

CHAPTER C4

Learning Ecology Narratives

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SUMMARY

A companion Chapter (A5) examined the idea of learning ecologies and identified their essential features. This chapter provides illustrative examples of personal ecologies through which individuals learnt and developed, and achieved their goals and ambitions.

An individual's learning ecology comprises their processes and set of contexts, relationships and interactions that provides them with opportunities and resources for learning, development and achievement. Organised educational settings create their own ecologies for learning into which learners have to fit themselves but outside these settings self-created learning ecologies are an essential component of the way we learn and develop in work, family and other social settings. They are the means by which we connect and integrate our experiences and the learning and meaning we gain from our experiences across the contexts and situations that constitute our current lives. They are also the means by which we connect the learning we have gained from experiences in the past to the present. Learning ecologies are therefore of significant conceptual and practical value to the practice of lifewide learning and education.

Learning has always been an ecological process, and it is therefore surprising that the concept has received scant attention in worlds of educational policy and practice. This chapter concludes by addressing the issue of how universities might encourage learners to create their own learning ecologies and how they might recognise learning, development and achievement gained through these processes.

BIOGRAPHY

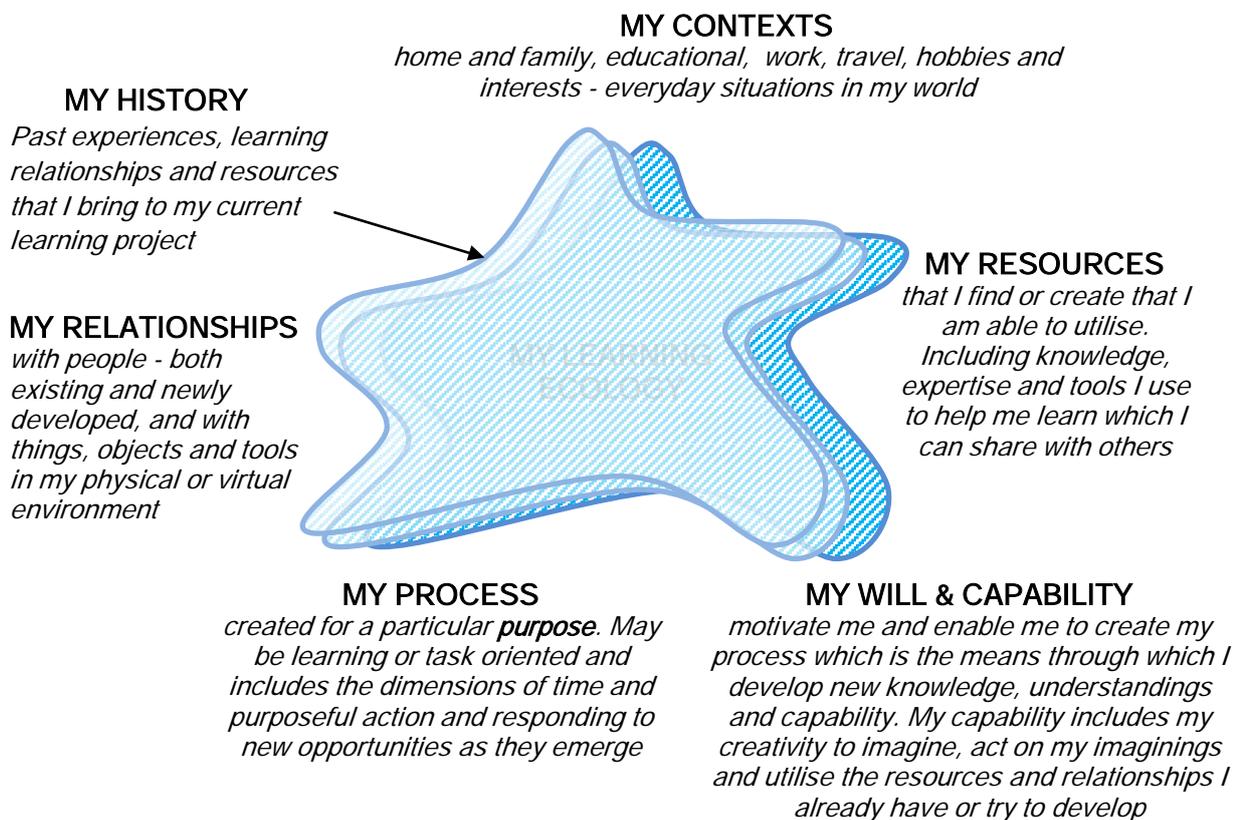


Norman Jackson is Emeritus Professor at the University of Surrey, Fellow of the Royal Society of Arts and Founder of the Lifewide Education Community. Between 2005-11 he was Director of the Surrey Centre for Excellence in Professional Training and Education (SCEPTre) which developed and implemented the idea of lifewide learning and education in a university environment. With other members of the Lifewide Education community he continues to explore the dimensions of lifewide learning and education to advance understanding and encourage the spread of practice.

INTRODUCTION

A companion chapter (Jackson 2013) summarised ideas gleaned from the literature on learning ecologies and a personalised working definition was proposed, *the process(es) I create in a particular context for a particular purpose that provides me with opportunities, relationships and resources for learning, development and achievement.* A graphical representation of this working definition is shown in Figure 1. The illustration is heuristic rather than hierarchic. It represents the integration and interdependence of the elements of *context, relationships, resources, (the most important being knowledge and tools to aid thinking), and an individual's will and capability to create a learning process or learning ecology for a particular purpose.* Such actions may be directed explicitly to learning or mastering something but more likely they will be primarily concerned with performing a task, resolving an issue, solving a problem, or making the most of a new opportunity.

Figure 1 Key components of an individual's learning ecology



Learning ecologies have temporal dimensions as well as spatial and contextual dimensions: they have the capability to connect different spaces and contexts existing simultaneously across a person's life-course, as well as different spaces and contexts existing in different time periods throughout their life-course. The personal narratives in this chapter and an accompanying appendix show this very well. Knowing how to create and sustain a learning

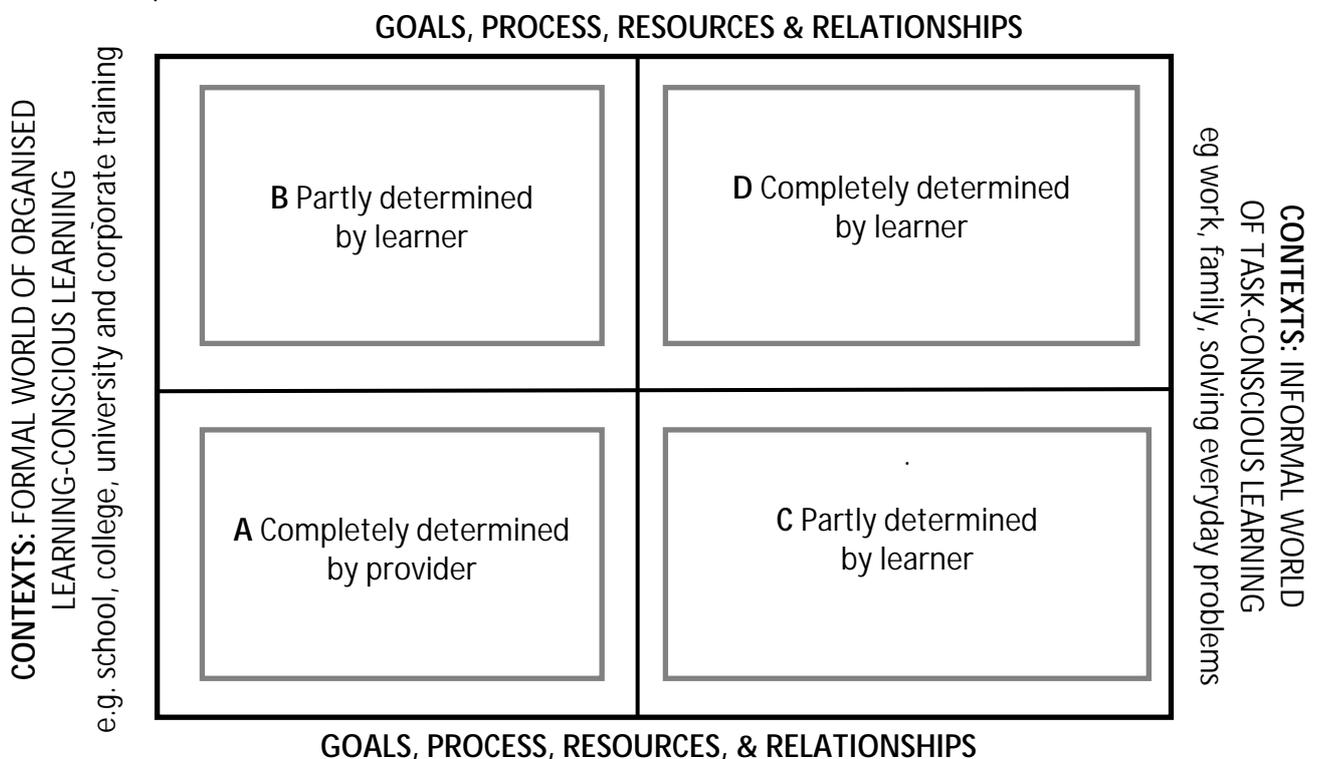
ecology is an essential part of 'knowing how to learn' in all the different contexts that comprise an individual's life. Self-created learning ecologies are the means by which experiences and learning are connected and integrated across the contexts and situations that constitute a person's life. Learning ecologies are therefore of significant conceptual and practical value to the theory and practice of lifewide learning and education.

