Enriching and Vivifying the Concept of Lifelong Learning through Lifewide Learning and Ecologies for Learning & Practice

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Summary

Lifewide Education is a partner in the [UNESCO Institute for Lifelong Learning](#) Futures of Education Initiative. Our White Paper is intended to show how the concept of lifelong learning could be enriched by explicitly embracing the ideas and practice of lifewide learning and learning ecologies. It argues that a more complete and holistic understanding of and engagement with lifelong learning is more likely if we adopt a lifewide concept of lifelong learning. It also argues that people are more likely to see their profound relationship with and responsibility to their world, if we embrace the idea that learning is an ecological phenomenon and we are ecological beings living and learning in an ecological world.

Using the three horizons foresight framework as a mapping tool, a pathway is envisaged towards the 2050 horizon for a new paradigm and culture of lifelong learning, that integrates the ideas of lifewide learning and education, and ecologies for learning and practice within an ecosystem of infinite possibilities (an ecosystem of ecosystems). These ideas are inspired by Eduard Lindeman '*the whole of life is learning therefore education can have no ending*' (Lindeman, 1926 p.6).

Context

We live in a fragile world that cannot be sustained if we carry on using it in the way we have. The idea that lifelong learning can be harnessed in the service of sustaining our species and the planet is emerging in the thinking of the world's global strategic planner. As the United Nations General Assembly (UN) proclaims in its 17 Sustainable Development Goals, we are at a turning point in which our past and current behaviours are likely to bring about our own demise unless we radically change the status quo.

> *We are living in a time of accelerated, global, complex change, in which our human society faces increasing pressure to evolve our systems and processes to meet the demands of the 21st century and beyond. Education is the most sophisticated social technology for societal transformation and intentional evolution — yet it is still a widely underutilized pathway for co-creating and contributing toward sustainable, regenerative, and thriving futures within and beyond our biosphere. Education can become an avenue through which global society will overcome the gaps and barriers we have created: the digital divide, the imbalance of information flows, the growing economic and social inequality, religious, ethnical, and cultural divides, and extreme ecological pressures we are placing on the Earth. Yet our educational systems are still designed for the world of yesterday — and so they must be changed to meet the demands of the future, including increasing social, ecological, and economic complexity in all domains of human life. It is necessary to re-imagine the purpose and the design of education in the here and now; what is needed is nothing less than a renaissance of both human values and vision in action transforming human learning and leadership that fosters lifelong learning and "right livelihood" for a healthy world. Unless we re-design our ability to learn together in a way that cultivates our collective potential, we diminish prospects of the continuation of the human experiment on Earth (Extracts from 'Educational Ecosystems for Societal Transformation' Luksha et al 2017 p 2).*

A significant part of the wicked problem of our future survival is framed by the United Nations 2030 Agenda for Sustainable Development, (UN General Assembly Resolution 70/1. Transforming our world: the 2030 Agenda for Sustainable Development) which offers 17 Sustainable Development Goals (SDGs). Education has its own goal - SDG#4 'Ensure inclusive and equitable quality and promote lifelong learning opportunities for all' (UNESCO 2015). Furthermore, this SDG gives education a new role – to encourage behaviours that will support sustainable regenerative development. An important part of this new role is to educate the world into new ways of understanding and actively embracing learning as the core regenerative process of mankind. Learning and creating meaning from and through our interactions with our world, is perhaps the fundamental difference between ourselves and the machines (automation and AI) that are increasingly displacing human activity – especially work. A world in which there is less work for humans to do is another important reason for why a new paradigm and culture of lifelong learning must be sought (Susskind 2020).

Education has a massive and pivotal role to play in developing understanding, values, attitudes and agency at a global scale and education systems all over the world are on a journey to support the development of cultural transformation necessary to achieve the sustainability goals (UNESCO 2020a). But the recognition that education and learning for sustainable development is a whole of life commitment and practice means that any policy that is focused only on formal education will not develop the culture that is necessary to achieve the Sustainable Development Goals. What is required is an expanded vision of learning and action as a lifewide (every part of life at any point in time) lifelong (every point in time along the journey of life) process, and a culture that values learning in every aspect of life. It's a vision and culture that reaches beyond the SDG#4 goal - "promote lifelong learning opportunities for all" to "the whole of life is learning therefore education can have no ending" (Lindeman 1926 p.6).

But how do we get from where we are now to this new vision of a learning world? The UNESCO Futures of Education initiative aims to rethink education, knowledge production and learning from a future-oriented perspective. The first report of this initiative (UNESCO 2020b) presents a future-focused vision that demands a major shift towards a culture of lifelong learning by 2050. It argues that the unprecedented challenges humanity faces, require societies to embrace and support learning throughout life and people who identify themselves as learners throughout their lives (UNESCO 2020a p. 12-13).

This 2050 vision is of a world that has undergone a deep cultural shift based on a strong awareness of the innate potential of learning. Societies self-consciously strive to be learning societies and people identify as lifelong learners. With a continuous learning ethos pervading all spheres of life.

The political and educational challenge for UN/UNESCO is to encourage, educate, guide and nurture at a global scale, a multitude of educational systems, cultures and societies to practically embrace the co-created vision of lifelong learning for all within a context where learning through and across life contributes positively to the UNs 17 Sustainable Development Goals.

learning for oneself, for others and for the planet, it also has a key role in driving sustainability. Lifelong learning is about the sustained and sustainable freedom of individuals, linking social freedom to environmental responsibility. At an individual level, lifelong learning now contributes to a greater awareness of all the dimensions of sustainability. Individuals are empowered by lifelong learning to change behavioural patterns, (ibid p14).

The White Paper draws attention to two important ideas namely, lifewide learning and ecologies for learning and practice, that could contribute to an enriched and actionable concept of lifelong learning and education and facilitate a deeper consciousness of ourselves as ecological beings thinking and acting in an ecological world.

Lifewide Learning

The concept of lifewide learning was first described by Reischmann (1986) and it entered the policy literature in 2000 'A Memorandum on Lifelong Learning' (Commission of the European Communities 2000).

> *The term 'lifelong' learning draws attention to time: learning throughout life, either continuously or periodically. The newly-coined term 'lifewide' learning enriches the picture by drawing attention to the spread of learning, which can take place across the full range of our lives at any one stage in our lives. **The 'lifewide' dimension brings the complementarity of formal, non-formal and informal learning into sharper focus**. It reminds us that useful and enjoyable learning can and does take place in the family, in leisure time, in community life and in daily worklife. Lifewide learning also makes us realise that teaching and learning are themselves roles and activities that can be changed and exchanged in different times and places. (ibid p. 8-9 emphasis is in the original document).*

For UNESCO's ambition for lifelong learning to become a reality there would need to be significant changes in culture and practice at a global scale reflecting 'a more holistic understanding of lifelong learning'. Table 1 shows 10 pointers to a new culture of lifelong learning offered in UNESCO's initial vision for a new paradigm of lifelong learning. To this vision we can connect other ideas that are consistent with enriching the concept and vison. For example, the act of making the lifewide dimension of learning (Jackson, 2011a) explicit (as in Table 1), would make a significant contribution to the goal of 'a more holistic understanding of lifelong learning' because lifewide learning gives day to day practical expression and meaning to lifelong learning. We should acknowledge that lifelong learning is the accumulation of all our lifewide experiences and what we have learnt and become from them.

