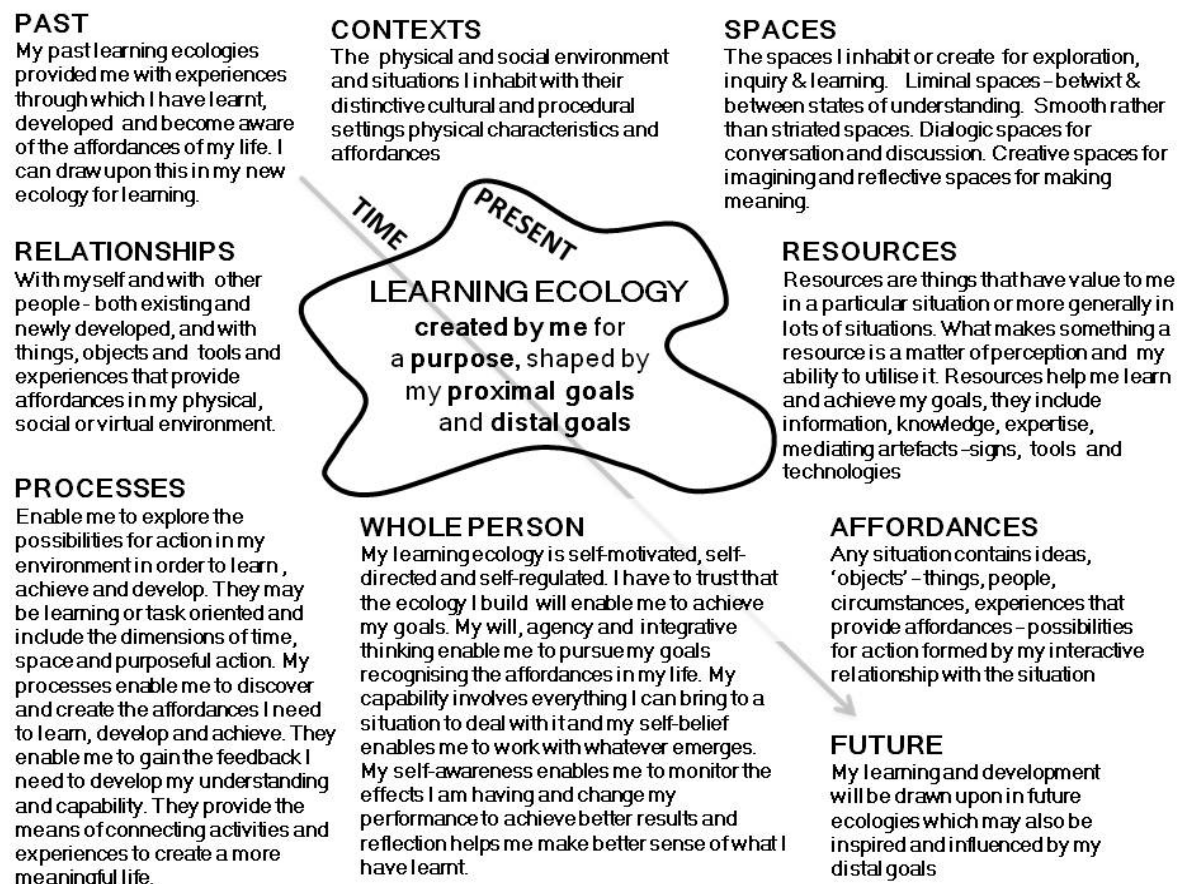# DEVELOPING THE IDEA OF LEARNING ECOLOGIES & ECOSYSTEMS FOR LEARNING IN HIGHER EDUCATION
Norman Jackson

Learning Ecology Model
An individual's self-created learning ecology grows from the circumstances (contexts and situations) of their life and is established for a purpose that is directed to accomplishing proximal (immediate) goals connected to more distal goals. Their learning ecology comprises themselves, their environment, their interactions with their environment and the learning, development and achievement that emerges from these interactions. It includes the spaces they create for themselves, their processes, activities and practices, their relationships, networks, tools, other mediating artefacts and the technologies they use, and it provides them with affordances, information, knowledge and other resources for learning, developing and achieving something that they value. We might represent these defining characteristics symbolically in a diagram (Figure 1).

Figure 1 Components of an individual's learning ecology Jackson N J (2016)

PAST
My past learning ecologies provided me with experiences through which I have learnt, developed and become aware of the affordances of my life. I can draw upon this in my new ecology for learning.