But to move from this abstract conceptual level of thinking to applying these ideas to real situations requires us to examine how people learn and develop themselves through the things they do when they are engaged in activities that are significant and meaningful to them. This chapter provides a selection of narratives which are used to illustrate how the elements of *context, relationships, resources, process and an individual's will and capability for purposeful action* are manifested in an individual's learning ecology.

LEARNING ECOLOGIES AND FORMALISED EDUCATION

Learning ecologies are a feature both of formal educational settings, where the ecology is largely determined by institutions and teachers, and informal learning settings, where ecologies are largely determined by individuals and groups without the mediation of people whose business is education. Jackson (2013) provides a framework (Figure 2) to help visualise the relationship between individuals' learning ecologies and educational practices that support and recognise the outcomes of learning from such ecologies.

Figure 2 Categorisation of learning ecologies and their educational contexts (Jackson 2013)



The vertical axis of this figure is concerned with the contexts in which learning takes place. This conceptual space might be divided into environments like school, college, university and

corporate training situations where the explicit purpose is to learn (learning conscious learning of Rogers 2003), and informally structured environments in which learning is a by-product of engaging in experiences or tasks (task-conscious learning of Rogers 2003).

The horizontal dimension is concerned with variations in the *process* of learning including the purposes and goals, the resources that will be used and the relationships through which learning is likely to occur. Variations in this conceptual space reflect - Who determines the purpose and goals for learning is it the teacher, the learner or a group of learners or is it a combination or agents? And who designs and orchestrates the learning process and determines what knowledge resources, tools and relationships will be used to aid learning?

Four different learning ecology scenarios are represented in Figure 2 (see Jackson 2013 for explanations).

- A) TRADITIONAL FORMAL EDUCATIONAL LEARNING ECOLOGY
- B) ENQUIRY, PROBLEM & PROJECT-BASED LEARNING ECOLOGIES
- C) SELF-DIRECTED & SUPPORTED LEARNING ECOLOGIES
- D) SELF-DIRECTED LEARNING ECOLOGIES

We might imagine that an ecologically minded educational institution would pay attention to learning in all four quadrants and create educational designs that would encourage learners not only to participate in the institution's own learning ecologies but would encourage and support them in creating their own. Furthermore, an ecologically minded institution would develop the means to recognise learning and development gained through individuals' own learning ecologies.

An alternative or complementary and perhaps more ecologically sound view would be that the learner, while studying at university, would utilise the opportunities available to them in their life-world to create their own ecologies for learning and developing. A good example of this is provided in this reflective account by a former archaeology student who graduated from an English University in the summer of 2013.

Illustrative example of a higher education learning ecology

In this account Michael, a recent archaeology graduate from an English university, tries to make sense of his experience using the idea of a learning ecology.

Having just completed a three year archaeology degree I am in a good position to look back and try to make sense of my experience using the idea of a learning ecology. For me a learning ecology is defined by the interactions between numerous processes and relationships which are connected for a particular purpose such as are illustrated below.

Using this concept of a learning ecology, which focuses on the interaction of my relationships and processes, I can look at the various learning ecologies that I was involved in during the three years I studied for my archaeology degree. The core aim around which my overall learning ecology formed was to develop my understanding of archaeology to the highest possible level I could achieve. I wanted to become a *good* archaeologist and that ambition caused me to get involved in many things outside my

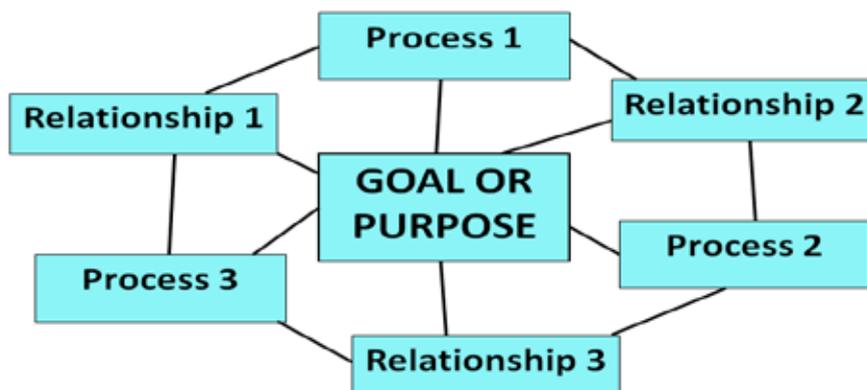


course that I thought would help me become an archaeologist.

The most obvious process and set of relationships I engaged with to learn and understand archaeology was the timetabled and structured university course. This involved the reading of set course material much of it accessed through on-line journals and participation in lectures

This structure that was designed and taught by my teachers allowed me to follow a very clear process of learning, helping me to fully understand what information I had to know within the course. This structured process allowed me to form what I see as the backbone for my learning of archaeology but my personal learning ecology which was much richer than the course itself, was what enabled me to be the sort of archaeologist I wanted to be.

Figure 3 My concept of a learning ecology - a network of processes and relationships linked by a goal or purpose.

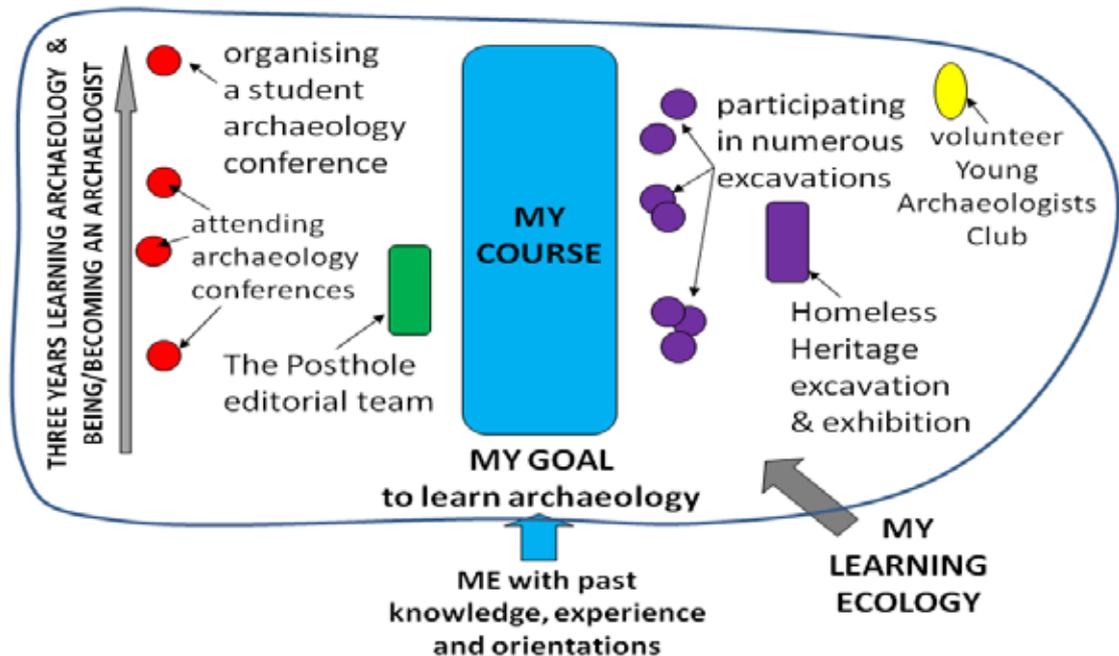


My degree course formed the backbone to my learning about archaeology. It provided me with contacts with people who were also interested in my subject and enabled me to develop a mind-set that encouraged me to engage with archaeology in ways that are outlined below. I now realise that my three years of studying for a degree, combined with all the other things I did that were related to being an archaeologist formed a significant learning ecology that gradually unfolded over this period of time. I have attempted to represent this ecology below.