Table 1 UNESCO (2020) Embracing a Culture of Lifelong-Lifewide Learning

- Recognize the holistic character of lifelong learning by acknowledging the lifewide dimension of learning
- Promote transdisciplinary research and intersectoral collaboration for lifelong-lifewide learning
- Place vulnerable groups at the core of the lifelong-lifewide learning agenda
- Establish lifelong-lifewide learning as a common good
- Ensure greater and equitable access to learning technology
- Transform schools and universities into lifewide-lifelong learning institutions
- Recognize and promote the collective dimension of learning
- Encourage and support local lifewide-lifelong learning initiatives, including learning cities
- Reengineer and revitalize workplace learning recognising that workers learn beyond the workplace
- Recognize lifewide-lifelong learning as a human right and responsibility

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Lifewide learning adds the detail and purpose to the lifelong pattern of human development by recognising that most people, no matter what their age or circumstances, simultaneously inhabit a number of different spaces - like work or education, being a member of a family, being involved in clubs or societies, caring for others, participating in their local community, engaging in sport and other activities to keep fit, travelling, and looking after their own wellbeing mentally, physically and spiritually

(Figure 1). So the multiple timeframes of lifelong learning and the multiple spaces and places for lifewide learning will characteristically intermingle and who we are and who we are becoming are the consequences of this intermingling.

We live out our lives in these different spaces and, if humans have a right to their lifelong learning, people should have the freedom to choose which spaces they want to occupy and how they want to inhabit them. In the spaces of our life we use our imaginations to imagine the world in the way that only we can. We think, behave and communicate in different ways. We make decisions about what to be involved in, we meet and interact with different people, have different sorts of relationships, adopt different roles and identities, experience the full range of human emotions experiencing failure as well as success. In these different spaces we encounter different sorts of challenges and problems, seize, create or miss opportunities. We aspire to achieve our ambitions, learn to love and ultimately experience our own demise.

Figure 1 Representation of the idea of lifewide learning its nature and scope.

Creating meaning everyday across the whole of our lives
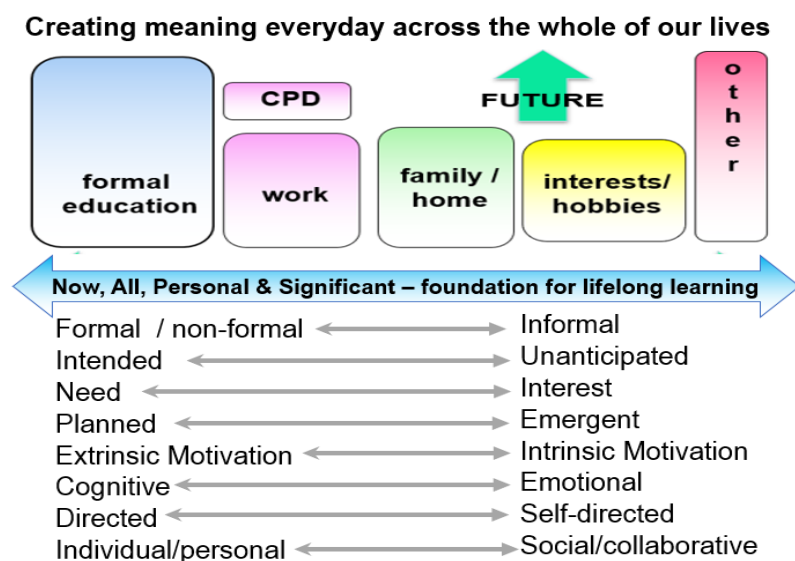
It is in the lifewide dimension of our life that we learn what it is to be human in the contexts of our own lives. We learn how to deal with set-backs and tragedies and learn to be resilient when confronted with significant disruptions and challenges. Through our lifewide experiences we create the multiple narratives and meaning that is our life, and the identities of who we are, and we use our imaginations to project ourselves into who we might become. Our planning and our experiences for personal and professional development aimed at creating better versions of ourselves and our reflections on how we have developed through our actions are also contained in the lifewide dimension of our life.

Because every individual's lifewide learning is a product of themselves interacting with their unique environments and set of circumstances, learning, development and achievement are unique to every individual on the planet. This is the meaning of personalised learning and it provides a better foundation for understanding the scope and nature of lifelong learning as it is embodied, enacted and experienced by individuals.

Lifewide Education is a transformative concept associated with lifewide learning when it is embraced and implemented by an educational institution (Barnett 2011, Jackson 2011a). It recognises the lifewide dimension of learning, development and achievement and enables the learner to view themselves as the designer of an integrated, meaningful life experience that incorporates formal education as one

component of a richer set of experiences that embrace all forms of learning and achievement across their life.

The foundation of lifewide education is a 'lifewide curriculum' (Jackson 2011b). A lifewide curriculum encourages learners to see the whole of their life experiences as opportunities for their own development and achievements: achievements that can embrace their agency for having a positive impact on their world. A lifewide curriculum enables them to integrate learning, development and achievement from any aspect of their lives into their educational experience. It also enables the learners to apply in their daily life what they have learned in formal educational settings. It blurs the boundaries between formal, non-formal and informal learning and views all experiences as sites with potential for learning and development. We must however acknowledge that these terms are generally not used by higher education institutions or practitioners but they must become part of the vocabulary if a new culture of lifelong learning is to be nurtured.

Figure 2 Representation of a lifewide curriculum in a higher education context (adapted from Jackson 2011b)
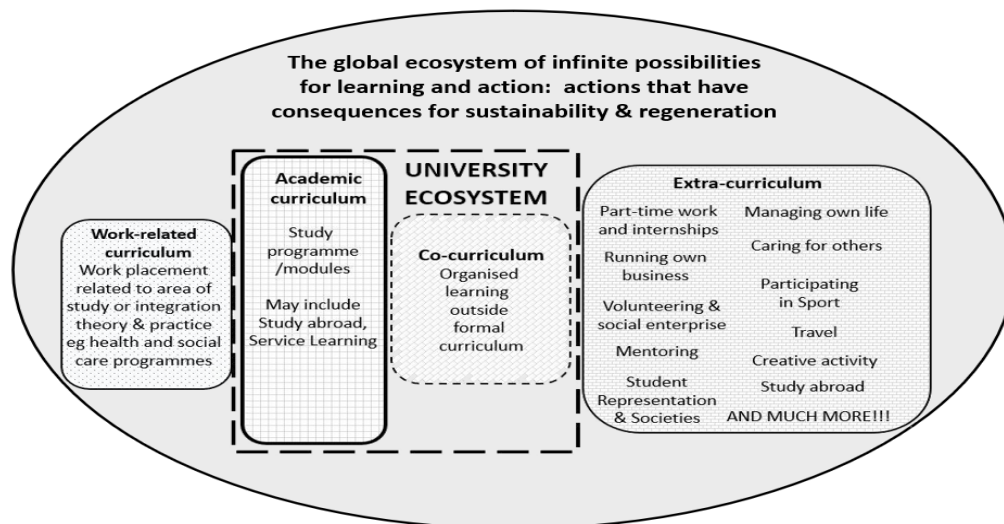
A lifewide curriculum shifts the focus for learning from a 'skills, standards and outcomes model of curriculum and learning [to] a reflexive, collective, developmental and process oriented model' (Barnett and Coate 2005:18). It shifts learning from a single academic context to learning in and for a range of contexts some of which are located in the world of infinite possibilities. It focuses attention on the importance of developing agency for acting in the continuous stream of situations that make up learners' lives and it shows learners that their educational institution values the choices they are making about how they are conducting their lives. In framing the curriculum in this way we are championing the idea that agency and capability is 'essentially one of freedom – the range of options a person has in deciding what kind of life to lead' (Dreze and Sen 1995 p.11). In revealing their lifewide curriculum an individual is choosing to reveal how they are authoring their life (Magolda 2011).

The challenge for education is not only to recognise that the whole of life involves learning therefore education can have no endings, it is also to value and recognise learning, development and achievements that emerge in the personal implementation of a lifewide curriculum. There will be many different ways of achieving such recognition. Jackson et al (2011) provide one example, in the form of a university 'lifewide award' scheme which is based on a process in which the learner:
a) maps the domains for potential learning and development in their life

b) identifies aspects of themselves they would like to develop in a lifewide experience plan
c) executes the plan and records their experiences and the development they gained
d) creates a narrative that synthesises their experiences and what they have learnt and makes claims for their development.

