthermore, as the day unfolded I discovered new affordance – the possibility of interacting with a knowledgeable CLO to gain feedback on my ideas and the potential to develop a new working relationship with someone who could help me with my problem.

2 Visual mapping

It is often said that 'a picture is worth a thousand words' because a picture can convey an idea more quickly and effectively than the written word. We can create a map of the narrative above using time as the organising principle and identifying the key features of the ecology of practice in red and showing how different items in the ecology were connected or woven together in order to create new value.

A visual map can be created for any scale of an ecology of practice – days, weeks, months, years. Figure 2 provides a visual map of my day in the life micro-narrative. It uses a timeline as the main organising principle. Although the diagram lacks some of the detail of the written narrative it is easy to assimilate the main events and dynamics of an unfolding day and appreciate the essential features of the ecology highlighted in red. As I produced the map of my unfolding day I could see more clearly how different thoughts were connected to different actions and how ideas were turned into new resources and tools, and potentially a new relationship that holds the potential for enabling me to continue to progress my thinking. I can also see more clearly how I have created new value for myself by making my learning process more explicit and in the process codified it in this document for others to see. As mentioned in my account I sent my background article to Dr Koehn but three week later I have not received a reply. Not all of our efforts to create new relationships and information flows are successful.

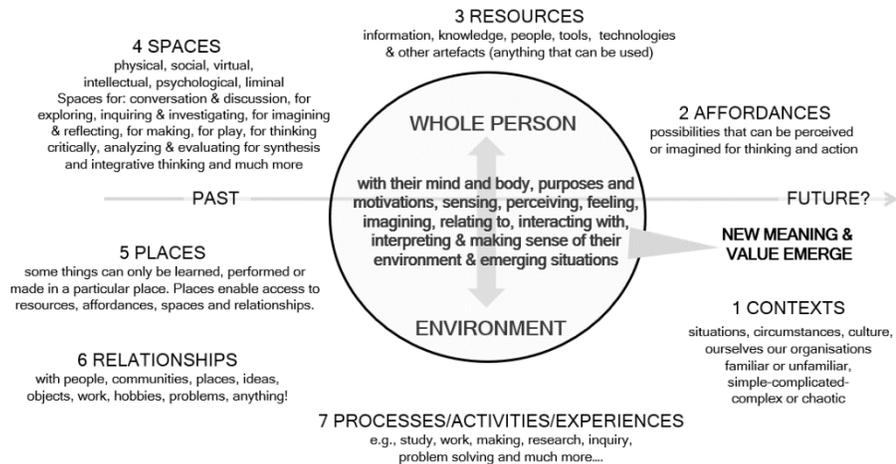
Figure 2 Map of my day-in-the-life learning ecology using a timeline to show how the ecology unfolds



Using the heuristic to interpret and reflect on the ecology of practice

In this story we can see an ecology of practice formed around the seemingly mundane project called “going to the US embassy to obtain a visa”. But this mundane act coincided with me engaged with my project that addresses the question ‘how do I explain how to map a learning ecology?’

So I used the affordance contained in the first project i.e. the time I had to read and think and search and find, to continue working on my second project. The place of learning didn’t matter, what mattered was I had the spaces to think, the resources to help me think and the tools to enable me to search and find new resources. By the end of the day I had travelled a little further across the liminal space of my problem – ‘how do I explain how to map a learning ecology?’ This was only one day in the life of an ecology that is extending over at least 10 weeks. Its now 4 weeks after I produced my day in the life map so I can see more of the effects of my actions ie my evolving ecology enables me to connect with my past. Unfortunately, although I sent my draft article to Dr Koehn in the expectation that he would provide me with feedback, he has not, so far replied. Perhaps, I should email him again but perhaps after reading my article he doesn’t want to? Such is the messiness of the deliberation that goes on in an active learning ecology. But the positive outcome of this exercise is that it gave me the idea and confidence to form a task around the ‘day in the life of an ecology’ at the LILA event.



Using the heuristic to map an ecology of practice

The heuristic can be used to directly map an ecology of practice. Figure 3 uses the categories of the framework to identify and list the elements of the ecology of practice I developed over 8 weeks for LILA.

This is an efficient way of representing an ecology but it does not achieve the goal of showing how the different elements of the ecology are related or how they were woven together to create new value. This can be partly achieved by adding a narrative to the conceptual framework in the manner shown in Figure 4.