CONTEXTS
The physical and social environment and situations I inhabit with their distinctive cultural and procedural settings physical characteristics and affordances

SPACES
The spaces I inhabit or create for exploration, inquiry & learning. Liminal spaces – betwixt & between states of understanding. Smooth rather than striated spaces. Dialogic spaces for conversation and discussion. Creative spaces for imagining and reflective spaces for making meaning.

TIME **PRESENT**

LEARNING ECOLOGY
created by me for
a **purpose**, shaped by
my **proximal goals**
and **distal goals**

RELATIONSHIPS
With myself and with other people - both existing and newly developed, and with things, objects and tools and experiences that provide affordances in my physical, social or virtual environment.

RESOURCES
Resources are things that have value to me in a particular situation or more generally in lots of situations. What makes something a resource is a matter of perception and my ability to utilise it. Resources help me learn and achieve my goals, they include information, knowledge, expertise, mediating artefacts –signs, tools and technologies

PROCESSES
Enable me to explore the possibilities for action in my environment in order to learn, achieve and develop. They may be learning or task oriented and include the dimensions of time, space and purposeful action. My processes enable me to discover and create the affordances I need to learn, develop and achieve. They enable me to gain the feedback I need to develop my understanding and capability. They provide the means of connecting activities and experiences to create a more meaningful life.

WHOLE PERSON
My learning ecology is self-motivated, self-directed and self-regulated. I have to trust that the ecology I build will enable me to achieve my goals. My will, agency and integrative thinking enable me to pursue my goals recognising the affordances in my life. My capability involves everything I can bring to a situation to deal with it and my self-belief enables me to work with whatever emerges. My self-awareness enables me to monitor the effects I am having and change my performance to achieve better results and reflection helps me make better sense of what I have learnt.

AFFORDANCES
Any situation contains ideas, 'objects' – things, people, circumstances, experiences that provide affordances – possibilities for action formed by my interactive relationship with the situation

FUTURE
My learning and development will be drawn upon in future ecologies which may also be inspired and influenced by my distal goals

Our learning ecologies are the means by which we connect and integrate our past and current experiences and learning and they provide the foundation for future learning. They embrace all the physical and virtual places and spaces we inhabit and the learning and the meaning we gain from the contexts and situations that constitute our lives. Our learning ecologies are the product of both imagination and reason and they are the vehicle for our creative thoughts and actions. They are one of our most important sites for creativity and they enable us to develop ourselves personally and professionally in all aspects of our lives.

Higher education teachers have the most wonderful opportunities to create ecologies to help and enable students to learn and they have abundant resources and infrastructures in the learning environment to support the ecologies they create. A teacher's ecology for learning involves the teacher and their students immersed in a curriculum (usually subject-based) which is brought alive by the teacher's pedagogic practices and expertise, enacted and supported within the university's learning environment (or learning ecosystem) which is rich in affordances for learning contained within its spaces, curriculum and pedagogic contexts, resources, tools, technologies and professional support for learners and their learning.

Ecologies created by teachers to supports students' learning

A traditional university taught course taught face to face is designed, organised and implemented by one or more academic teachers who have both disciplinary and pedagogic expertise, within an institutional socio-cultural environment that is full of support and resources to aid learning. There is a structure (timetable/lecture schedule/credit structure) and procedural framework (rules and regulations) within which learning takes place. Programmes are organised into units or modules with explicit objectives, content, resources and processes that engage learners in activities through which they learn, and some of their learning is assessed using one or more methods determined by teachers. The institutional ecosystem for learning includes people - learners, teachers and other professionals who help learners, a physical environment including classroom spaces, social spaces, resources centre and virtual spaces where learners and teachers interact for the purpose of learning. Figure 2 shows the components of a typical ecology for students' learning that is designed and taught by a higher education teacher and implemented within the institutional learning environment or ecosystem.