The one experience in my course where I feel I had to create my own learning process was my final year dissertation which required me to create a learning project around something I found interesting and challenging. I had taken a module in my second year which involved a technique called ZooMS for analysing collagen in animal bones to identify animal genus. The academic responsible for developing the technique wanted someone to try the technique on erasure rubbings from bones. I thought this was interesting so I wrote my proposal and created a process that involved me sourcing samples, experimenting using different rubbing and collagen extraction techniques, analysing the collagen using a Mass Spectrometer, then processing the data and writing up the results. Although the process for achieving my goal was not particularly smooth it was one that I had largely created based on my past experiences of academic research

gained throughout my three years at university. From an ecological perspective I can see that I involved a lot of different people to help me including my supervisor, laboratory technician, two of my peers who were involved in similar work, a museum curator, and a PhD student within the department. I drew on a range of resources and facilities including collections of ancient animal bones, specialist laboratory, processing software, and articles. The research process was not straightforward and I was forced to modify my process as I realised that certain methods did not give me the results I was hoping for.

Figure 4 My learning ecology for the purpose of becoming an archaeologist



But some of the best opportunities for me to learn how to be an archaeologist lay outside my degree course. For example, in my second year I joined a group of students that acted as an editorial team for a monthly archaeology journal called The Posthole, which published articles by archaeology students. I acted as a coordinator and also tried to attract writers. Working within this team was an important learning curve, ensuring that the team operated together smoothly to achieve a goal while bringing together the priorities of different individuals within the team.

Being an archaeologist involves 'digging' to expose artefacts through which we can interpret the past. Unfortunately, my course only provided a four week introductory fieldwork course so I joined a number of 'digs', six in total run by two different PhD students, a member of the academic staff, a commercial company, and an external public organisation. Overall I probably spent over three months on excavations which gave me valuable insights into how to organise and conduct a dig, how to conduct various types of surveys, how to prepare, identify and display artefacts and beyond this how to work as a member of a team. The commercial digs I undertook introduced me to the world of commercial archaeology and the different approaches and mindsets that are used in the commercial world.

One of these projects had a particular significance for me. Homeless Heritage was started in 2009 by a PhD student at the University of Bristol. It is dedicated to working with homeless communities in order to understand and value the spaces used by such communities using archaeological methods. But it is more than archaeologists just applying archaeological techniques to the study of spaces that a particular group of people use: it involves working *with* homeless people in order to understand the relevance of what is found. In this way I was able to form friendships with people I would never have come into contact with in my student life. I began to appreciate the problems of homeless people and to see the world through their eyes. The experience enabled me to understand the value of contemporary archaeology, but I also began to see a new relevance of what I was doing, through it I became interested in the ways archaeology can be used to engage communities. The excavation was only the first stage of our project, the next stage involved telling people what we had learnt. After carefully cleaning, describing and cataloguing the artefacts we had discovered we organised a week- long exhibition, in which everyone was able to get involved and introduce the project to a wider audience.

Through the Homeless Heritage project I developed an interest in using archaeology as a means of involving people in a community project and I made this the subject of a seminar I had to give at the end of my course. In my final year I began to imagine myself working in the field of 'community archaeology' and I discovered that the Council for British Archaeology (CBA) offered a number of Community Archaeology Training Placements. I decided that I would apply for one of these and to give myself a better chance of securing this position I volunteered to help the local organiser of the Young Archaeologists Club (YAC) and was able to assist her with the running of a number of Saturday trips for school children which I really enjoyed. Unfortunately, because of illness, I was not being able apply for the Community Archaeology Training Placements but the experience provided me with a useful insight into archaeology as a possible career, outside the more traditional roles of archaeologists.

There is one more set of experiences that contributed to my overall learning ecology. Throughout the three years of my course I was fortunate enough to attend a number of conferences organised by the theoretical archaeology group. I had to pay for these and they were outside the academic term. I thoroughly enjoyed the experience and it was a great opportunity to be exposed to people working in the field who presented the results of their research. This experience gave me the idea that we could perhaps run a conference for archaeology students nationally . With two other students I spent a significant part of my final year organising and marketing the two day conference which we held in July 2013. It was a great success with over 60 participants. Throughout the months of organising the conference a whole range of problems and issues were raised from working out the live streaming of the conference through to booking rooms and organising payments. Each of these challenges required us as a team to find contacts and resources that would help us to overcome each challenge allowing us to fully develop the conference into the successful project it was.

Looking back over my higher education experience I can now see that my course provided me with the basic knowledge I needed but that my attempts to learn archaeology and become an archaeologist involved much more than turning up for



lectures and studying the reading list. Many of the experiences through which I learnt and developed myself were part of a bigger self-initiated and to some extent self-created learning ecology. I believe that the choices I made in getting involved in these wider experiences personalised my experience and the learning I gained from it. Most of these experiences were connected not so much to my course but to the bigger context of being amongst, and putting myself amongst, like-minded people interested in archaeology. The relationships I formed with some members of staff and doctoral students in particular opened new opportunities for me and enabled me to find the help I needed when I needed it. Since finishing my course, circumstances have meant that I probably will not pursue archaeology, other than for my own interest, but what I will carry with me is the belief that there are always opportunities to learn and develop if you look for them and if you are willing to get involved.

Michael's narrative provides a useful demonstration of how the idea of learning ecologies can be applied to undergraduate higher education. It shows that the process of learning, being and becoming is not simply confined to the structure, content and assessment of a course. Rather we see how his intrinsic motivations, his desire to become a *good* archaeologist, form the central purpose around which he creates his personal learning ecology. An unfolding and sustained process that embraces not only his course but also contains within it all the other opportunities for learning that he has accessed or created for himself. Through the visual aid provided in Figure 3 we see at the micro-level a multitude of *processes*, each with their own purpose connected by the overarching goal, a multitude of *relationships* involving people associated with the course and the university, and some people who are in the wider world, and a multitude of *contexts* within which learning, development and achievement are accomplished.

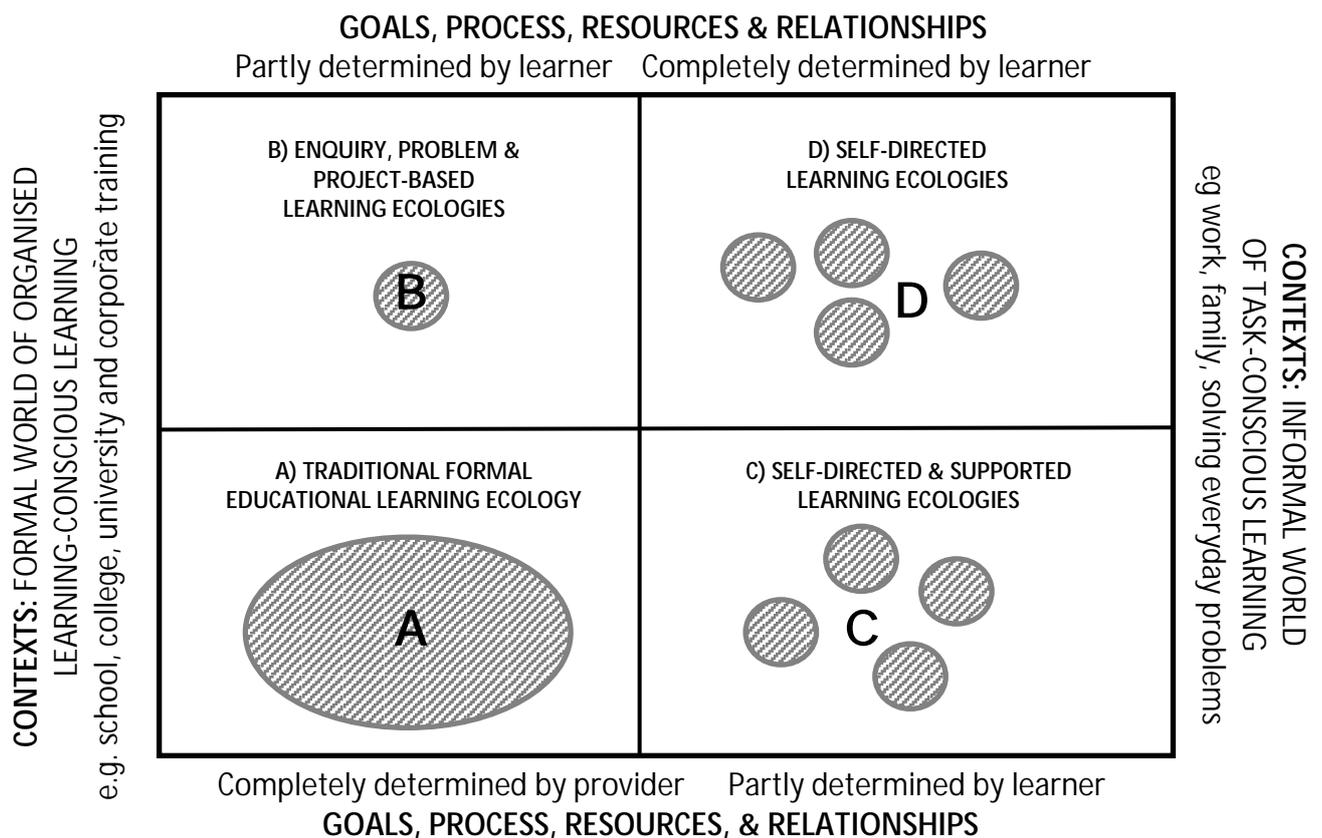
We see his learning ecology being used not just to learn about archaeology, or even to be an archaeologist but to become a certain type of archaeologist and beyond this we see Michael discovering that what he really enjoys doing is working with people. The narrative reveals how he discovered the particular aspects of being an archaeologist that he enjoyed and valued, and in that process how he found a possible way of continuing the ways of being that he valued through employment after university.