A lifewide curriculum recognises that learning, development and achievement take place in different contexts and situations and learning is, as John Dewey so rightly pointed out, fundamentally experiential.

> *We always live at the time we live and not at some other time, and only by extracting at each present time the full meaning of each present experience are we prepared for doing the same thing in the future. This is the only preparation, which in the long run, amounts to anything. (Dewey, 1916/1966 p. 30).*

It's our capacity to reflect on our experiences to extract meaning and create narratives about our experiences that enables us to integrate and apply our learning to other situations. In this way we learn and act our way into our future.

Lifewide learning and educating for a sustainable/regenerating world

One of the biggest barriers to learning how to sustain ourselves and the planet is the beliefs and habits that make us reproduce what we do in an unsustainable way.

> *We seem not to get rid of unsustainable behaviour patterns in our daily lives. Time after time we manage to collectively create results nobody wants. This is true with regard to environmental and social problems, for instance, climate change and refugee waves sweeping over Europe. These problems, and the unwanted results seem to be linked to our narrow understanding of the complex interactions between environmental, social, economic and cultural issues. But this does not explain the continuing bad decisions and detrimental behaviour patterns; we do not seem to learn from our mistakes (Laininen 2019 p.161-62)*

The only way to challenge and change beliefs and abandon old and create new habits is in the lifewide dimension of our life through a combination of education for sustainable development and the application of principles for sustainable development in our daily lives. This is why the development and application of lifewide education and learning is so important to the achievement of the UN's sustainable development goals. Laininen also makes this point in her argument for transformative learning for a sustainable future.

> *Transformative learning for a sustainable future is defined as learning that transforms our existential understanding and conceptions about the interdependence of humans and nature, the essence of humanity, fundamentals of wellbeing, and the role of economy in our world and daily lives. It aims at developing a holistic worldview and deep realisation and coherence of the purpose, direction, values, choices and actions of one's life. It accumulates into an emergence of learning communities and ecosystems demonstrating new, resilient sustainable lifestyles, which finally lead to a cultural transformation into a sustainable society and the world.*

> *What would an integrative perspective of transformative learning for a sustainable future look like? The centre of knowledge content is not subjects or sciences, but the wholeness of our world and our lives. Learning focuses around understanding the connections between humans, nature, society and the economy with an aim to develop solutions for our sustainability challenges and making a sustainable world real while learning. Learners' own life experiences have to become part of the learning substance, and participation in change processes within society must become part of learning. (Laininen ibid p180 author's emphasis).*

It is the lifewide concept of learning with all its affordances to exercise humanity, to create or co-create meaning and to change ourselves and the environment we inhabit, that should be the concern of

human rights. But with that right comes responsibility to use that right for the benefit of others, and our world, as well as ourselves. And, if we do not act responsibly (for example by committing a crime that adversely affects others and / or our environment) then we may forfeit the right to the lifewide dimension of our life (for example through a custodial sentence).

It is in the lifewide dimension of our life that we encounter situations every day and make choices on how to act. It is in this space of awareness we decide to act in a responsible way towards sustaining ourselves, others and the world or perhaps, because we lack awareness, we choose to act in ways that will not contribute to this goal. It is in the lifewide dimension of our life that we can appreciate ourselves as a whole person in relationships with others and the world through which we can develop a *'deep realisation and coherence of the purpose, direction, values, choices and actions of [our] life'*.

Towards an Ecological Concept of Learning

While a new culture of learning, that values and integrates all forms of learning throughout and across a person's life, is an important and necessary goal, if people are to own and participate in the SDG's, we also need a concept of learning that educates people to see themselves as ecological beings acting in an ecological world. Such an ideal was elaborated in a recent UIL Foresight Working Paper.

> *In the face of the multiple existential threats we have brought upon ourselves, this paper calls for education to be reimagined and reconfigured around the future survival of the planet. To this end, it offers seven visionary declarations of what education could look like in 2050 and beyond. These declarations proceed from three premises. Firstly, human and planetary sustainability is one and the same thing. Secondly, any attempts to achieve sustainable futures that continue to separate humans off from the rest of the world are delusional and futile. And thirdly, education needs to play a pivotal role in radically reconfiguring our place and agency within thisnterdependent world. This requires a complete paradigm shift: from learning about the world in order to act upon it, to learning to become with the world around us. Our future survival depends on our capacity to make this shift. (Common Worlds Research Collective 2020 p2, Foresight Working Paper, commissioned by UNESCO Lifelong Learning Institute).*

The 2050 horizon narrative offers seven speculative but visionary declarations of what education and learning beyond education should be like if the premises were accepted and acted upon (Table 2). Declarations 2 to 5 are particularly important from an ecological perspective.

Table 2 Visionary declarations for education by 2050 (Common Worlds Research Collective 2020)

1. By 2050, we have critically reassessed and reconfigured the relationship between education and humanism. We now retain the best aspect of education's previous humanist mission – to promote justice – but extend it beyond an exclusively human or social framework.
2. By 2050, we have fully acknowledged that humans are embedded within ecosystems and that we are ecological, not just social, beings. We have dissolved the boundaries between the 'natural' and 'social' sciences, and all curricula and pedagogies are now firmly grounded in an ecological consciousness.
3. By 2050, we have stopped using education as a vehicle for promulgating human exceptionalism. We are teaching that agency is relational, collectively distributed, and more-than-human.
4. By 2050, we have discarded education's human development/al frameworks. Instead of championing individualism, we now foster collective dispositions and convivial, reparative human and more-than-human relations.
5. By 2050, we have recognized that we live and learn in a world. Our pedagogies no longer position the world 'out-there' as the object we are learning about. Learning to become with the world is a situated practice and a more-than-human pedagogical collaboration.
6. By 2050, we have re-tasked education with a cosmopolitical remit. This has moved it far beyond the universalist and anthropocentric claims of humanist, humanitarian, and human rights perspectives.
7. By 2050, the goal of education for future survival has led us to prioritise an ethics of collective recuperation on this damaged Earth.

The foresight paper concludes by stating:

our speculative visions for future survival declare the need for a fundamental break with humanist education (new or not). This is why we call for an inter-related series of shifts: from promoting humanism to exercising an ecological consciousness; from working for social justice to working for ecological justice; from understanding humans as social beings to understanding humans as ecological beings; from upholding exclusive human agency to recognizing agentic more-than human relations; from encouraging individual development to fostering collective dispositions; from understanding teaching and learning as an exclusively human activity to approaching worldly relations as inherently pedagogical; from teaching students (as subjects) about the world (as object) to learning with others in our common worlds; from assuming universal positions and standards to considering pluriversal perspectives; from promoting human cosmopolitanism to understanding more-than-human cosmopolitics; from fostering human environmental stewardship to participating in more-than-human collective recuperative ethics; from learning how to better manage, control or save the world to learning how to become with the world. We are convinced that the most profound challenge to making these shifts is extracting education from the Cartesian divides that structure its established humanist knowledge traditions and pedagogies.

Ecological World View

Du Plessis and Brandon (2015 p. 55-56) suggest that three main narratives underlie the ecological world view. The first is the need to consider the earth as a whole - an interdependent and interconnected living system in which humans are an integral part of nature and partners in the processes of co-creation and co-evolution.

Humans, their social structures, and their biophysical environment, form one integrated social-ecological system in which humans and their artefacts are an indivisible part of the biosphere and they, like any other organism, participate in and co-create the metabolic and change processes that shape the biosphere. However, the addition of the human mind introduces properties of self-reflection and symbolic thought that allows the intentional creation of novelty and the ability to direct change within the system (ibid p.5)

The second narrative is that the ecological worldview is first and foremost a relational view.