Figure 3 Using the heuristic as a template to list the elements of a particular ecology of practice

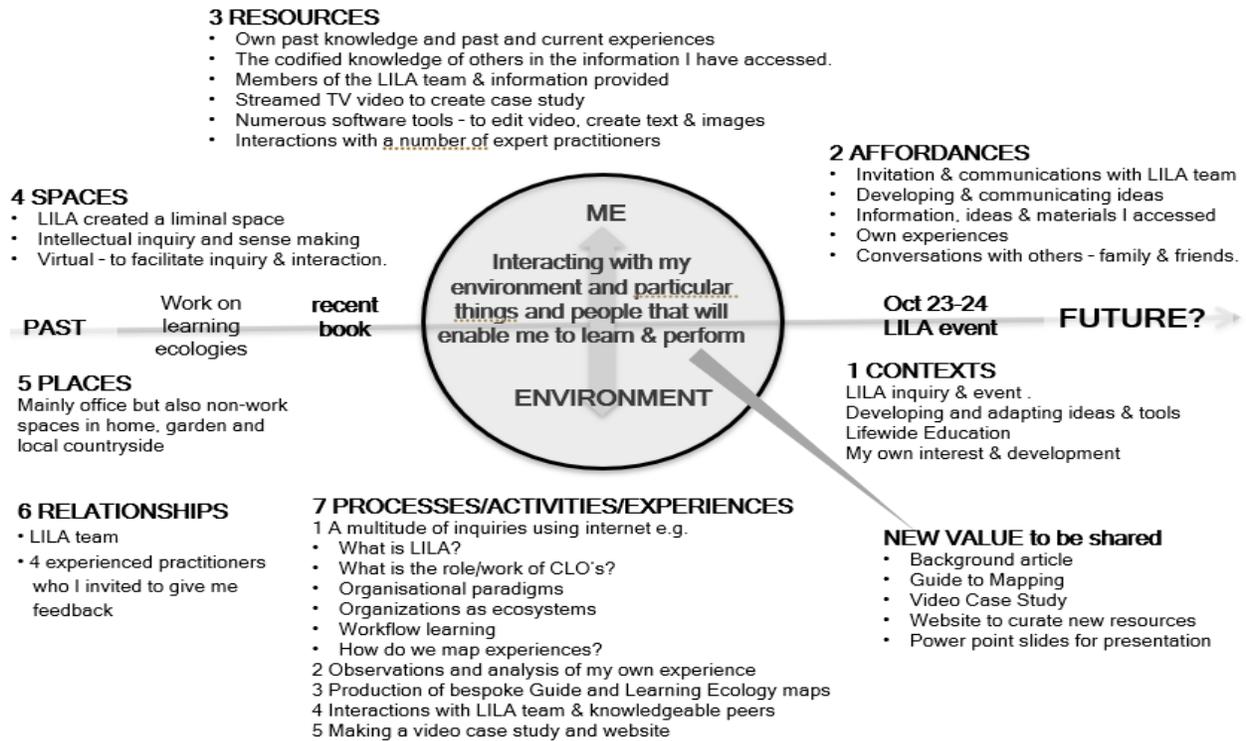
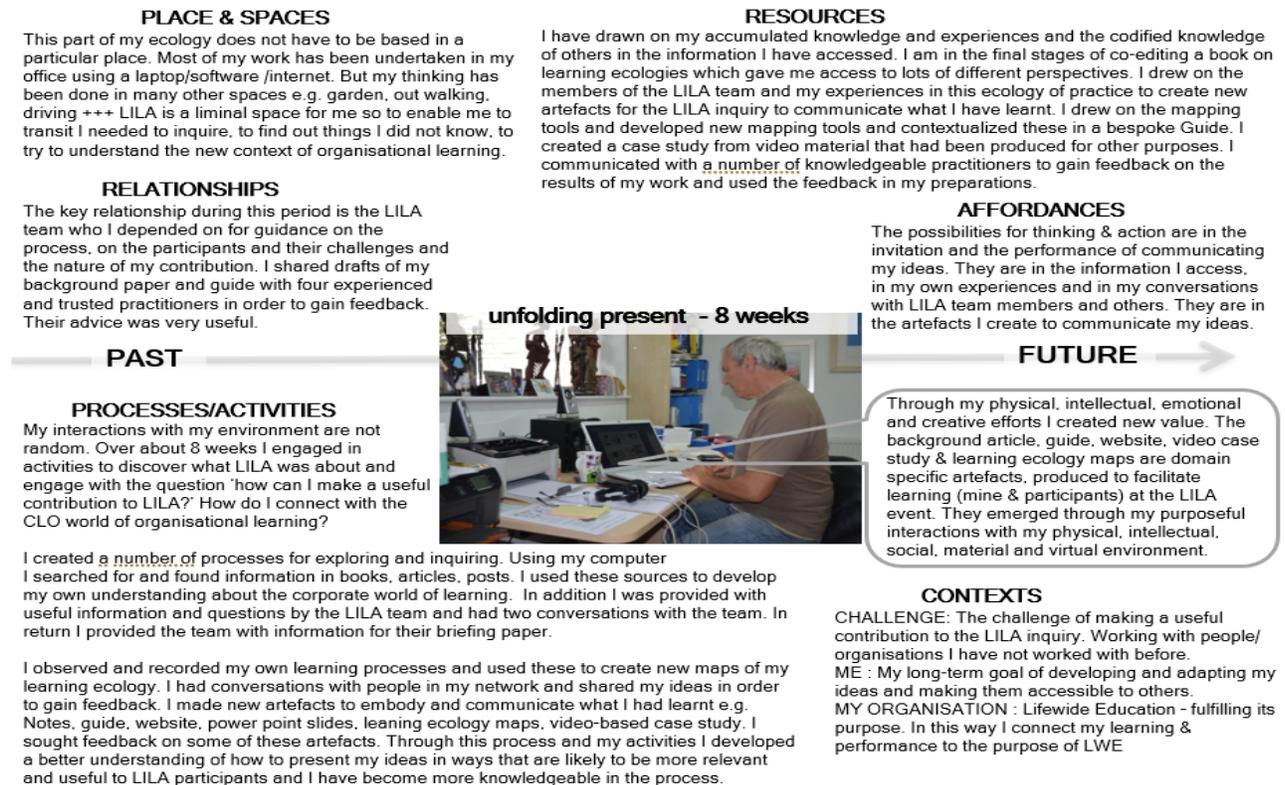