Figure 2 Typical taught course ecology for learning created by a teacher to encourage and support students' learning and development enacted within the institutional learning environment or learning ecosystem.
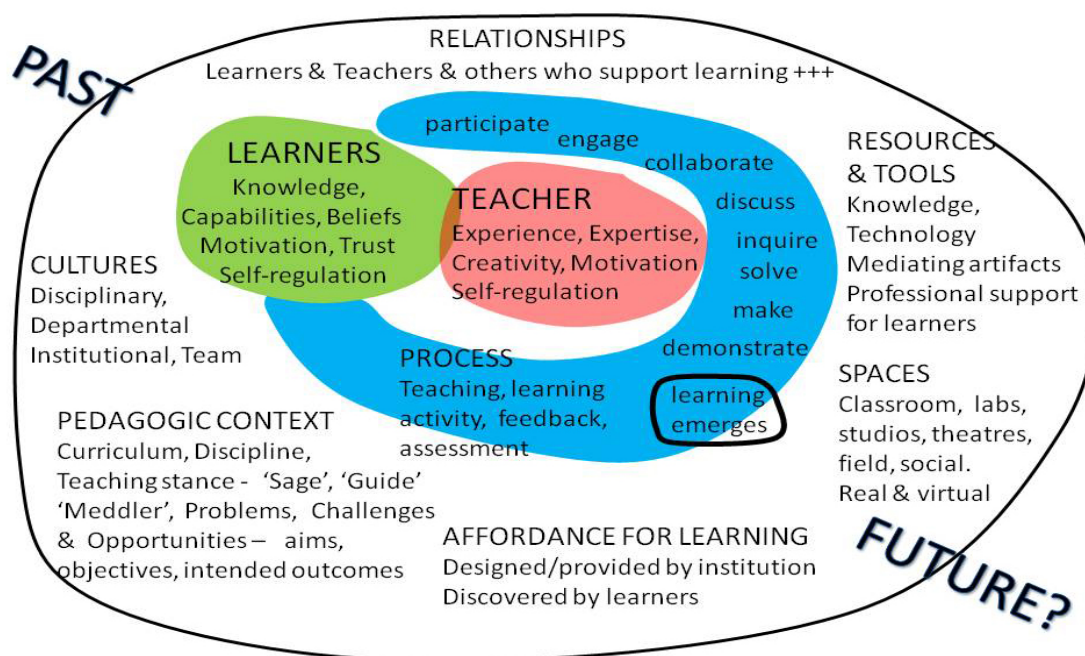

Applying learning ecologies and ecosystems for learning in HE

The university ecosystem for learning sits within an even bigger ecosystem for learning that is available to student learners. This 'whole life' ecosystem is available to students who have the will to learn and develop through their involvement in such activities as work, volunteering, community projects, travel, hobbies and many other events. An ecosystems view of higher education learning encourages us to

think about what might be termed a students' lifewide curriculm (Figure 3). An ecological view of learning enables us to embrace all potential learning environments and activities into a students' higher education experience and recognise development and achievements beyond the academic curriculum.

Figure 3 Lifewide curriculum (Jackson 2011)
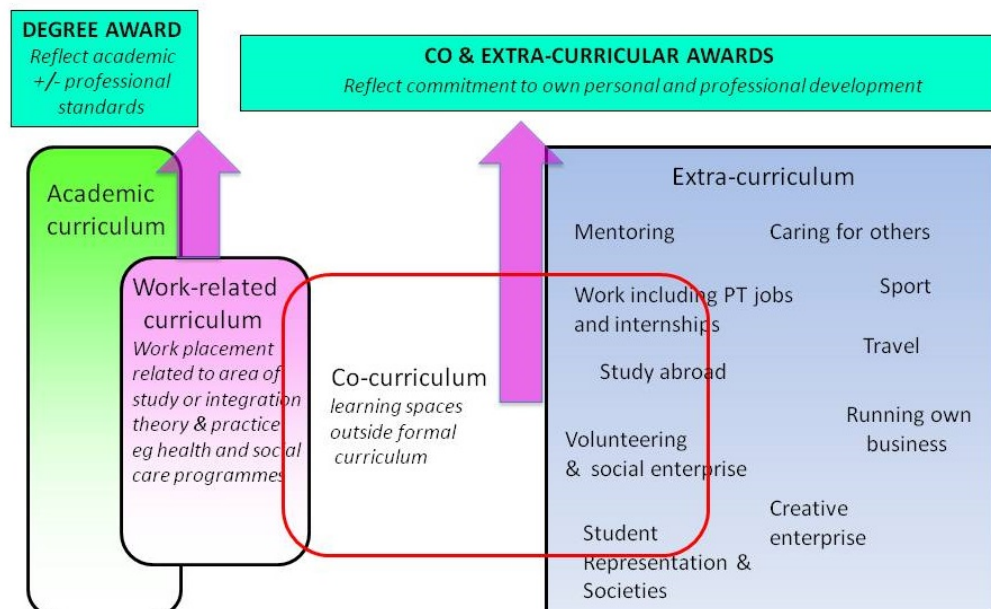
Evaluating the potential of a curriculum to support students' learning ecologies

Curriculum designers could evaluate the potential of a students' curriculum to support their own learning ecologies using a simple conceptual aid such as that shown in Figure 4.The 2x2 matrix is defined by the 1) *contexts or environments for learning* i.e. whether the contexts are formally constituted and structured within an academic programme or whether they are more informal semi- or unstructured opportunities for learning and development connected to or outside the academic programme and 2) whether the *institution or the learner* determines the what and why, the how, where and the when of learning, and ultimately determines what counts as learning. The key question is who determines the goals and purposes, knowledge and skill content, processes, resources, tools and technologies outcomes and achievements. Four different scenarios are imagined to represent the different conceptual spaces in Figure 4.