Implied in 'ecological' is an understanding that we are dealing with living systems and all that comes with such systems, including connections, flows, relationships, interdependence, evolution and consciousness. The ecological worldview sees the phenomenal world as constantly regenerated through interactions within systems at all scales and levels of existence (physical, intellectual, emotional, social and spiritual). These interactions result in and from flows of matter, energy, information and influence, as well as processes of adaptation and self organisation, which in turn allow these systems to evolve. In this world, phenomena do not exist independently, but come into being through different types of relationship and the processes they provoke (ibid p.6)

The third narrative in the ecological world view is the world is dynamic, ever-changing, emergent and therefore continually in a state of formation.

Because of the inherent complexity and non-linear dynamics found in the systems that constitute the world, the world is not only impermanent and ever-changing, but also largely uncertain and unpredictable. In addition, our knowledge of the world is uncertain, constantly changing and relative to the viewpoint of the observer. Thus, accurate prediction and certainty are elusive goals at best. In such a world it is necessary to be able to respond and adapt to perturbations and fluctuations (ibid p.6).

This White Paper argues that by encouraging and enabling people to appreciate that *learning is an ecological phenomenon* brought about by our unique interactions and relationships with the world, we could nurture the growth of an *ecological world view* in which *wholeness, relationships and continual*

formation (creation) are a feature of a thriving individual and society (Du Plessis and Brandon 2015). It would also encourage us *to see ourselves as ecological beings* living and interacting with and within an ecological world (UNESCO 2020b).

Ecologies for Learning and Practice

From the perspective of learning and education for a sustainable world, the power in the idea of ecologies for learning and practice is the way in which ecology connects humans in a profound and intimate way to their environment – the world that has meaning to them.

> *The idea of ecology…. breathes a sense of life and living, of relationships, of connectivity and interdependence, of growth and renewal, of sustainability, of evolution and resilience, and of elements being configured and working together to achieve something that the individual parts cannot achieve alone. The general setting is precisely of this nature. Individuals are interconnected with a buzzing welter of phenomena, of media, educational institutions, workplaces and social spaces, personal endeavours and relationships, and fast-flowing swirls of information, many only dimly felt. This configuration brings new experiences at least daily. The very essence of life itself constitutes an unfolding personal ecology or, more accurately, a multiplicity of overlapping and intermingling ecologies that prompt challenge, disjunction, creativity, and development. The act of learning is an ecological phenomenon that brings forth new meanings and understandings of the world and of one's own being and identity in and with the world. The very act transforms us and the world around us. (Jackson and Barnett 2020 p.1).*

Learning and meaning emerge as we interact with our environment and there can be no learning or meaning without an environment or reason to act.

> *A properly ecological approach . . . is one that would take, as its point of departure, the whole-organism-in-its-environment. In other words, 'organism plus environment' should denote not a compound of two things, but one indivisible totality. That totality is, in effect, a developmental system . . . and an ecology of life . . . is one that would deal with the dynamics of such systems (Ingold 2000 p. 16).*

When a person encounters a new challenge or opportunity, they attempt to comprehend the situation and act in appropriate ways. Effectively, the person creates an ecology – a related and interdependent set of responses, processes, structures, resources and agency that enables them to relate to, perceive and interact with their environment in order to understand it, and perform and achieve in it, usually with an intention in mind. A learning ecology is also an ecology of practice in which the primary purpose is learning.

Jackson (2020a & b) developed a model of a learning ecology and Figure 3 attempts to synthesise the elements it contains. The model embraces all three themes in the ecological world view - wholeness, relationships and continual formation. It *relates* a *whole* thinking, feeling, acting, caring person to their environment, contexts, needs, interests, desires and what they are trying to achieve in the particular situations in which they are acting. Learning and achievement (*development/new agency/change*) emerge through meaningful interaction. The same framework can be used to characterise any complex practice where learning is intended or necessary to achieve desirable outcomes.

Another expression of wholeness (through integration) and relatedness is the way that ecologies for learning and practice have both temporal and spatial dimensions. They enable whole people to connect and integrate different spaces, resources, tools, situations, relationships, activities, and themselves in ways that they find meaningful and effect various transformations (personal, material, and virtual). They also enable people to connect and integrate their past, present, and future, and connect thoughts and

actions experienced in a moment and organise them into more significant experiences of thinking and action. They are the means by which people weave their moments into the fabric of a whole meaningful life, a l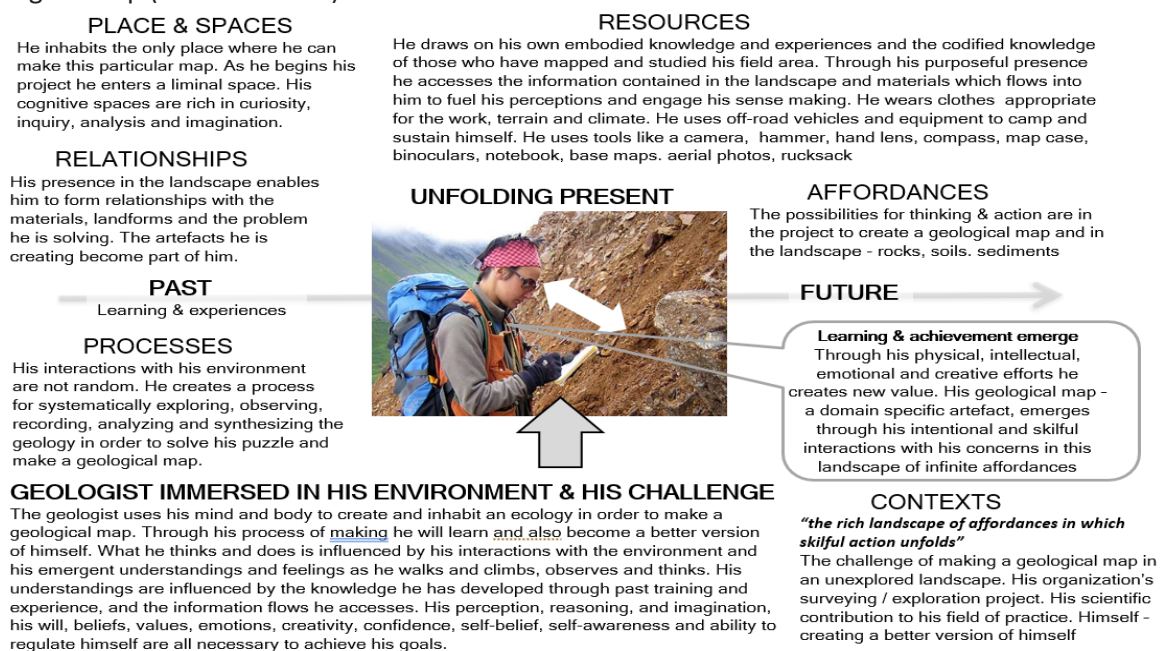ife they feel is worth living. The components of an ecology for learning, summarised in Figure 3, are woven together by the maker in a part deliberate, part opportunistic act of trying to achieve something and learn in the process. They do not stand in isolation: they can and do connect and interfere and become incorporated into other learning ecologies.

Figure 3 Model of a learning ecology or an ecology for learning and practice (source Jackson 2020a). The labels (1–7) explain the key dimensions of the ecology.

3 RESOURCES
information, knowledge, people, tools, technologies & other artefacts (anything that can be used)

4 SPACES
physical, social, virtual, intellectual, psychological, liminal. Spaces for: conversation & discussion, for exploring, inquiring & investigating, for imagining & reflecting, for making, for play, for thinking critically, for analyzing & evaluating, for synthesis and much more

WHOLE PERSON

2 AFFORDANCES
possibilities that can be perceived or imagined for thinking and action

PAST

with their mind and body, purposes and motivations, sensing, perceiving, feeling, imagining, relating to, interacting with, interpreting & making sense of their environment & emerging situations

FUTURE?

5 PLACES
some things can only be learned in a particular place. Places enable access to resources, affordances, spaces and relationships. Places may require, inspire and facilitate making or other activities.