Figure 4 Using the framework as a template to list the elements of an ecology of practice adding a narrative to show how elements are related and woven to produce new value

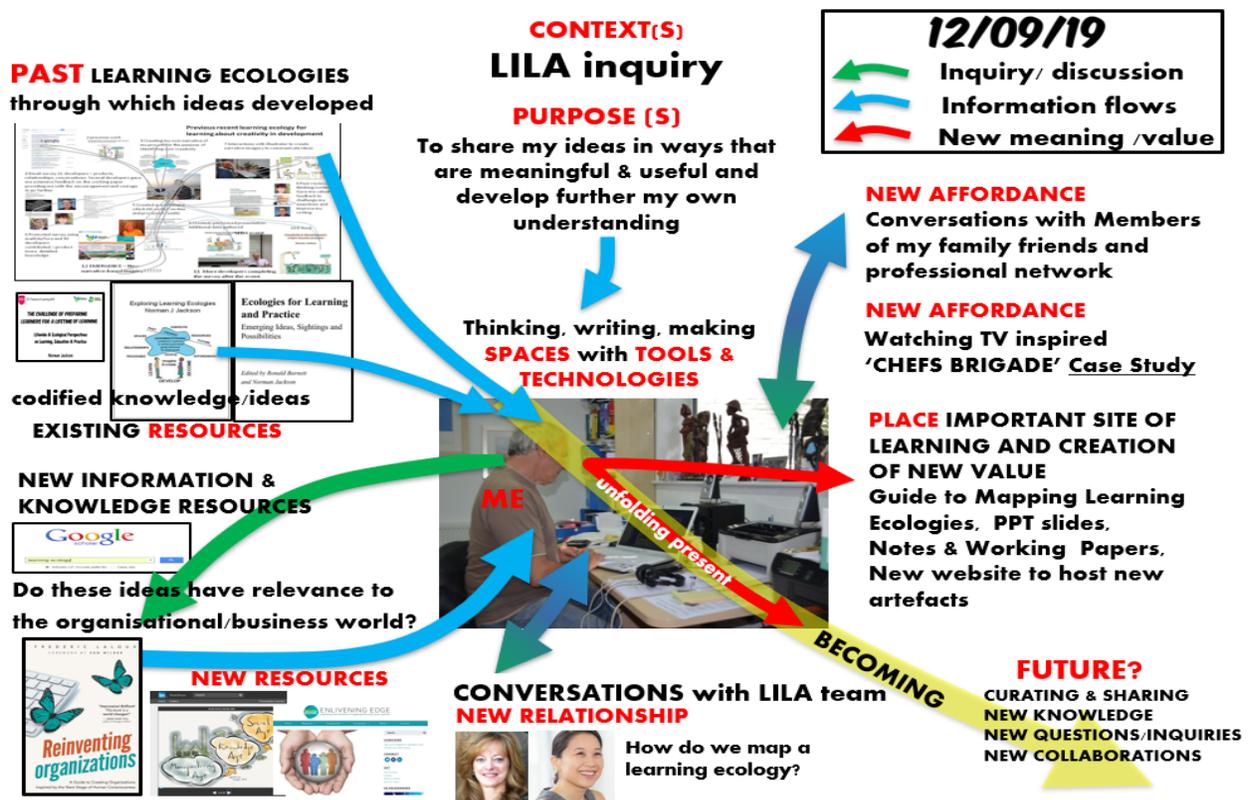


Snapshots of a dynamic ecology of practice

The third visual technique I use to capture the dynamics of an ecology of practice is to use the features of the learning ecology framework to organize the design of the map and take a snap-shot of the ecology at a particular point in time (Figure 5). This map connects the theoretical model of a learning ecology to real practice and personal experiences. It attempts to show the way a person relates to and interacts with their environment and the things that matter within it, together with the spaces and places they inhabit, the affordances or opportunities they identify and work with, the resources they seek, find and utilise and the new resources (value) they create and share.