While Michael's course clearly provided the 'backbone' to his *'learning about'* archaeology it was the other experiences that he engaged with outside the course and in some cases outside the university environment, that enabled him to appreciate and learn what *'being an archaeologist'* meant to him. If we relate these experiences to the conceptual framework provided by Jackson 2013 (Figure 5) we can appreciate that his learning experience embraced all the conceptual spaces in this framework. His course (A) did not, for the most part, encourage him to develop his own learning ecologies, beyond the traditional ecology of reading and assimilating codified knowledge. It did however enable him to develop essential knowledge about archaeology, the conceptual language used by archaeologists and the skills required to be an archaeologist including the basic skills for excavating an archaeological site. The one pedagogic strategy within his course that did cause him to create his own learning ecology was his final year project and dissertation (B). Here he was given the freedom and autonomy to choose what to learn and how to learn it within the framework or requirements and support for this element of the course.



Outside the formal educational context he involved himself in various excavations (C) that were directed by others and through this he received support and guidance. Through these experiences he was able to apply and refine the skills he had learnt on his course and learn from others, how to conduct surveys and excavations. He also initiated his own learning ecologies (D) for example by joining the editorial team of The Posthole Magazine, participating in various conferences outside the university and leading/organising his own conference for students, and also organising his own archaeological surveys.

Figure 5 Categorisation of Michael's learning ecology using the framework developed by Jackson (2013 and Figure 2).



Overall, this seems like a very healthy learning ecology through which Michael gained the development he needed to become the archaeologist he wanted to be. From an educational perspective this is clearly a good outcome. But the issue is that this was not facilitated by an educational design, in fact the design was impoverished in the sorts of experiences Michael needed in order to develop himself. One might argue that this forced him to use his own agency, interests and passion to seek out and get involved with opportunities in his immediate contexts and the wider world. A more positive evaluation would suggest that given the small amount of contact time in many university courses (including Michael's archaeology course), and the relative absence of pedagogies that encourage learners to create their own ecologies for learning, there is perhaps a question as to how universities might encourage this orientation within their learners in order that they develop the dispositions and capabilities necessary to sustain their own learning ecologies after they leave university.

Learning Italian

In this narrative Sophie a higher education teacher and developer, describes her attempts to learn Italian with her husband and draws attention to the emotional side of a learning ecology. It provides another example of a learning ecology that connects the formal and informal worlds of learning (combining fields A & D in Figure 5).

Italy has been our favourite family holiday destination for the past twenty years or more. For a long time we had said to one another that one day, when we had time, we would learn Italian - conversational Italian so that we could be more at ease, more engaged and in tune with the culture when on holiday.

The opportunity came with a short course at the local university comprising four taught sessions and access to the Rosetta Stone online learning software over six weeks. My husband and I both enrolled and were informed that this was to be a quite immersive learning environment of conversation and exercises in class, and computer based exercises, quizzes, and pronunciation practise.

After the first couple of classroom lessons, I was taken aback to be so vividly reminded of the emotional elements of my own learning experiences. I have spent my career in facilitating the learning of others, as teacher, trainer, on-line tutor, coach, mentor etc., and managing my own continuing professional development. However, in this chosen learning experience I felt, by turns, nervous, shy and embarrassed, daunted, and uncomfortably competitive. I felt better when using the Rosetta Stone materials, even though I felt that I was making quite slow progress. I enjoyed the experience and the look and feel of the online materials, and felt reassured by the repetition and revision built into the exercises. By contrast, I felt that the classroom lessons each added more new vocabulary and complex grammar to the unending list of what I still needed to learn. The fast pace of the group work in the classroom did not work well for me.

My husband seemed to be coping well with the course, whereas I started to feel that I was overwhelmed and at sea - truly "immersed". I found myself seeking out approaches to language learning that I had used in my school French: lists and rules, declined verbs, explanations of tenses and grammar etc. I reminded myself that I like to see patterns and linkages in my learning, and that I need to successfully master basics, before I move on to new learning. I tried to master some basics using resources such as books, web materials, and other language learning packages I had had found and borrowed from friends. Meanwhile, my husband was progressing to reading Italian newspapers and browsing Italian dictionaries for new vocabulary. He started sending me texts written in Italian.....I started to panic and really felt like giving up.

I spoke to my sister who had learned Portuguese by simply moving to Portugal with her husband and very new baby, and just getting on with it. She was supportive and encouraging to me...

When we actually went to Italy, I found that although I was reticent to speak I was more ambitious in my decoding of menus, posters, radio and television commentaries, and



overheard conversations.....Several people we encountered on holiday: waiters, a café owner, people in shops, were remarkably warm to us, and seemed interested in our attempts to use our Italian (more my husband's than mine of course). I started to feel that I might be able to slowly learn enough Italian to feel confident to converse. The "list" challenge I had faced had morphed to the idea of more of a "map" to explore. I sent a couple of texts and instant messages home to family members, using a little Italian. I decided I might investigate Italian films this autumn.

There are lots of situations in life where, in order to learn something, we need to create a learning ecology that combines learning in more formally structured settings with application in informal unstructured settings. Sophie's narrative illustrates this type of learning ecology very well. Her story reveals the way she combined and interacted with a range of *contexts* for learning - classroom, on-line, at home, on holiday, a multitude of *resources* (e.g. *books, software, menus, posters, radio, TV*) and a variety of *relationships* including a teacher, fellow learners, family members and people she encountered on holiday. The story also reveals how she felt about the process of learning - the emotional roller coaster that both inhibits and motivates us during such processes and her need for encouragement and support to offset the feelings of incompetency. In engaging in this process Sophie realised something that was profoundly important to her professional role as a teacher.

I have been vividly reminded that my own learning ecology crucially includes other people, as sources of encouragement and inspiration. I guess this is also probably true for my approach to most life challenges. I have re-learned something immensely valuable for me as a teacher and mentor about the emotional environment in which learning occurs, an environment which extends far beyond a formal and managed learning situation and any support for learning that might be designed into it.

LEARNING ECOLOGIES IN INFORMAL UNSTRUCTURED SETTINGS

Most of our lives are spent learning and trying to achieve things in situations that are not structured or supported by educators or educational institutions. We have to create our own structures and processes for learning, find our own resources and build our relationships to help us learn. The next part of this chapter provides a selection of narratives that illuminate the ways in which context, process, relationships, resources, will and capability are involved in an individual's learning ecologies in the world of learning that predominantly lies outside organised education (field D in Figure 5) An appendix to this chapter contains further examples <http://www.lifewidebook.co.uk/research.html>

How did I learn to play Pokemon?

Trying to master something that interests us provides the intrinsic motivation to create a process and new relationships through which we learn. In this narrative Andrew, a twelve year old boy, describes his process for learning to play Pokemon.