ENVIRONMENT

1 CONTEXTS
situations, circumstances, culture, ourselves, familiar or unfamiliar, simple-complicated-complex or chaotic

6 RELATIONSHIPS
with people, communities, places, ideas, objects, work, hobbies, problems, anything!

7 PROCESSES/ACTIVITIES/EXPERIENCES
e.g., study, work, making, research, inquiry, problem solving and much more....

The abstract model shown above only makes sense when we relate it to real practice in which someone is learning. To illustrate how the model can be used, Figure 5 shows how the model of an ecology for learning and practice could be applied to a field geologist making a geological map (Jackson 2020b). The same approach to visualising and ecology can be applied to any significant context for learning.

Figure 4 Applying the model of an ecology for learning to the practice of a field geologist making a geological map (Jackson 2020b)

PLACE & SPACES
He inhabits the only place where he can make this particular map. As he begins his project he enters a liminal space. His cognitive spaces are rich in curiosity, inquiry, analysis and imagination.

RESOURCES
He draws on his own embodied knowledge and experiences and the codified knowledge of those who have mapped and studied his field area. Through his purposeful presence he accesses the information contained in the landscape and materials which flows into him to fuel his perceptions and engage his sense making. He wears clothes appropriate for the work, terrain and climate. He uses off-road vehicles and equipment to camp and sustain himself. He uses tools like a camera, hammer, hand lens, compass, map case, binoculars, notebook, base maps. aerial photos, rucksack

RELATIONSHIPS
His presence in the landscape enables him to form relationships with the materials, landforms and the problem he is solving. The artefacts he is creating become part of him.

UNFOLDING PRESENT

AFFORDANCES
The possibilities for thinking & action are in the project to create a geological map and in the landscape - rocks, soils. sediments

PAST
Learning & experiences

FUTURE

PROCESSES
His interactions with his environment are not random. He creates a process for systematically exploring, observing, recording, analyzing and synthesizing the geology in order to solve his puzzle and make a geological map.

Learning & achievement emerge
Through his physical, intellectual, emotional and creative efforts he creates new value. His geological map – a domain specific artefact, emerges through his intentional and skilful interactions with his concerns in this landscape of infinite affordances

GEOLOGIST IMMERSED IN HIS ENVIRONMENT & HIS CHALLENGE
The geologist uses his mind and body to create and inhabit an ecology in order to make a geological map. Through his process of making he will learn and also become a better version of himself. What he thinks and does is influenced by his interactions with the environment and his emergent understandings and feelings as he walks and climbs, observes and thinks. His understandings are influenced by the knowledge he has developed through past training and experience, and the information flows he accesses. His perception, reasoning, and imagination, his will, beliefs, values, emotions, creativity, confidence, self-belief, self-awareness and ability to regulate himself are all necessary to achieve his goals.

CONTEXTS
"the rich landscape of affordances in which skilful action unfolds"
The challenge of making a geological map in an unexplored landscape. His organization's surveying / exploration project. His scientific contribution to his field of practice. Himself – creating a better version of himself

Another expression of wholeness is the way in which the maker of a complex ecology for learning and practice 'knits, weaves and threads together' the learning and practice lives of others. An ecology for learning and practice enables the maker to think and act in an ecological (connected, relational, and integrated) way, to perceive (affordances, and observe, sense, and comprehend information flows), to imagine (conceptualise and modify what has been observed in order to create possible meanings and new interpretations), to reason (analyse and critically evaluate observations and make meanings and judgements), to imagine (speculate, experiment and play with what is being perceived) and to reflect on experiences (imagine, analyse and play with memories of experiences including related emotions) to make better sense of them in order to learn for the present and the future. And out of these interactions a person's unique creativities emerge (Jackson, 2020b).

Ecologies of pedagogical practices
The geologist learns how to create such a complex ecology through the formal education and training he/she has received and through their own self-directed experiences of making geological maps. It is fair to say that geologists do not see their practice in this way but the proposition in this working paper is that if he/she appreciated their practice and learning as an ecological phenomenon, they would become more conscious of themselves as an ecological being in an ecological world, and this awareness will eventually extend to all other aspects of their life.

Teachers create ecologies of practice to enable students to learn. Figure 5 uses the generic learning ecology framework to represent a teacher's ecology of practice. A traditional higher education course or programme taught face to face is designed, organised, and implemented by one or more academic teachers who have both disciplinary and pedagogical expertise, within an institutional sociocultural environment that aids learning. There is a structure (timetable/ lecture schedule/credit) and a procedural framework (rules and regulations) within which learning takes place, and there are quality assurance mechanisms.

Figure 5 An ecology of teaching practice to enable students to learn. The labels (1–7) explain key dimensions of the ecology (source Jackson 2020a)
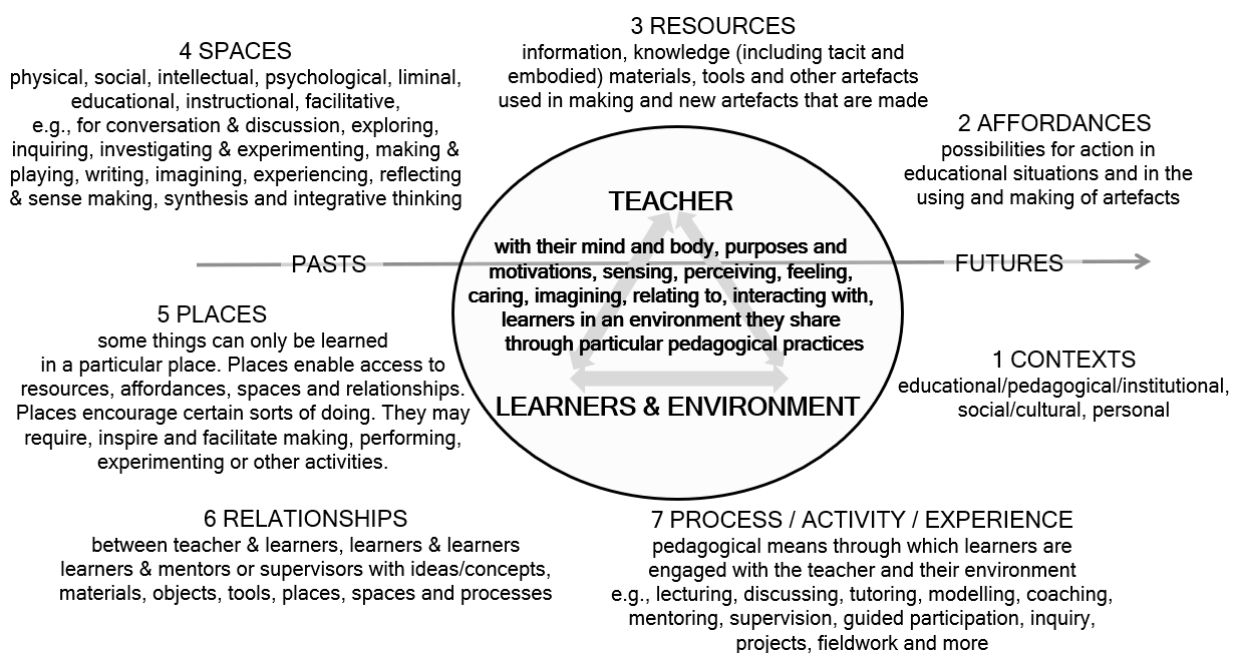
There are functional spaces to facilitate teaching and learning, some of which are specialised. Educational programmes are organised into units or modules with explicit objectives, content, resources, and processes that engage learners in activities through which they learn, and some of their learning is assessed using methods determined by teachers. Their collective interactions over time create a culture within which learning, scholarship, and the discovery of new knowledge are developed, shared, valued, and rewarded.

Affordances for learning, which we see as opportunities, are everywhere. They are contained in the course, programme, or module content; in the activities that teachers organise to engage learners; in the physical and virtual spaces that support particular activities (both academic and social); and in the intellectual spaces that the pedagogical activities promote. Opportunities for learning are found in the resources including books, journals, computers, software, and other tools and mediating artefacts that are used, and in the teaching and learning processes and practices that are used to engage learners and encourage them to form relationships for learning with these resources. Affordances are found in the daily conversations as peers interact with each other inside and outside of the course.