Such diagrams can show how the current ecology for practice and learning is connecting to past ecologies of practice within which learning that is relevant to this set of circumstances was developed. It can also show connections to other current ecologies of practice that are relevant. Annotations can be used to show the key problems, challenges and questions that are being addressed, and the important questions that are driving inquiry. They can also show the sites of creation and the manifestations of creativity in tangible products and or performances and processes.

Figure 5 Snapshot diagram of my ecology of practice 12/09/19

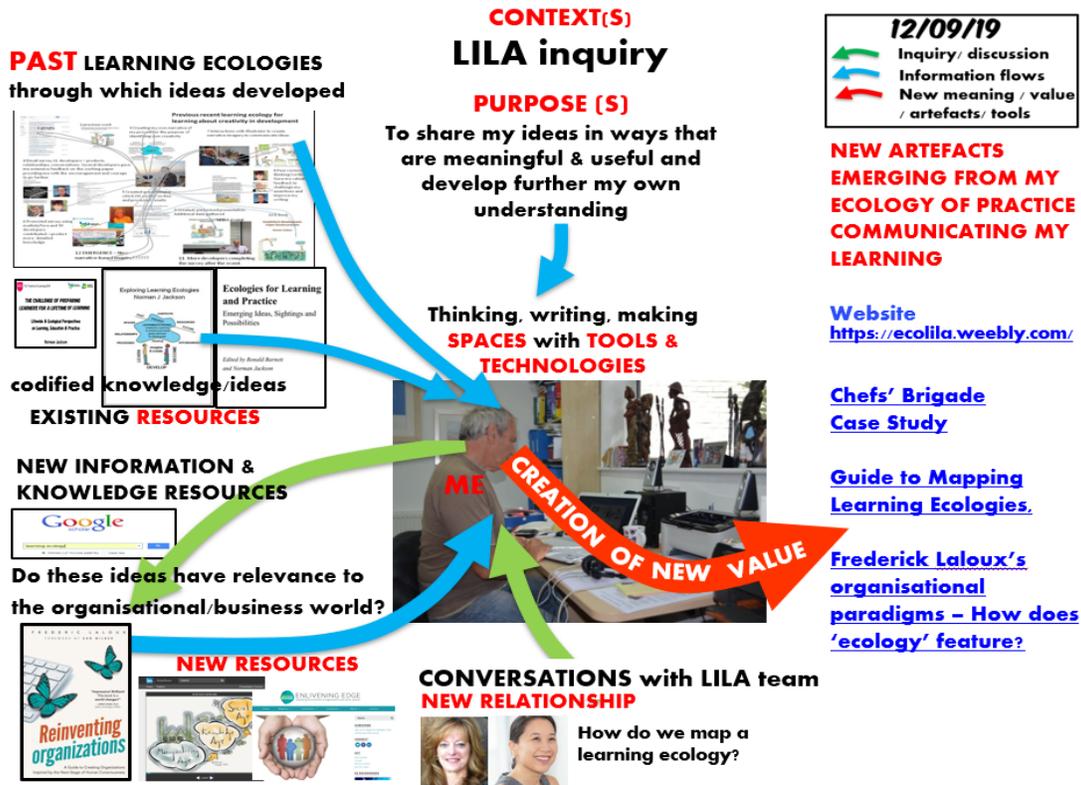


Any visual representation can be turned into an interactive map by hyperlinking the text or images to on-line resources. For example, different features in the map could be linked to a gallery of photos,

video or audio recordings, papers and other artefacts used in the ecology or produced through the ecology.

As I implemented my ecology of practice I realized I needed a dedicated repository where I could contextualize and curate resources - so I built a password protected website. Once constructed this became an important part of the communication infrastructure I can use for my LILA work and I can now animate my two-dimensional maps or text-based narratives by hyperlinking them to resources that are curated on my website in a manner shown schematically in Figure 6.

Figure 6 Interactive map of an ecology of practice. Hyperlinks (blue underlined text) can be used to reveal the nature of particular interactions or the products of work/learning. Nb the hyperlinks in the diagram have not been activated.



How might these ideas and maps be incorporated into the learning practices of people working in organisations?

The ecologies of practice for learning and performance model described in this guide provides a powerful heuristic with which to appreciate learning, performance and the creation of value as ecological phenomenon. This concept supports the idea that organizations can be viewed as complex ecosocial systems (ecosystems) within which people learn as they perform.

The ecology of practice idea is all about learning and performing in highly specific contexts and situations. More than this, it celebrates the uniqueness of people with their unique past histories, knowledges and skill sets, engaging in unique work contexts, tackling unique problems and finding solutions that are novel (to them and perhaps their team), using the opportunities and resources that they perceive as being available or they discover for themselves. The argument advanced in this guide is that by developing awareness and capacity to think about learning, performance and the creation of new value as ecological phenomena, individuals build their understanding of how they, as unique individuals, learn and perform in these highly specific contexts, situations and circumstances.