When I started playing it was around spring last year and I had pretty much no idea of how to play the game. My friends had played it for many years before me and I felt I should join in too. First I bought myself a "theme deck" which comes with a complete deck and a very



rough and uninformative rulebook. I read this and still had hardly any idea of how to play the game so I went to a games shop and got taught by a very experienced player. She taught me how to play the game but not the complex aspects such as deck building and strategies. When I noticed that I still was lacking in many areas of playing I started listening to a podcast that was released every week. This was very valuable. I knew the person who ran it and frequently asked them for tips which helped me play with more strategy. I also watched tutorials and deck reviews on YouTube and read articles on the internet. This has all been very successful because, earlier this year I competed in the National Championships. I would have not got in if it wasn't for these things and they have been an invaluable resource.

This narrative reveals how the building of personal learning ecologies can begin at an early age if the *desire* to learn and master something is strong enough. The *process* reveals Andrew's increasing interest and involvement in a game that provided the *context* for his learning and increasing competency in playing the game. He realised that he couldn't learn much from the instructions so he sought help from an experienced player (*new relationship*) before accessing other learning *resources* available through a podcast (and interactions with the person who produced the podcast) and Youtube tutorials. Eventually he put himself into a *new context* competing with other players at tournaments in order to see how well he has mastered the game and to learn from the experience of playing against others.

Mastering the mysteries of a Morris dance

The intrinsic desire to master something can infect people of all ages and in all circumstances and provide the motivation to commit time and energy to creating and sustaining a learning ecology. Here is another example of someone who put themselves into a particular context in order to learn and master a particular dance.

I have taken it upon myself to develop an expert understanding of the Morris dancing and related folk music tradition.... I've committed myself to this journey and for me its about getting to mastery, not the rate in which I get to mastery. I purposefully put myself in positions to learn more.....I have been focused on learning a jig called "I'll go and enlist for a sailor". Some of the steps were eluding me. Over this last weekend I attended the Marlboro Morris Ale and was fortunate enough to meet John Dexter, who could teach me the jig. I was shown the steps in detail by a master of the dance, much of the mystery of the steps were demonstrated, they are no longer a mystery. All my reading of the dance, and watching videos had prepared me well for this master / apprentice type session. I was ready to learn and the correct situation presented itself as I was on my learning journey, often it is important to hold the faith that the right learning is available at the right time. The Morris Ale became a part of my learning ecology.

In this example of a learning ecology Paul makes the point that in order to learn you have to put yourself into an environment (*context*) in which you are more likely to find the *resources* that you need to learn ie a major event where Morris Dancers came together to perform and share their tradition. By building a *new relationship* with an expert he was able to gain access to expert tuition to enable him to complete his learning project. This example illustrates the importance in personal learning ecologies of particular spaces and places (contexts) in which



certain resources and relationships are more likely to be found and the importance of designing a learning process that will increase the chance of accessing such resources.

Venturing into the unknown

One of the important reasons for creating a learning ecology is to find things out in order to do or achieve something. In this example of a learning ecology, Richard and Colin describe the process of planning and then executing a kayaking expedition to Ethiopia.

Richard: We originally intended to go to Pakistan, the northern area around Gilgit.....The only difficulty was that it was in Pakistan and Pakistan isn't very stable as a country....three weeks before we were due to go ten foreign trekkers were murdered by the Taliban in the area we were going to.... We decided it wouldn't be safe or sensible for us to go to Pakistan. So with three weeks to go we had to decide on another location for our expedition. We did in fact have a plan B. One of the team members (Peter) had proposed southern Ethiopia at the selection weekend....He had already done some ground work for an expedition to Ethiopia so we decided to go for that. He knew a lot about the rivers in Ethiopia but we didn't have contacts in the area we were going to but Peter had a lot of contacts in the rafting industry in Kenya who put him in touch with people in Ethiopia [which has been a great help]. One of the most difficult things has been trying to find a driver, a vehicle and a guide for when we are out there. We have tried to find contacts and people who can help us in a variety of ways. Some of it has been through internet searches and finding people who have kayaked in Ethiopia before and then trying to use their contacts. At a personal level my little sister is adopted from Ethiopia and when my mum was out there for just over a month she made connections in Addis, so I contacted these people and we're going to stay with them at their guest house initially and they said they would help put us in contact with a driver.We've got maps for the rivers but we will need a bit of a fixer. None of us speak Amharic, unfortunately, so we need someone who can fix things for us if we get stuck and if we're in trouble we need somebody who can talk to local people and if we're desperate we need to sort out food or water.

In this example we see a small group of people coming together in the *context* of organising an expedition to a remote part of the world pooling their *relationships and knowledge resources*. Each member of the team has his/her own ecology but they are woven together in a *process* to achieve their collective goal. We see them identifying a number of logistical problems and the ways in which they were trying to solve them under the pressure of a severe time constraint. We also see that they recognise that when they get to Ethiopia they will enter an entirely new and unfamiliar *context* and need to gain access to particular *resources* and develop a whole new set of *relationships* in order to complete the challenge they have set themselves. It is a continuous *process* of knowledge building and most of that knowledge will emerge through their experiences (process) and the relationships they make.

Colin, another member of the team, continues the story of the expedition.

Colin: So the team were in high spirits after completing the first descent of a river called the Kola, first paddling a class three section followed by a lovely 10km bridge to bridge section of continuous class 3/4 and after some permit banter decided to make a more ambitious



plan...

Our Plan:

Wake up to find a lovely sunny day.

Drive to the Gidabo, a very promising river dropping an average of 20m/km for 25km through a big gorge, to find a perfect medium water level.

Paddle a 20km first descent gorge section of awesome class 4/5 whitewater.

Float leisurely down about 5km of flatwater meandering through vegetation to meet our driver and guide at the takeout in time for tea.

It was a lovely simple plan But what actually happened? We were woken by thunderous tropical rain throughout the night, and crawled out of bed in the morning to find a day on the damper side of sunny. We drove to the river to find a promisingly not flood stage water level. Deciding it was good to go we jumped on and paddled 15km of awesome class 4/5 white water. Ear to ear grins were the order of the day as we proceeded smoothly and swiftly down what we all decided was some of the best paddling of its style we had ever done. The gorge was spectacular with untamed jungle and impressive cliffs towering above us.With beautiful black and white Colobus monkeys leaping overhead and only one straightforward portage round a scary 25ft waterfall our plan was developing well, the rapids were easing and we felt we must be getting close to the flat water at the end of the river.



....The Google map terrain showed an ominous close packing of contour lines just before the flat section, whereas our Russian topographic maps from the 70's showed no indication of this. We had decided the Russians were right. [But] instead of petering out to flat waterthe river started picking up some significant gradient again. We found ourselves picking our way through some great class 4/4+ rapids characterised by huge boulders (and enough siphons to force concentration). Soon we found ourselves on the lip of a giant class 5+ boulder-jumble rapid and late in the day this was a clear portage for the team..... the gorge walls were [near vertical] and exactly how to portage was a lot less clear. Richard and Josh opted to gain a scary eddy above the lip of this beast and check whether access was possible along the left bank. Luckily it was and after one by one safely making the eddy some classic expedition jungle portaging ensued. A peek over the next horizon reluctantly concluded

that the score was Google 1 : 0 Russia.

A few hours, lots of portaging, three swims (under trees and rocks), one paddle and some scary kayaking later we were running out of day in which to paddle. The *plan* was starting to go awry. We decided with limited daylight left and no sign of the borderline unrunnable whitewater relenting we had to call it a day and spend a night in the gorge. We found a

decent footpath leading out of the gorge and pitched camp halfway up, with a troop of baboons surveying us from the opposite cliff face. Dinner was 375g of noodles and a tin of tuna shared between five of us and breakfast was a multipack snickers bar chopped into five pieces. Between these much enjoyed luxuries a bitterly cold night was endured, albeit in a stunning location.

In this example of a learning ecology we witness a small group of people working as a team (*collaborative relationships*) putting themselves into a totally unfamiliar and physically demanding *context* and relying on their *own resources* as well as google and existing maps. Their passions and ambitions motivated them and they took calculated risks in order to challenge themselves and their own capabilities as expert kayakers. Their *process* for discovery was simply to engage with the river and try to read its behaviour according to their past experiences of kayaking. Through this process they discovered new knowledge about the river they were exploring: knowledge that could later be shared with other interested kayakers. The narrative also reveals that although we might make plans based on what think we might expect, the reality of the situation may be very different and we have to be prepared to improvise and adapt to the actual situations we encounter drawing on all of our past experience and capability. There is a strong element of learning from experience in a learning ecology that engages so dramatically with the physical world.

Innovating at work

Work projects involving significant change must also involve significant learning and the development of a new learning ecology to accomplish the change. In this a example Samantha, a university lecturer, describes her attempts to create a suite of on-line course for professionals in her field. This was the first time she had ever tried to design for an on-line environment so was an entirely new educational context for her.