Figure 4 Conceptual tool for evaluating the affordances for learning available to students while they are studying at university based on the idea of a lifewide curriculum. These affordances occur in the institutional ecosystem and in the ecosystems beyond the university. The affordances are such that a students' learning ecology may be located in any of the conceptual spaces. The different spaces have different levels of affordance for students to determine and create their own ecologies for learning (D>C/B>A). The learning ecology dimension includes goals and intended outcomes, knowledge

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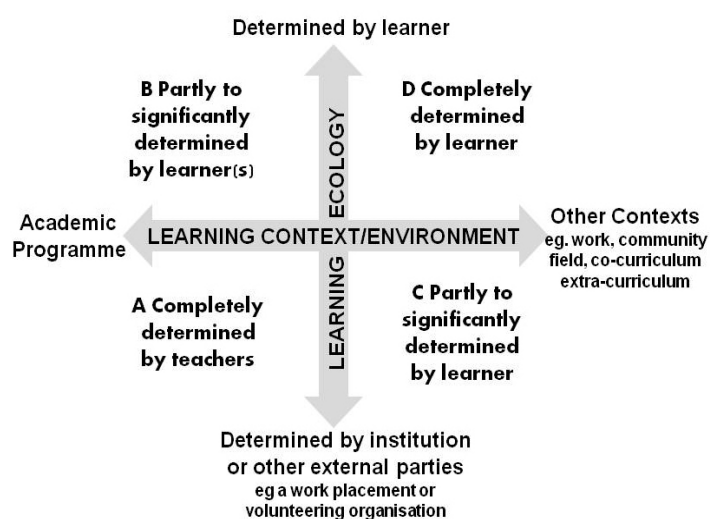
and skill content, processes, spaces, relationships, resources including tools, technologies and mediating artefacts and recognition of achievement.

A) Traditional lecture-based taught course ecology for learning

Teachers working with a pre-determined curriculum or syllabus containing specific knowledge and opportunities for skill development and supported by an appropriate set of resources, engage their students in a process for learning. The main activities undertaken by learners are attendance at lectures, perhaps supplemented by seminars, essay-based coursework assignments, and revision for examinations. Learning and achievement reflect mastering the content of the course, determined through teacher assessment. In this type of learning ecology the learner has little or no involvement in the design of the ecology they merely participate in one that has been designed for them. They have little or no control over the goals, tasks, content, process, resources and what counts as learning and achievement. Their learning is likely to be geared to gaining the best grades in their coursework and examinations.

B) Teacher designed ecology for 'active learning'. Students' have some involvement in creating their own ecologies for learning

Pedagogies that lead to extended processes for learning and contexts within which particular forms of learning are situated will engage learners in very different forms of participatory activity. Problem-, project-, inquiry-, event-, design and make, and field-based learning all actively encourage learners to define and explore their own problems, build and utilise relationships for learning, be resourceful and discover for themselves the knowledge they need to produce possible solutions, sometimes in contexts that are unfamiliar. In these types of learning contexts teachers operate as facilitators, guides, supervisors and coaches rather than didactic transmitters. Such pedagogies and practices help learners develop the will, capability and confidence to create their own learning ecologies for learning and achieving. Students will still want to gain good grades in their coursework and examinations, but in engaging in these sorts of processes they are gaining much more. They are learning through an experience that learning involves a process that has to be created. It involves assessing a situation, defining problems and seeing opportunities, setting goals, planning and executing tasks, discovering and applying relevant knowledge and other resources and forming new relationships. Although ultimately the teacher will determined what counts as learning and achievement and they may give little or no recognition for learners' processes of learning, learners will still have learned these things.

C) Students' self-directed but institutionally supported ecologies for learning

There are some contexts in unstructured learning environments, for example work, volunteering in the community, independent fieldwork, co-curricular enterprise and event organising, which involve learners in activity in which they determine for themselves goals, tasks, content, process and resources. Such environments are beyond the control of the teacher and institution but they may be influenced and supervised by other people like employers, supervisors, entrepreneurs, who may influence goals, tasks, content, process, relationships and resources, and ultimately the recognition of what counts as learning, performance and achievement. Universities can capitalise on these contexts for students' development through frameworks and processes that enable learners to visualise, plan, record/evidence, reflect on, make claims and gain recognition for their own learning and development. These forms of support and recognition vary in the extent to which they focus learners' attention on specific goals and outcomes or they encourage learners to define their own goals and achievements. Support may also be given to encourage and facilitate interaction between learners engaged in a similar process for example in providing a forum for students to exchange information and discuss situations.