“Personalized learning, workflow learning, the Five Moments of Need, 70-20-10, informal learning — call it what you want, but moving learning away from events and into everyday work is one of the hottest topics in our industry right now” Bob Mosher (28)

Mapping and interrogating our ecologies of practice for learning and performance contribute to an environment and culture in which ‘narrating work to make implicit knowledge more visible’ and making ‘work processes more transparent to foster innovation,’ are more likely.

The ecologies of practice heuristic is a tool to aid reflection on how we learn, perform and create new value. “An effective reflective practice is inherently linked to a culture of investigation and research” (11) in pursuit of creating a better and more informed version of him or herself. It supports the continued development of practitioners who are self-motivated, self-directed and self-regulating.

The method outlined in this document is to create maps of selected practices to try to dig deep into the way practitioners weave the elements of their ecology to learn, perform and create value. Constructing a map and narrative of the unfolding story is a learning process in its own right with potential to develop new insights on learning, performance and how new value is created.

When asking the question ‘*How might ecologies of practice for learning & performance be relevant to CLO’s?*’ I am struck by the similarities of my ecological model to the thinking that underlies ‘Workflow Learning.’ Workflow learning is a concept being used by some developers of organisational learning strategies to describe learning that is a necessary part of work. It’s learning that is integral to performance and learning that has the potential to be utilized in future performances. It’s also learning that has the potential to be shared with others.

Pamela Hogle describes five ways in which workflow learning differs from training learning solutions (9)

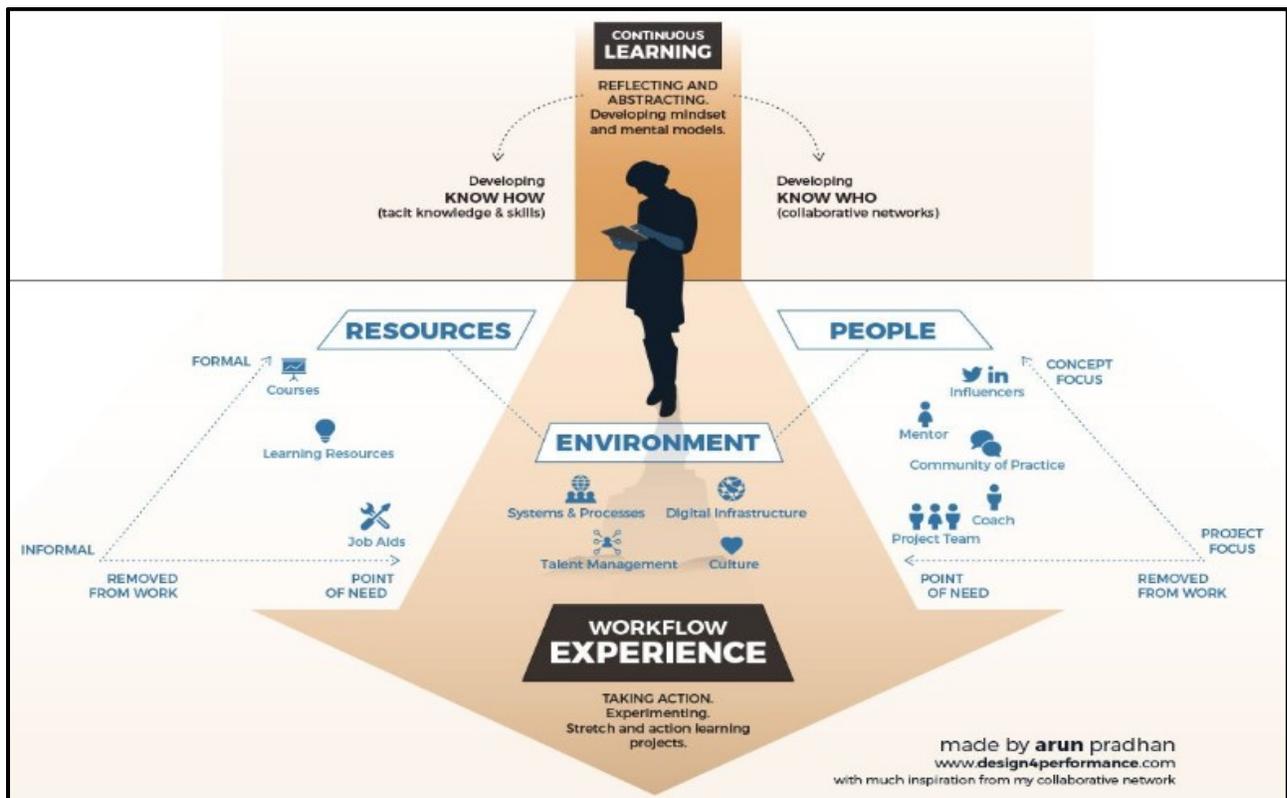
I argue that mapping an ecology of practice for learning and performance reveals the dynamics and nuances of learning during and through the flow of work. Such a map reveals the landscape of learning, it reveals the particular contexts within which learning is framed, motivated and constrained. It reveals what is being learned, how, when and where its being learned. Such a map has the potential to reveal the questions that drive inquiry and how we access the information and knowledge we need, and the tools we use or make to help us solve our problems. It shows the relationships we make and the spaces and places we inhabit in order to learn.