From a learning ecology perspective, we might represent the pedagogical possibilities along a continuum. At one end of the pedagogical continuum, the teacher controls all or most of the aspects for learning (goals, knowledge and skill content, activities, resources and technologies, and what counts as learning and achievement). At the other end, learners create their own ecologies for learning with minimal instruction and support and may even have an influence on what counts as learning. Between these two situations, there are many variations in which learners take some responsibility for designing and implementing a learning project.

Figure 6 Tool for evaluating the opportunities for higher education learners to create or co-create their own ecologies for learning in a lifewide curriculum. Source: Jackson (2020a). The 'Learning Ecology' axis contains such things as the goals and purposes, intended learning, knowledge and skill content, process, resources including tools and technologies, spaces, relationships, and what counts as learning.
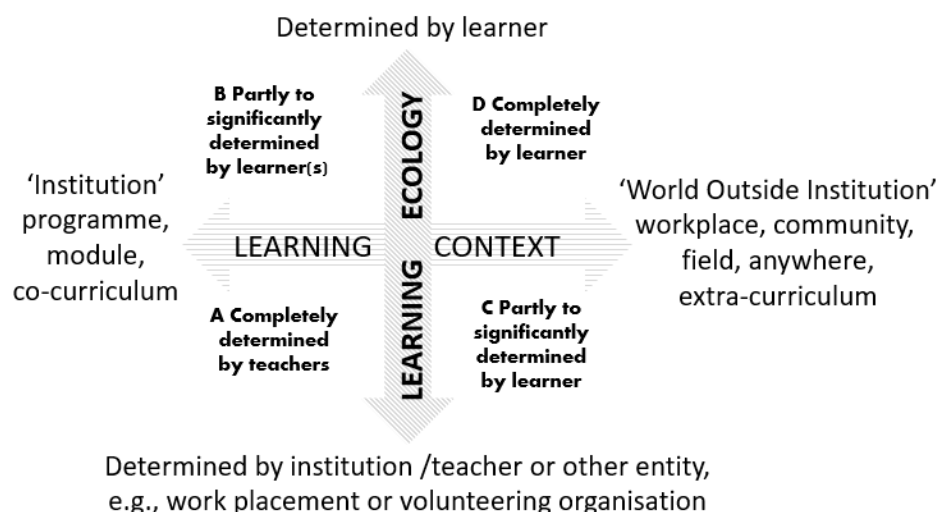

Figure 6 provides a conceptual framework to help visualise ways in which learners might create and implement their own ecologies for learning within an institution's lifewide concept of curriculum. The 2×2 matrix is defined by (1) contexts for learning, namely whether the main environmental context for

learning is within or outside the institution; and (2) whether the learner or the institution or other agent determines the what, why, how, where, and when of learning.

The different spaces depicted in Figure 6 have different levels of opportunity for learners to create their own ecologies for learning. The conceptual spaces on the left of Figure 6 are pedagogical spaces determined by the teacher within an institutional environment, whereas the spaces on the right are either controlled by the learner or are pedagogically influenced by practitioners and other actors in real world settings.

Teaching that is lecture based (zone A in Figure 6) offers little opportunity for learners to create their own ecologies for learning. Teaching that encourages learners to be actively involved in constructing their own knowledge and perspectives (zone B in Figure 6) provides more opportunities for learners, either individually or cooperatively, to develop their own learning ecologies. Problem- and inquiry-based learning, artistic exploration and scientific investigation, and independent project and practical work are just a few of the pedagogical strategies used to encourage learners to determine aspects of their ecologies for learning.

Sometimes a teacher's pedagogical strategies involve learners working outside their institutional environment in the C or D domains of Figure 6, for example, in independent fieldwork or community projects. But opportunities for supervised work placements or voluntary work create important opportunities for learners to engage in social learning and develop their ecological thinking and skills in real settings. In such applied settings, novice practitioners are guided by more experienced and expert practitioners, as they co-participate in work-relevant tasks and projects through which they create their own ecologies for learning and practice. Baker (1999) described this form of practice as 'guided participation'. To become an effective practitioner in a disciplinary or professional field, learners must be able to create and apply their own ecologies for learning and practice. They must follow and experience a trajectory that takes them from the cognitive apprenticeship domain on the left of Figure 6 to the applied apprenticeship and independent practice domains on the right of this figure.

Human Centred Learning

The concept and practice of lifewide learning and learning ecologies described above align well with the vision of human centred learning in school education described in a Foresight Report by Knowledge Works (2020), which places the healthy development, well-being and creative potential of learners at the centre of educational systems, structures, policies, practices and learning experiences.

In a fully realized vision of human-centred learning, students develop personal routines, practices and habitual approaches for tackling learning needs and fulfilling their aspirations…….Treating learning as a personal practice enables children and youth to develop the individual agency and techniques to break through learning plateaus and achieve goals, setting the foundation for lifelong learning. Robust systems of human-centred learning prioritize a personal learning practice as an important "enduring understanding" that students develop throughout their educations.

When human centred learning is enacted, students have repeated opportunities to practise and to reflect on how they learn best. They develop their own personal methods and rituals for setting challenging learning goals, engaging in a variety of learning experiences and discussing feedback on their performance. They develop practices for identifying what knowledge or skill domains they need in order to address particular problems, for engaging with people and experiences that provide learning opportunities in those domains, for seeking out and growing from feedback and for persisting through setbacks and resolving errors or failures. Learners also exercise true agency, taking initiative in building their own learning support systems. They become aware of the conditions, supports and tools that are necessary for them to drive their own personal

growth and self-discovery, and they engage with people and resources in their broader learning ecosystem to get those things. As one interviewee stated, an effective learning practice is a "regenerative process that helps students take responsibility and ownership of their learning journeys." Students with a well-developed learning practice can adapt and grow in any circumstance. When learning becomes a lifelong personal practice, assessment shifts from providing comparative and reductive expressions of learners' knowledge and skills to depicting rich portraits of learners' behaviours, practices, habits [and achievements]. (ibid p.13).

Figure 7 Four elements of human centred learning (Knowledge Works 2020 p15)

These design principles and the cultivation of a love of learning and personal agency to learn that grows through their effective enactment, are essential building blocks for embracing the idea that learning is an ecological phenomenon enacted in the lifewide dimension of life. They could be incorporated into a strategy for building awareness of the relational nature of learning and enriching our understanding of the meaning of lifelong learning.

Ecosystems for Learning, Education and Much More!

When we use the idea of ecology to describe human behaviour we are framing a way of human beings perceiving, exploring, and inquiring into and making sense of phenomena such as learning, development, creativity, education, practice and achievement. But we cannot talk about the ecology of individual organisms without also considering the systems to which the ecologies belong.

The origins of the ecological idea are founded in the branch of biological sciences dealing with the relationships, interdependencies and interactions of organisms with each other and with their wider natural environment or ecosystem. Any new paradigm and culture for learning that incorporates the idea of ecologies for learning, practice and achievement must also recognise the ecosystems within which these phenomena occur.

All organisms inhabit an ecosystem—the complex set of interactions among the residents, resources, and habitats of an area for the purpose of living (Tansley 1935). Each organism within an ecosystem develops a unique ecology for sustaining its life and its species. All organisms learn to live with, and when necessary adapt to, their environment, but 'learning'—understood as the making and sharing of new meanings—becomes a force for significant effort, activity and change in human eco-social systems (Lemke 2000). Learning enables human society to advance, by using resources and reconstructing existing environments, and creating entirely new environments from our imagination. Unfortunately, some of the ways we are changing the environment also pose the greatest threat not only to our own ecosystem, but also to the ecosystems of every other living organism. So learning and its creative application have been both the force for creating human civilisations and all that mankind has brought into existence. But ironically our learning is also the source of global warming and the devastation and destruction of the ecosystems that sustain us and all other life on the planet.