D) Students' independent self-directed and self-managed ecologies for learning

This conceptual space is where people create their own learning ecologies for their own purposes typically for their own learning projects often associated with interests like sport, hobbies, travel,

working in the community or for a charity, enterprise like setting up a business or organising an event, raising a child and countless more contexts. Involvement and learning are not driven by the need or desire for formal recognition but by the intrinsic desire to improve self, and the sense of doing something worthwhile to contribute and make a positive difference. In such self-motivated circumstances the learner determines for themselves and or with co-participants goals, tasks, content, process, resources and relationships and achievements. Although, learners do not seek recognition for learning and personal development gained through such experiences a university could provide the tools and mechanisms that enable learners to plan, record/evidence, reflect on, make claims and gain recognition for their own learning and development. From an educational perspective these contexts and learning environments are particularly favourable for learners to develop their own ecologies for learning and achievement in a way that a formally structured and teacher controlled educational environment cannot be.

If the goal of higher education is to enable learners to develop themselves so they can independently create their own learning processes, regardless of the context then enabling them to create their own ecologies for learning is an essential mission for higher education institutions.Ellis and Goodyear (2010) view learning in higher education and the systems that support it from an ecological perspective. One of the perspectives they offer is on 'good learning' which they see as a 'guided process of personal knowledge construction' with an emphasis on 'what the learner does themselves to learn'. They draw attention to a number of features that in their view are the hallmarks of good learning.

PRINCIPLES OF GOOD LEARNING

Active, involving the learner in 'doing' as a cognitive activity and 'doing' as a practical activity in which cognitive activity is embedded.

Cumulative - what a learner already knows plays a large part in them being able to make sense of and meaning from new knowledge or experience - it's a major factor in determining the efficacy of a particular learning event

Purposeful, relevant and goal-oriented, there is a purpose and direction, understood by the learner. Clear goals are needed if learning is to be effective.

Personal, experienced by the learner alone: learner interprets and constructs knowledge and meaning in a unique way although learning is often within a social context.

Situated and contextual - the social and physical context in which cognition (learning) takes place is influential in shaping understanding, meaning, process and outcomes. Cognition can be distributed across individuals and artefacts.

Self-regulated, by the learner's own understanding and decisions about what they need to do in order to achieve something and by their awareness of their own learning informed by reflection on their experience. Underlying, self-directed and self-managed learning is a sense of purpose and self-efficacy 'the belief a person has about their ability to succeed in a particular situation**.**   **Figure 5 Self-regulation**.
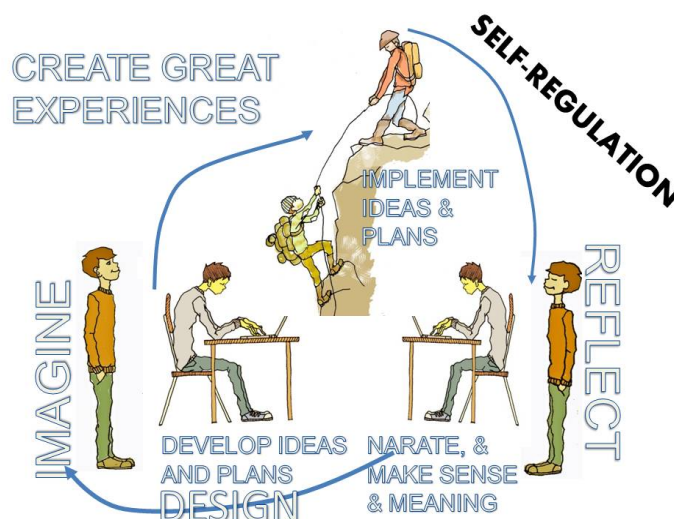
These characteristics of learning are all supported by an approach that values students' attempts to create their ecologies for learning, development and achievement.

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Jackson, N. J. (2011) An imaginative lifewide curriculum. In N. J. Jackson (ed) *Learning for a Complex World: A lifewide concept of learning, education and personal development*. Authorhouse. 100-21
Jackson N J (2016) *Exploring Learning Ecologies* https://www.lulu.com/

Presentation and further resources can be found at:
http://www.normanjackson.co.uk/dublinit.html