“most learning happens when we are at the edge of our comfort zone, embarking on stretch projects where new challenges demand new mindsets and behaviours”(10).

The map celebrates the resourcefulness and inventiveness of individuals as they weave together ideas and many other things in order to come to know how to create novel solutions for particular situations.

Arun Pradnam proposed a useful conceptual model (11, 12 and Figure 7) to show how ‘workflow learning’ can be supported by the resources, infrastructures, culture and other support for learning provided by an organisation and the outside world of infinite possibilities.

Figure 7 Conceptual framework for workflow learning developed by Arun Pradnam (11, 12)



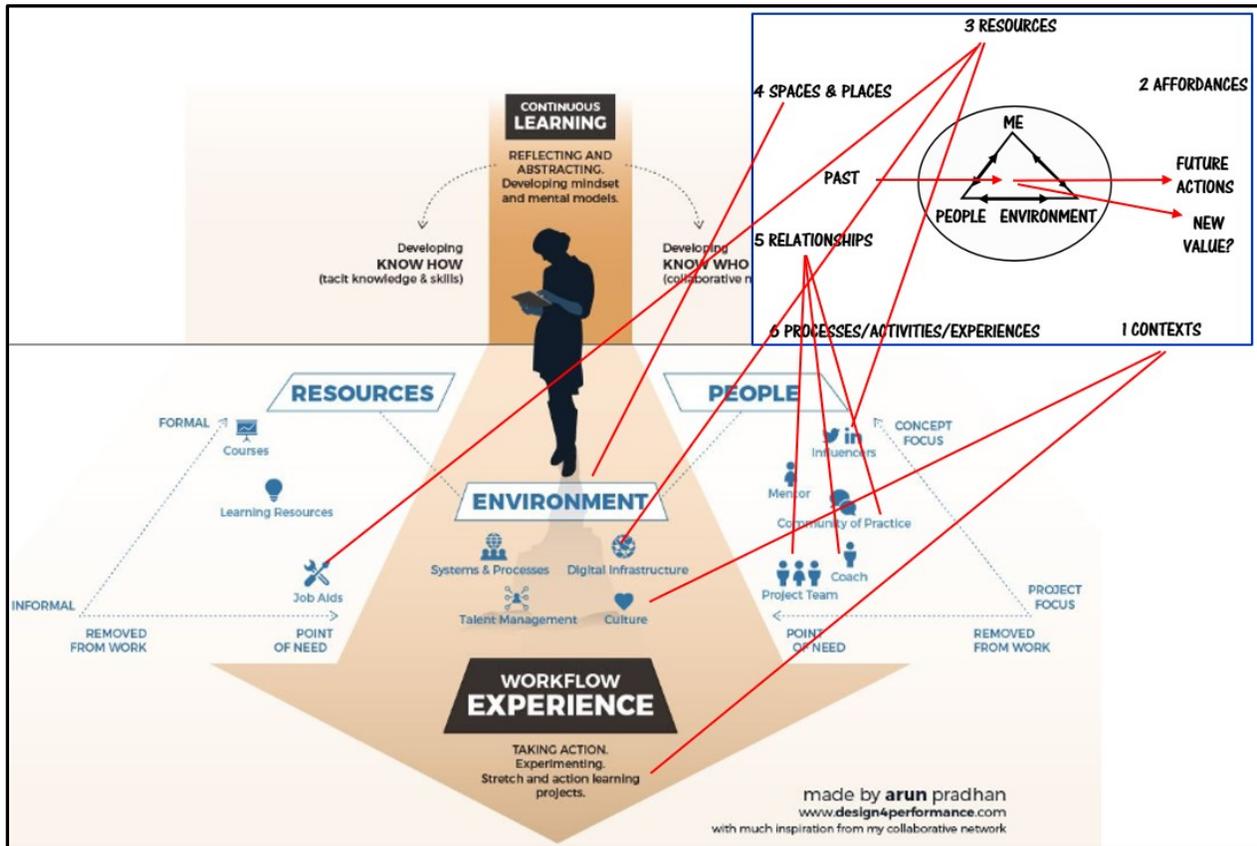
The learning support resources, tools and infrastructures of every organisation will be different as will the use of such support by individuals in their different learning projects. By creating a map of their own ecology of practice for learning and performance an individual makes explicit to themselves how they have harnessed their organization’s support for learning within their particular work-based learning project and set of contextual circumstances (Figure 8).