In human ecosystems (ecosocial systems), people live within physical, social, and virtual environments and within cultural, historical, and emerging social contexts. In their lives people are constantly consuming, recycling, and producing information and other resources as they act and learn to

accomplish the things that matter to themselves and to the wider society. Like any other ecosystem, ecosocial systems are complex, dynamic, self-organising entities whose patterns of behaviours are emergent. But they differ from other ecosystems in the way such patterns of behaviour are reproduced and sustained through culture (which includes language and all other forms of communication). Jay Lemke captures the essence of human ecosystems.

A human community is a special kind of ecosystem. . . What is so special about ecosocial systems among all other possible ecosystems is not that they contain us and our things, but that our behaviour within the system, and so the overall dynamics of the system as a whole, depends not just on the principles that govern the flow of matter and energy in all ecosystems, but also on what those flows mean for us (Lemke 1997, p. 40).

Consequently, ecosocial systems are sites for the shared making and remaking of meanings, which is itself an ecological (relational, interactional, interdependent, and developmental) process. Thus, ecosocial systems are developmental systems (Lemke 1997) with an evolutionary trajectory in which each stage of development creates the conditions for the next stage of development.

Since the advent of the internet and the rapid increase in communication technologies, including social media platforms, there has been a growing recognition that human ecosystems have fundamentally changed in their capacity to connect and relate people to other people and things, and ability to support rapid, complex and massive flows of information, not always for the better. This rise in connectivity, relatedness and interdependence has prompted a number of authors and organisations to advance further the idea of learning and educational ecosystems in their foresight reports.

Although, the term 'ecosystem' was not used in an EU Foresight Study on Open Education 2030 (Muñoz et al. 2013, Redecker 2014) the report outlined a vision for a new type of ecosystem to support adult learning that is characterised by:

a power shift, from the institutions to the learners. Whereas, traditionally learners enrol with a designated educational provider like a school, a university, or a training centre and all the functions and practices relating to the educational opportunity are the responsibility of the provider, the future might be very different through the unbundling of institutional functions and practices relating to the provision of educational opportunities. In this way learners could design their own learning pathways by pooling the different (learning) opportunities, resources and assessment possibilities available, and combining them in a way that allows them in ways that meet their particular learning, development and recognition needs. Learners would be able to learn what, when, where and how they want to learn (the "4W" of Open Education) (Redecker 2014 p4).

Knowledge Works was one of the earliest advocates of the learning ecosystem idea in the context (Knowledge Works 2012, Prince 2014).

The tightly bound relationships and resource flows that used to deliver instruction, develop curriculum, perform assessment, grant credentials, and provide professional development are dissolving. Teaching and learning have become uncoupled from traditional educational institutions and are now available through and enhanced by a vibrant learning ecosystem (Knowledge Works 2012 p1).

As we regenerate the learning ecosystem, customizable value webs will allow self-directed learners to navigate diverse resources and opportunities and to co-develop highly personalized learning pathways with the support of learning agents. Learners and learning agents will be mutually responsible for seeking out the support of learning experts and maintaining robust networks (ibid 2012 p11).

Knowledge Works' forecast on the future of learning, 'Recombinant Education', highlights how we are moving from our outmoded industrial-era education system to an increasingly diverse learning ecosystem.

It looks possible to create a flexible and radically personalized learning ecosystem that meets the needs of all learners and has the adaptability to keep evolving our rapidly changing world. In this vibrant learning ecosystem, all learners would be able to move seamlessly across many kinds of learning experiences and providers, with learning agents from a variety of backgrounds supporting them in customizing and carrying out their learning journeys. Some learning environments would be part of the public education system, while others might be online or in other kinds of blended or place-based settings.

Learners would be able to move across settings to create individualized learning playlists reflecting their particular needs, interests, and goals. This diverse learning ecosystem would operate seamlessly across age groups and levels of mastery, supporting meaningful personalized learning that enabled every student to thrive in college, career, and civic life. To be vibrant, the learning ecosystem would need to be equitable and rigorous, would involve the full community in supporting every learner, and would have the capacity to continue innovating and adapting to changing conditions (Prince, K. 2014 p.3).

'Educational Ecosystems for Societal Transformation' (Luksha et al. 2017) provides one of the most detailed and best argued cases for moving towards an ecological/ecosystem paradigm in education.

In contrast to the inflexible educational institutions of "industrial" era education practices, learning ecosystems provide a means to integrate a diverse milieu of learning opportunities in a holistic and life affirming way. An educational ecosystem can be defined as "a dynamically evolving and interconnected network of educational spaces, with individual and institutional providers, that offer a variety of learning experiences to individual and collective learners across the learning lifecycle" (Luksha et al 2017 p.32).

Accordingly, a full-fledged educational ecosystem is an open and evolving community of multiple providers that cater to the variety of learner needs in a given context or area. An area or a region becomes a minimal unit of a learning system — whereas a single institution (school/university …) is never a full ecosystem of its own, though it can become a central structural element of such a diverse learning and teaching community….A full ecosystem requires not only providers, but also a variety of "connectors" that design learning pathways through the system, help to track and record achievements, identify and connect shared resources, etc (ibid p.33).

Most recently Hannon et al (2019) explored the idea of 'local ecosystems' offering nine examples and a typology that accounted for the variations. They posed an interesting question around the extent to which learning ecosystems emerge naturally in response to conditions of twenty-first century connectivity, or whether they require intentional design. Viewed through the eyes of a system designer with a vision of the outcomes a system is intended to achieve.

It seems that [the] apparent tension between 'tight' design and control on the one hand, and desire for 'loose' distributed, organic and dynamic processes on the other, might be central to our understanding of the success of learning ecosystems to deliver on outcomes and the role they might play in challenging or replacing the existing paradigm of organised learning (ibid p.2).

This 'tension' reinforces the view that human ecosocial systems are a mix of intentional designs and constructions, and affordances that are discovered by individuals as they create or co-create their own ecologies for learning, practise and achievement. Ecosystem imaginers tend to overlook the power of individual and collective agency as an essential and significant component of a learning ecosystem. This is the hidden force that enables a learning ecosystem to a adapt and thrive. The strength of the learning

ecosystems idea is that it can be used at any scale of organisational system e.g. institution, community, region, city, national, international, global and glocal, and in any context e.g. personal, professional, community, education, business, industry. It is therefore a unifying and integrating idea.

The danger in the idea of ecosystems for education or learning is that planners and designers think it is definable in terms of the elements and affordances they think it contains. Perhaps a better way of imagining an ecosystem for learning is that it comprises infinite possibilities that are only recognised and realised when a multitude of individuals with unique histories, needs and interests act within them. At its most expansive, an ecosystem of infinite possibilities is a constellation of ecosocial systems.

Seeing an ecosystem for learning through the eyes of a learner
How people learn to access and navigate the affordances, resources and guidance they need in the ecosystem of infinite possibilities is a key question. Luksha et al (2017 p. 40-42) explore some of the important factors but perhaps the most useful synthesis was undertaken in the context of the EU Foresight Study into open adult learning (Munoz et al 2013, Redeker 2014). This study concluded that there are two key challenges for the types of ecosystems that embrace open education and lifewide-lifelong learning (Munoz et al 2013 p.172-3). These two challenges structure the emerging scenarios within an open education and learning by providing the key tensions that form the x and y axes for a conceptual framework (Figure 8).