I obviously used the [market] research that we had done. I discussed it with the Head of School and the other school management and what the outcomes of this research were and the headings that we would put together to begin to develop the short courses. Then I had to find external people to help with writing content...I found these people by sort of using my own contacts. I needed to provide a framework for the people to work with. So I began to think about that...a lot of email communication took place with them sending me materials and me checking it and going back to them with feedback. It was really..time consuming for me in terms of head space and having to pull myself out of my daily job, my normal responsibilities and almost doing this on top of that. ..I was doing a considerable amount of reading through materials and feeding back during my own time in the evenings and weekends. Without that, it would not have happened.

[it felt like] a constant battle because I always felt as though I was having to push other departments and other areas of the university to give me answers to questions that I had. It always felt as though the answers didn't exist in that point in time...once I had actually got past that initial stage of how do I put these first drafts of the units together, things began to roll and I began to discover who I could at least go to and say 'Look I have this question, who can I ask? Who is going to answer it for me? I need answers... 'I need to know.'



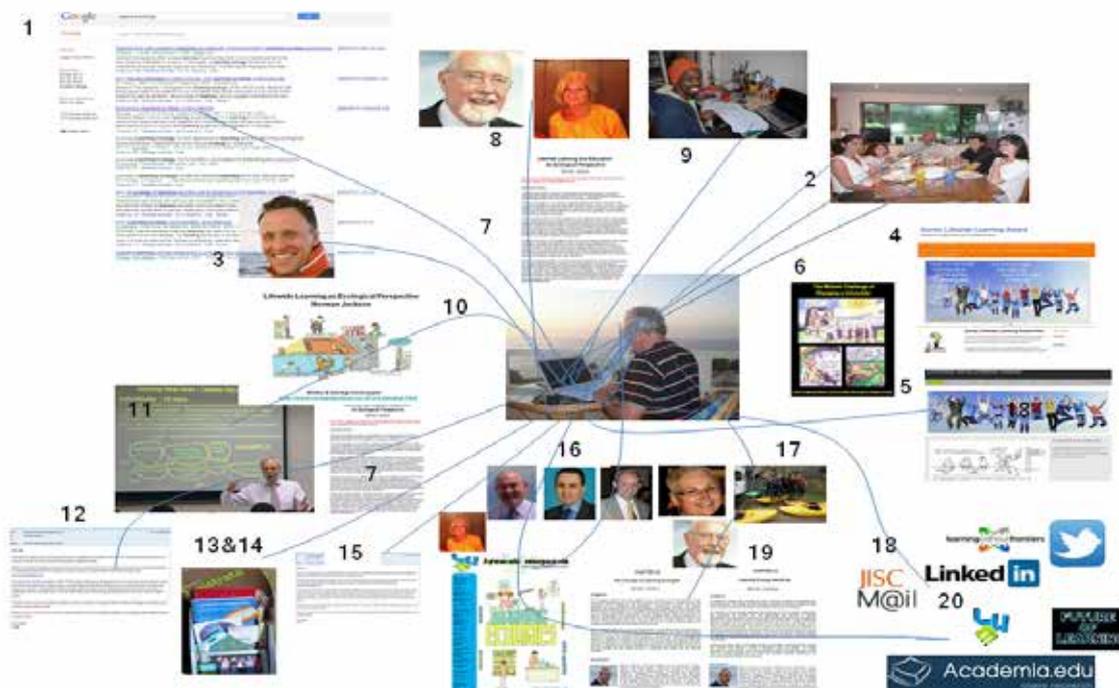
Once we got into the middle stages of the project because I was having to be on one hand a subject person...a learning and teaching person and an online education person, working with Michael and actually trying to understand the requirements of the [university's innovation] project itself and making sure that I was still always coming back to what we originally set out to do. I spent more and more time with the people from [university's educational technology centre] and asked for their feedback on what I was developing and what the externals were developing with me. They got more and more involved because they really believed in what I was doing once the momentum got going....without them helping me so much, I wouldn't have achieved the outcomes.

This story is grounded in Linda's *work context* and her desire to bring about change. Although the *process* was task-oriented significant new learning and personal development was gained. The narrative reveals important *relationships* some of which enabled some of which hindered or mediated the innovation - but all had to be accommodated and worked with. Her relationships included people with knowledge and expertise (*essential resources*) in the design of on-line educational courses and learning environments, experts in her network who would provide the content for professional on-line courses for the target industry, and people in central roles in quality assurance whose systems and procedures she would have to satisfy, as well as her manager. The narrative reveals something of the dynamic, messyness and emotion of learning in real work environments. But it also reveals the wonderful effects of creative collaboration by people who believe in and trust each other.

Learning about learning ecologies

In this narrative I describe an example of a learning ecology that is explicitly concerned with learning - my process for learning about learning ecologies. Figure 6 conveys some of the dynamics of the process.

Figure 6 My learning ecology for learning about learning ecologies



My *process* for learning began in March 2013 and unfolded over five months. It followed a pattern that is well known to me as I have used the approach for other knowledge building exercises. My initial *context* (my problem) was to create new resources in the form of a background paper and PowerPoint presentation for two workshops I was giving in June 2013 on the theme of learning ecologies. I also knew that what I learnt would feed into the September 2013 issue of Lifewide Education's Lifewide Magazine on the theme of learning ecologies and eventually I envisaged a chapter for Lifewide Education's e-book. So I had lots of incentives to motivate me to invest time and effort in this learning project. Figure 6 shows lots of relationships in my process including people I have worked with before and new people who I found and interacted with through my process. I drew on extensive existing *resources* (literature that was accessible to me) and created *new resources* (presentations, essays, workshop designs) through my process. I used *my capability* to find, synthesise, adapt, create and apply ideas, and build relationships with people who could help me. The outcomes for me include my learning and the tangible products - Magazine, two e-book chapters and presentations/workshop designs. The products (Magazine/e-book chapters) have been distributed via the Lifewide Education websites, JISC email lists, Linked-In groups and Twitter.

My ecological learning process

- 1 I began by using google/google scholar to search for articles that might be relevant. This process of searching for and reading articles and then following up further sources of information contained in article reference lists, and codifying what I have learnt in text and images continues throughout the process. Searching via google is an on-going and never ending process.
- 2 Early in the process I had a number of conversations with my family especially my wife who is a medical doctor(GP) and my youngest daughter who is at school about various learning projects they had been involved in. I recorded and transcribed one of these conversations. Later I gained deep insights into how the idea of learning ecologies might be applied to undergraduate



- university experiences through my two children who were at university (their accounts feature in this chapter).
- 3 I found a good example of a learning ecology in a blog and contacted the person by email him to see if we could use his article in the next issue of Lifewide Magazine (17). He readily agreed.
 - 4 I drew on examples of learning ecologies described by students undertaking the Surrey Lifewide Award (4) and the Lifewide Development Award (5) and also on interviews I had conducted for a research project into strategic change in a university which provided narratives of how teachers accomplished an innovation (6).
 - 7 I combined what I had discovered from published accounts and what I had gleaned in the way of narratives of complex learning and development to produce an essay which I shared initially with two members of the Lifewide Education core team - trusted peers whose opinions I value (8). One of my peers provided me with feedback which caused me to think more deeply and refine some of the ideas I was offering and produce a second - significantly different essay.
 - 9 I commissioned an artist to help me illustrate ideas about learning ecologies for my presentation (also with one eye on the future issue of Lifewide Magazine) and the conversations we had were helpful in representing and communicating ideas about learning ecologies (see Lifewide Magazine).
 - 10 I created a PowerPoint presentation for the first seminar and designed an interactive workshop (11) which involved people creating a narrative about a learning project they had orchestrated then as a group reflecting on the narratives to identify features that were consistent with an ecological perspective. In spite of the limited time it proved to be a useful and enlightening exercise. After the workshop I invited participants by email to continue sharing their ideas in a collaborative project (12) - only one person did but this proved to be very useful.
 - 13 I co-facilitated a second workshop at a university's staff development day. My co-facilitators designed the workshop around the creative idea of a 'shoebox ecology.' I decided to create my own shoebox (14). Choosing my bedroom as one of my lived in everyday spaces I placed a dozen objects in a shoebox that held particular significance for me around which I could create a narrative of experience, learning and developing. After the workshop I contacted participants in by email inviting them to prepare a personal learning narrative to help us gain deeper understandings of the idea of learning ecologies and a number replied positively (15). I also invited a small number of people who had not been involved in the workshops some of whom provided an account.
 - 16 I contacted a number of people and invited them to contribute their perspectives on learning ecologies for the next issue of Lifewide Magazine and continued to search for content for the Magazine. I interviewed a nephew (17) who provided another useful account for the Magazine about an expedition he was planning and this led me to a live blog which described what was happening as the expedition was in progress.
 - 18 I posted invitations to contribute personal narratives in three groups on Linked-In
 - 19 I sought feedback on drafts of my attempts to summarise my understandings and develop new conceptual tools. The feedback I gained was used to refine the way I presented my ideas. I sent copies of my articles to everyone who has contributed with a message of appreciation for their contribution and invitation to contribute further thoughts.
 - 20 In early September, the Magazine and chapters were published. To distribute the learning I had gained I circulated notices via JISC MAIL, Linked-In, Twitter, Academia and our own websites. I also sent the chapters to the university where I had run the learning ecology workshop as they



were utilising the information in a bid they were writing for external funding. Through these actions I anticipate that my learning will be utilised in other people's learning ecologies.