The creation of ecology of practice maps could be incorporated into workflow learning practices and viewed as a learning practice and process in their own right as participants narrate and reflect on the way they have related to and interacted with their environment and the people in it to learn, perform and create new value. We are not necessarily talking about mapping every learning project: a more efficient approach would be to choose particularly interesting projects that provided particularly interesting perspectives and insights on learning within the organisation.

An individual’s map of their ecology of practice could reveal exactly how, when and why an organization’s learning support mechanisms were used within an individual’s workflow learning project

as well as celebrating individual's resourcefulness in finding their own learning support when and where they needed it. Such maps could provide those responsible for designing and providing resources in support of workflow learning with information about how, why and when such resources are being used within a workflow project requiring significant learning and provide evidence of their own impact on enabling individuals to achieve their goals.

Figure 8 Illustration of how an individual's map of their ecology of practice for learning and performance might be connected to an organization's map of support for workflow learning.



The idea that any significant workflow learning experience should be underpinned by reflection is emphasized by Arun Pradnam in his model of workflow learning:

“experience [is] at the heart of the model [which] prioritizes its interplay with a conscious process of reflection that bounds it....in my opinion, the relationship between experience and is the key driver of learning and change [in organizations]. Everything else, from training, performance support, to social learning, supports and scaffolds that key relationship.” (11)

“Without a reflective process, the experience that lies at the centre of this model would be relegated to being ‘stuff that happens’. I believe that reflective learning should focus on two elements:

- Mindset, or the underlying attitude and perspective that lies behind and informs behaviour

- Mental models, the conceptual frameworks and high-level linkages that are made between various experiences and elements” (11)

As we connect up individual elements of our experiences we become more aware of how particular relationships and interactions motivate us or open up new possibilities, or conversely dent our enthusiasm or constrain opportunities. The process engages with both the attitudinal (emotions and beliefs) and mental modelling dimensions of reflection and creates an entirely new paradigm within which learning, creativity and performance can be understood and discussed.

By making a map of our ecologies of practice we are trying to synthesize our experiences of interacting with people, our problems, challenges and opportunities in the particular social-cultural, material and emotional environments we are inhabiting in order to gain deeper understandings of ourselves, our effects on and in the world and the effects our world has on us. Alongside our map making we are also creating narratives to help us, and potentially others, make sense of our world. Such narratives inform and shape our beliefs about how our particular world works and underpin our self-efficacy - our beliefs about what we are capable of achieving, which in turn influence future performance.

Once made, our map is an artefact that can be used, along with our narratives, to explain to ourselves and others the meaning that is our work and enable us to share our inventive and entrepreneurial efforts as we create new value. For those who are interested in complex matters such as the effects of culture on performance, such narratives provide a ‘way in’ to deeper insights about the organisation as a dynamic ecosocial system.

The type of learning we are developing through the process of making a map and the reflections it prompts, is an enhanced awareness that can be drawn upon in new situations in the future. With our map in front of us we can seek ways of becoming a better version of ourselves by asking, “What have I discovered through assembling (or re-visiting) this ecology which should make me more effective in the future that I have been in the past”? Or, more metacognitively, how could I improve the assembling of an ecology like this one to make it more effective for me? (*John Cowan a dedicated practitioner in the art of reflection for self-improvement*).

When people get stuck with a problem or need to find out about something they seek help and talk to other people. This is the most important pathway to learning in day to day work. Narratives of the way we accomplish things, solve problems, get round obstacles, deal with awkward situations or people, make a new and significant contact and about many other things, are the essential information streams that bring our daily work to life and allow us to make progress in work that is meaningful to us. Brown and Duguid (13) recognised this in their seminal account of learning through work within an organisation based on the detailed doctoral ethnographic work of Julian Orr (14, 15) who conducted a study of how field service photocopier technicians talked about their work and how that talk was instrumental in solving problems and learning. The ecology of practice heuristic perhaps offers another way to create narratives about the way people learn while they are engaged in work that means something to them.

A final thought. If organisations were to embrace the concept of ecologies of practice for learning and performance and embedded some form of it within their own workforce learning practices, this quite possibly, would be the most important driver for change in higher education that I have ever witnessed.

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I welcome feedback from readers on the value of these ideas for your work and suggestions for improving the communication of these ideas. Please send your comments to lifewider1@gmail.com

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APPENDIX 1

Questions to aid reflection on the ecological nature of learning and practice. These questions relate to the ecological heuristic (Figure 1)

- What is the nature of the ecosystem within which you are working? What is your role within the ecosystem?
- What purpose(s) did your ecology of practice fulfil? What were you trying to achieve?
- What were the important contexts in which you were working? What new understandings of context did you have to develop in order to achieve?
- What opportunities did you find or create for yourself that enabled you to achieve your goals? Who/what provided opportunities that you weren't expecting?
- What resources did you draw upon to achieve your goals, and what new resources did you create?
- What tools did you use or create to enable you to learn and achieve?
- What sort of physical, intellectual or emotional, spaces did you create in order to achieve your goals?
- Were particular places important in order to learn or accomplish something? How/why were they important?
- What processes/activities did you engage in or create in order to achieve/perform?
- What challenges did you have to overcome and what did you learn from engaging with these challenges?
- What mistakes did you make that you learnt something useful from?
- What important relationships did you form in order to achieve your goals? What did you learn through these relationships?
- How/where and when was your creativity involved in your ecology of practice? How was your creativity manifested?
- What do you now know about how the organisation works that you didn't know before?
- What forms of support for your learning did you gain through your organisation?
- What forms of support for your learning did you gain from sources outside your organisation?