I have catalogued the most important actions in *my learning process* to highlight the importance of process in a learning ecology which is driven by an overall interest in trying to gain more and deeper understanding, but also a desire (*will*) to create tangible products that document these understandings in the hope that they will be useful to others. The process was not like following a pre-determined curriculum. It was, and still is, a process of enquiry, searching for and trying to make sense of *knowledge resources* that are accessible to me through the internet and creating *tools* to help me think about the idea.

My process has involved utilising existing *relationships* and developing new *relationships* which provided me with personal knowledge in the form of narratives of learning and achievement. Much of my process was and still is emergent ie there is a goal but the precise route to that goal cannot be seen at the start of the process. I have to trust that the process I create will take me in the direction I want to go. Because I have enacted such a process before I know I have the *capability* to find and gain access to these resources and to build the relationships that will help me and also the *capability* to use the resources I find in a productive way.

Not everything worked out in the way I hoped it would and many of the invitations to contribute a personal narrative or provide feedback on ideas did not result in contributions. But I know from past experiences that where participation in a learning ecology is voluntary this is the normal pattern of response. The important point is that I am confident that enough people will see the value in what I am trying to do and their contributions will be sufficient to enable me to make progress. Another important point is that this type of sustained social learning process is probably similar to what many people engage in, in knowledge working situations.

IMPLICATIONS FOR LIFEWIDE LEARNING AND EDUCATION

In Chapter A5 (Jackson 2013) I argued that the ability to create a learning ecology is essential to how we learn, develop and achieve outside the structured, guided and supported context of formal education. It is fair to say that the idea of learning ecologies has yet to be developed and applied in higher education in the UK which seems to be much more preoccupied with the instrumental and immediate idea of employability. As the personal narratives so clearly show our learning ecologies embody the essential orientations, dispositions and capabilities we require to undertake significant learning projects - to pursue effective and sustained action in the world. As Michael's narrative shows, higher education has managed to get away with this omission because enough learners work out for themselves that they have to create their own learning ecologies in order to survive and prosper in the world outside higher education. But if the purpose of a higher education is to prepare learners for their future life in the unstructured world of learning outside the university environment then surely universities have a duty to consider the educational implications of these ideas, or at the very least raise awareness amongst learners that this is the way they learn and develop themselves in the wider world.



If the logic in these perspectives and arguments is accepted then the next step is to consider the questions, 'how might universities encourage learners to develop and practice the orientations and capabilities necessary for creating their learning ecologies and how might universities recognise learning and development gained through individuals' own ecological learning processes?'

Curriculum-based ecosystems

The key design feature of personal learning ecologies is that individuals have to create their own process for learning and achieving in their own contexts. It is their intrinsic motivations that drive their enterprise and their decisions about what to do and how to do it that create the process. Embedded within this self-created process is their own recognition and formulation of problems and their own awareness and exploitation of opportunities. Their process is fundamentally one of enquiry, discovery, evaluation, selection and application of resources - including knowledge and people. Their process is also often a social process involving the productive use of existing relationships and the creation of new relationships.

There are many pedagogic approaches used in higher education that encourage these behaviours and require learners to create their own learning processes with varying degrees of intervention and support by teachers. For example, enquiry and problem-based learning, individual project-based learning (including research projects), collaborative learning tasks requiring negotiation and teamwork, case studies involving active enquiry. Some co-curricular environments, and work- and community-based learning environments also provide excellent contexts within which learners can create their own learning ecologies.

Barab and Roth (2006) argue for an ecological approach to curriculum design.

it is one thing for a curriculum designer to develop a context to support the acquisition of some formal content. It is quite another to establish a context that has the potential to connect the learner to a larger network of possibilities. It is still another to develop it in a way that engages the individual to the point that his or her life-world is expanded to include more complex networks, thereby supporting richer potential for more expansive affordance/effectivity couplings (Barab and Roth 2006: 4).

They define personal learning ecologies in terms of 'engaging affordance networks, that is the collection of the material, social and human capital necessary for effective accomplishment of a particular task.' (ibid 8) To facilitate this they imagined a curriculum framed around interesting problems, where what is 'interesting' and 'problematic' takes place in the student-environment ecology rather than being imposed by a teacher with students working their way through what are less like direct-instruction lessons and more like 'curriculum-based ecosystems' (ibid 9). They emphasise the importance of establishing rich contexts and then providing necessary scaffolds to support the learner in successfully enlisting meaningful trajectories through the network. Such curriculum-based ecosystems begin by setting up the problem and then making available various resources and suggested activities through which students assemble and engage with the necessary networks for solving the problem.

A key element of Barab and Roth's proposals for curriculum-based ecosystems is the



connectivity between domain specific content and the relevance such content has in learners' own life-world.

The life-world is the world given to the acting person in his or her perception and, therefore, the world as it makes a difference in and to his or her life; a life-world consists of those things of which the acting individual is currently conscious and the functional network that the individual engages in and enacts. (Barab and Roth 2006:7).

A few years ago, while working at the University of Surrey, I developed the design concept of a *lifewide curriculum* that would encourage learners to see the whole of their life experiences as opportunities for their own development and enable them to integrate learning and development from and through any aspect of their lives into their higher education experience and vice versa. I was not familiar with Barab and Roth's notion of curriculum-based ecosystems at that time but I can now see the relationship between the two sets of ideas. Both attempt to engender an ecological approach to learning and development however a curriculum-based ecosystem connects the formalities of disciplinary learning to the informalities and relevance of learning in the learner's own life-world whereas the lifewide curriculum works with the principle that the learner is the designer of their own life within which disciplinary learning is one facet of their learning and development.

The lifewide curriculum is a response to the challenge of how to design a curriculum that enables learners to integrate their life experiences into their learning and developmental process to prepare themselves for the complexity and uncertainty of their future lives. Such a curriculum shifts the focus from a 'skills, standards and outcomes model of curriculum [to] a reflexive, collective, developmental and process oriented model' (Barnett and Coate 2005:18). It focuses attention on the importance of developing capability, dispositions, knowledge, qualities and confidence for acting in the continuous stream of situations that constitute learners' lives and it shows them that higher education values the choices they are making about how they are choosing to live their lives. Jackson (2006: 114) elaborated ten principles (Table 1) for a lifewide curriculum that would also facilitate an ecological approach to learning and personal development

Table 1 Propositions for a lifewide curriculum supporting an ecological approach to learning

An imaginative lifewide curriculum:

1. gives learners the freedom and empowers them to make choices so that they can find deeply satisfying and personally challenging situations that inspire, engage and enable them to develop themselves
2. enables learners to appreciate the significance of being able to deal with situations and see situations as the focus for their personal and social development
3. prepares learners for and gives them experiences of adventuring in uncertain and unfamiliar situations where the contexts and challenges are not known, accepting the risks involved
4. supports learners when they participate in situations that require them to be resilient and enables them to appreciate their own transformation.
5. enables learners to experience, feel and appreciate themselves as knower, maker, player, narrator, enquirer, creator and integrator of all that they know and can do, and enables them to think and act in complex situations



6. encourages learners to be creative, enterprising and resourceful in order to accomplish the things that they and others value
7. enables learners to develop and practise the repertoire of communication and literacy skills they need to be effective in a modern, culturally diverse and pluralistic world
8. enables learners to develop relationships that facilitate collaboration, learning and personal development
9. encourages learners to behave ethically and with social responsibility
10. encourages and enables learners to be wilful, self-directed, self-regulating, self-aware and reflexive so that they develop a keen sense of themselves as designers/authors and developers of their own lives appreciating their learning and developmental needs as they emerge.

This concept of a lifewide curriculum is intended to complement and inform, not replace more traditional forms of academic curriculum - i.e. a 'lifewide' curriculum embraces *all* of a student's experiences while they are engaged in a higher education. The propositions take account of the need for learners to work things out for themselves as they engage intentionally or accidentally in the experiences that they encounter or create in the real world outside the classroom. An ecological approach to learning is predicated on the view that learners themselves will create their own *curriculum for learning* drawing on the opportunities, resources and relationships in their lives in order to pursue their interests, fulfil their needs and ambitions and maintain their physical, emotional and spiritual wellbeing.

Example of a Lifewide Education approach to learning ecologies

Lifewide education provides an educational construct through which an individual's lifewide learning projects and their related learning ecologies can be encouraged, supported, valued and recognised (Jackson 2011, Barnett 2011). Lifewide Education CiC has established an award framework ([Lifewide Development Award](#)) for encouraging, supporting and recognising learners lifewide learning and personal development ie it engages with field C in Figure 2.

The following example of a personal narrative is offered as a way of promoting thinking and discussion about the value and feasibility of recognising the learning ecologies of university students in the contexts of their lifewide learning and personal development. At the time this testimony was written Natasha was about to start the second year of her degree course in European Politics. She is helping to pilot the Lifewide Development Award so over the past twelve months she has maintained a personal development plan which set out six aspects of herself that she wanted to develop. These became foci for her personal learning projects. One of her developmental goals was to improve her communication skills utilising new media and in the context of making friends and building relationships as she began her university career - something she was apprehensive about when she started university putting herself into an entirely new context. Here we have the key ingredients for a learning ecology - a new and unfamiliar *context* (university), the utilisation of new *resources* (making use of new media), personal *goals* (to develop new *capability* and to form new *relationships*/make new friends), desire and anxiety as *motivational forces*, and her own interests and effectiveness (*capability* to act on the opportunities available to her).

Having just completed my first year of University I looked back on my Personal Development plan. In this plan my goal was to develop myself as a communicator in a



range of different contexts, including use of new media and making new friends. I set this goal because I am thinking that working in the media industry might be something I could do when I leave university. As the year unfolded I have embraced many opportunities in the hope of fulfilling this goal. However, what I was not expecting was that my goal would itself evolve as a result of different experiences.

The first step in my journey to develop myself as a communicator was embarking on my university European Politics course. Whilst I was used to writing essays when studying for my A levels, my experience in group presentations was limited. Through my course I learnt more about forming relationships and communicating in small groups in order to create presentations on various topics. I also improved my oral communication as I gave presentations, both on a political topic and self reflection. My experience in technology and social media grew as I used Facebook to communicate with my group also I learnt how to use various university websites. This was alongside my personal blog which I wrote on a website I had created using Weebly to record my experiences and reflections on my journey of self-development. Interestingly, I started with a written blog but later decided to record my thoughts as an audio file.

The first few months at university were very busy settling in to a new way of life but over the Christmas holidays I resolved to get more involved with opportunities that would help me develop as a communicator. I soon realised that some of the best opportunities for developing my communication skills lay outside my course.

I enrolled as a campus reporter on 'Impact' the student newspaper to gain some experience of working . In particular I wanted to try to develop a journalistic style. As a member of the editorial team I had to write a piece each week. I covered the university elections interviewing candidates and following them on the campaign trail writing articles for publication. I had to work to very tight deadlines and this discipline has helped me to become more focused in my course work.

Halfway through the year I had the opportunity to join a production of "Lysistrata" which was a collaboration between the university theatre group and a professional director. Through the play I learnt to work and communicate with people from different backgrounds to me and also people who are both older than me and with a greater level of acting experience. The production involved a lot of improvisation and the trick was to use communication to develop a deeper understanding of each other, to help us combine our different visions.

It was through the play that I was first introduced to the university's radio station as a couple of us were given the opportunity to advertise the play on a news show. After enjoying my role as guest on the radio show I talked to my friend about other ways I might get involved in radio and she recommended that I guest on her show, and so one opportunity led to another. This showed me how important networking was in giving me the opportunities to try new experiences.

When I went home for the summer break I decided to look for experience in radio, I called up lots of radio stations but no one was able to offer me any work experience. I realised they would only hire me if they had a need for me. I decided my best option was to utilise



my knowledge of social media, which stemmed from my use of social networking sites and my personal website. I ended up applying for a job at Susy radio as a social media executive. However, when I arrived for my interview I was informed that the role had already been filled. But I seemed to get on well with the presenter who interviewed me and when I told her about my work on the university newspaper and my interest in politics she told me that there was an opening within the news team as a news broadcaster. So after expressing an interest in the position I was offered the job. After a week of training, I took over as a news reporter, preparing a four minute bulletin and reading it on air.

Working as a reporter has been a very steep learning curve. I observed the news being read one day and the next I was reading it! I feel that one of my greatest assets in this field is my voice which because of past experience and coaching gained through drama and Lambda I can control and I am able to modulate, which makes it more interesting for the listener. Written communication has also been very important to the role, but in a different style to what I have used before, as I had to write a script that is short, accurate and gets straight to the point. I do however sometimes struggle with the pronunciation of names which I hope will improve with experience.

George, who presents the show I work on, has shown me just how important a mentor can be in helping me develop and providing me with new opportunities for development. He has helped me improve many aspects of my performance on the radio, offering me advice and enabling me to analyse my performance by helping me spot where I have done well and where there is room for improvement. George's role is similar to the role my director played in *Lysistrata* both of them tried to improve my performance without taking away my creative freedom. Both these experiences have helped me realise how vital communication in the form of sensitive and constructive feedback is as I try to improve myself.

I could not have imagined at the start of the year that I would be where I am now. Looking back I can see that I sought out opportunities to develop my communication skills and that what I have done is enabling me to experience the world of journalism and broadcasting that is totally new to me. In the process I have used a range of media to communicate, and I have made many new friends so I have been true to my original goal. My next step in my personal development plan to improve myself as a communicator will be more focused. I now know that presenting on radio seems to come naturally to me and I enjoy doing it so I am looking at the possibility of presenting a programme which discusses news and presents opinions, so focus will be on refining my interview and presentation techniques and continuing to network.

Each of the activities Natasha describes above constitute a discrete 'project' through which she has learnt and developed. Taken together they represent a significant commitment of time, effort and achievement. While each involved a discrete process they are bound together by a common goal - to become a better communicator - and the emergent process can be conceived as an ecology for learning, personal and professional development. All of the activities involved creating new relationships and networking - both friendships and professional relationships. Most of the experiences involved her putting herself into unfamiliar contexts knowing that it would afford her the opportunity to learn something new. Through the whole process she has gained valuable insights into what she enjoys doing and what she



is good at, and she has learnt the importance of forming professional relationships to gain the feedback she needs to improve herself.

An annotated graphic such as Figure 7 provides the basis for describing the details of the learning ecology and for showing the relationships between experiences. For example, Natasha may not have got involved in the student radio if she had not been involved in the production of *Lysistrata*, and had she not discovered that she liked performing on radio she might not have looked for opportunities in local radio. Such linkages reflect the organic nature of a learning ecology in which new opportunities emerge through the process of doing and being. This type of narrative and reflective synthesis enables the learner to recognise and elaborate the ecological nature of their learning, personal development and achievement. Such a description, supported by blogs and validated through conversation with a mentor would warrant recognition through the Lifewide Development Award or perhaps an open badge system (see Jackson 2012 for an explanation of the badge system).

Figure 7 Natasha's learning ecology aimed at becoming a better communicator.



The future of learning is ecological

Learning has always been ecological but the concept has received relatively little attention in worlds of educational practice and policy.

In 2009 the EU Directorate General for Education and Culture commissioned a foresight study aimed at visualising the Future of Learning (Redecker et al 2011) the overall vision emerging from the study is that 'personalisation, collaboration and informal learning will be at the core of learning in the future. The central learning paradigm in a future world of learning is characterised by lifelong and lifewide learning and shaped by the ubiquity of Information and Communication Technologies (ICT)'. Although the concept of personal learning



ecologies was not utilised in the foresight study the conceptual and practical value of the idea to this vision of future learning is very clear and the narratives in this chapter show how this future world is already being enacted in the lives of contributors. The challenge for education (primary, secondary and tertiary) is to harness the idea of individuals' learning ecologies and develop the will and capability recognise and support these forms of learning and development.

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Appendix 1 Additional Learning Ecology Narratives available on-line at:

<http://www.lifewideebook.co.uk/research.html>

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