What have I discovered through assembling (or re-visiting) this ecology which should make me more effective in the future that I have been in the past? Or, more metacognitively, how could I improve the assembling of an ecology like this one to make it more effective? (suggested by Professor John Cown a practitioner who is committed to self-improvement through reflection)

APPENDIX 2

Additional training materials – Chefs' Brigade Case Study

<https://ecolila.weebly.com/chefs-brigade-case-study.html>

[PASSWORD lila2019](#)

Films of practitioners engaging in their work provide a flavour of what an ecology of practice looks and feels like in a particular field of practice. Jason Atherton, a top chef who has built a chain of 18 restaurants including 4 Michelin stars, has spent his professional life building strong kitchen teams known as 'brigades'. In the BBC's 'Chefs' Brigade' he is challenged to form a new, high performing kitchen brigade from a group of chefs whose experience is limited to working in the kitchens of pubs, cafes, bistros and the army rather than top restaurants.

The challenge for this 'brigade in formation' is to compete with six established brigades in top class restaurants, in five different countries during a six week tour of Europe. The pedagogical challenge for Jason is to create a brigade that is capable of achieving this goal.



The Chefs' Brigade Case Study comprises 12 short video clips, a short introductory Guide and an analysis. You are invited to create your own narrative and map of Jason Atherton's 'ecology of professional practice' which he used to develop a high performing team.

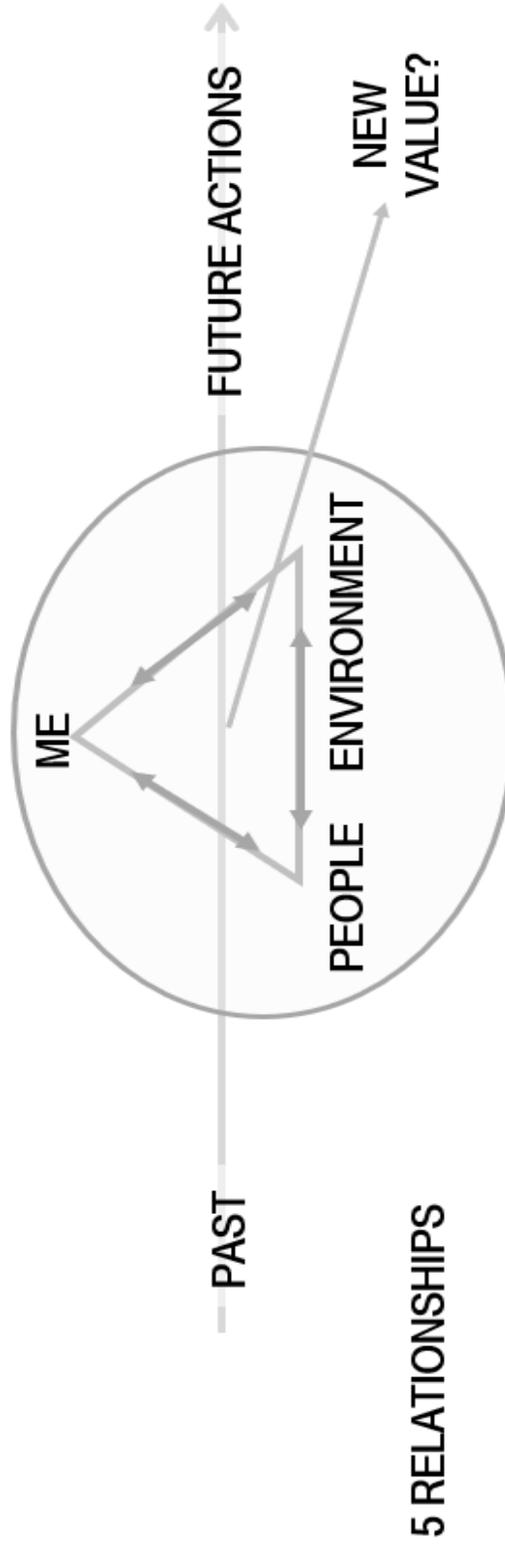
In the context of the discussion about 'workflow learning' it is interesting to see how this features in the process.

APPENDIX 3 ECOLOGIES OF PRACTICE TEMPLATE

3 RESOURCES

4 SPACES & PLACES

2 AFFORDANCES



1 CONTEXTS

6 PROCESSES/ACTIVITIES/EXPERIENCES

5 RELATIONSHIPS