Figure 8 Four scenarios for open adult learning in an ecosystem of infinite possibilities (Muñoz et al 2013 p176)
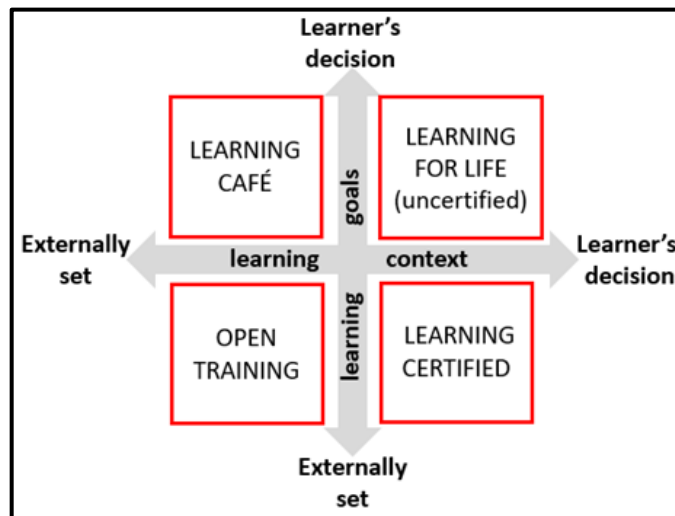
Challenge 1: concerns guidance and inclusiveness. Learning opportunities that emerge in a completely unstructured learning context, where the learner decides on the learning context, require autonomous and self-directed learning strategies. Regardless of the abundance of open resources and networks available on the Internet, not everyone is able or motivated to use them. It is important for adult learners especially, who have previously been disengaged from learning, that externally set learning pathways continue to exist in the future, which will offer the support and guidance that is needed for these learners to benefit from the increasing scope and variety of learning and training opportunities.

Challenge 2: concerns learning goals and recognition. The second challenge for open learning is shaped by the learning goals and their perceived value. Some learners are free and able to decide on their own learning goals; for instance, out of personal interests. Others might embark on learning to meet labour-

market needs and might require certification. In this case, there is a need to demonstrate the achievement of certain socially recognised and externally set goals. Currently, different ways for obtaining this kind of recognition are being experimented with. Some of these – such as peer recognition, peer endorsement, open badges – respond to increasingly informal learning practices. However, they are still very new and it is not clear whether they are going to become officially valued forms of recognition. Open adult learning has to offer transparent and recognised mechanisms that allow the acquired skills to be documented.

Figure 8 depicts 4 scenarios to illustrate how a learner might engage with the open education system which is effectively an open learning ecosystem containing many affordances for learning: an ecosystem of infinite possibilities.

*The **'Learning for Life'** scenario faces up to the two challenges, inclusion and recognition, mentioned above. In the 'Learning for Life' scenario, the learning process is driven by the learner's motivation to understand and learn. The learner freely picks, evaluates and mixes learning resources as she/he sees fit. Since the focus of the learning process is understanding and gaining knowledge of a topic that deeply concerns the learner (such as a disease she/he or a relative has, or a concrete problem she/he needs to solve), there is, at least initially, no need for the learning gains to become recognised and presumably no need for guidance.*

*The **'Learning Café'** scenario responds to the need for guidance. In this scenario the learning process is driven by the learner's motivation to understand (and no direct need for recognition or certification) but the learner chooses to seek more structure, help and guidance to orient himself/herself in an abundant learning universe. Thus, learners rely more heavily on communities and groups or on trusted gateways to knowledge to orient themselves in a confusingly rich landscape of information and misinformation.*

*The **'Learning Certified'** scenario responds to the need for recognition. In this scenario, the learner chooses to learn autonomously, in a self-directed way, but the learning process is driven by the learner's wish or need to fulfil an externally set curriculum or standard to receive recognition and/or certification for his achievements. Thus there will be a plethora of different learning opportunities and learners will have a high degree of freedom concerning which learning resources to use, when and how. There is also, however, some overall structure that will allow learners to receive recognition for their accomplishments.*

*'**Open Training'** responds to both constraints by describing a learning context in which openness is embedded in a more formally structured learning process. This scenario is a combination of the latter two scenarios, in which the learner chooses to study a certain subject that is linked to an externally set standard (even if this is loosely defined) in a more structured, supportive, collaborative learning environment. This scenario may lead to a certification, but the latter is not necessarily its principal aim.*

These four scenarios are not exclusive, but complementary, and they sketch out different situations and configurations of open adult learning within an ecosystem of infinite possibilities that recognises lifewide-lifelong learning. The four scenarios coexist and learners should be able to move between them as their learning goals and the support and recognition they need to achieve these goals change. It stands to reason that an educational institution that encourages, supports and recognises lifewide learning is supporting an enriched concept of lifewide learning by preparing learners for an ecosystem that will support their lifelong-lifewide learning in the manner outlined above.

## Pathways to a New Culture of Lifelong Learning

Thinking about the future and imagining different worlds is an important but difficult and contentious task when facing the set of wicked problems such as those that face humanity at the start of the 21st century. The *Three Horizons* method, originally developed as an organisational strategic planning tool (Baghai, Coley and White, 1999), provides a tool to facilitate imaginative inquiry into an unknown future at a complex system or global level, *"Three Horizons thinking' is an effective method for making sense of*

and facilitating cultural transformation and exploring innovation and wise action in the face of uncertainty and not-knowing" (Sharpe et al 2016, Wahl, 2017).

The 'Three Horizons' framework (Figure 9) is a foresight tool that can help us imagine, inquire, explore ideas and develop thinking about the future and possible steps needed to advance towards a particular vision of the future. The tool describes three patterns or ways of doing things and how their relative prevalence and interactions evolve over time. The change from the established pattern of the first horizon to the emergence of fundamentally new patterns in the third occurs via the transition activity of the second horizon (Sharpe et al 2017).

The two axes of the tool shown in Figure 9 define the changing patterns of thinking and practice over time. "Prevalence" refers to the extent to which a particular pattern dominates the issue of concern (e.g., way of thinking and doing things, use of a particular technology, set of values and the paradigm within which people work and imagine). H1 is a current pattern that is not fit for purpose of a world in rapid formation. Its projection into the future will be a declining pattern. H3 represents future patterns that are imagined/envisioned but will only be fully realised in the future. H2 is the messy, turbulent domain of the world in formation. In this domain people engage with problems and opportunities and create new practices, processes, services and products. These experiments enable people to learn their way into the future, to see this future more clearly and to influence it. In this way their ideas and new social practices feed into the infrastructures, practices and cultures required of the H3 horizon (Sharpe et al 2017).

Figure 9 The three horizons tool developed by Baghai, Coley and White, (1999). See also Sharpe et al (2017).
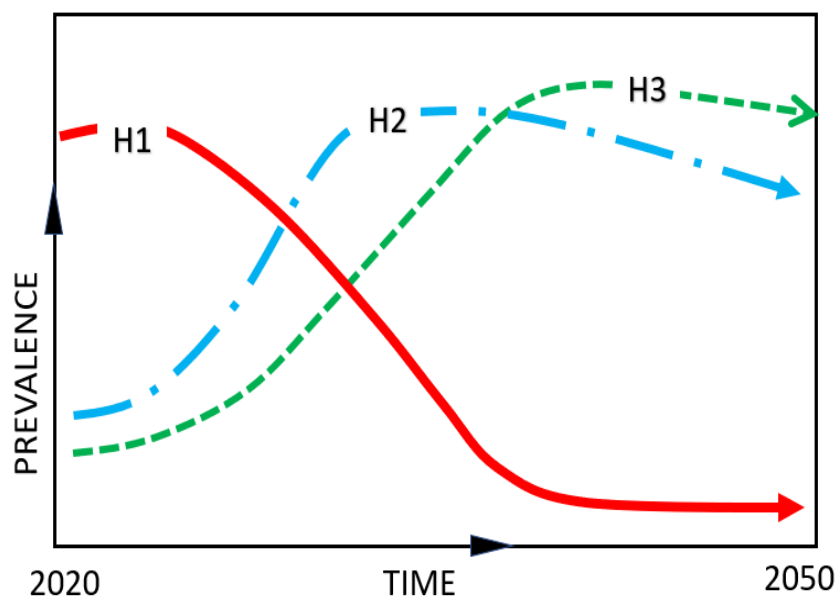
H1 is a current pattern whose fitness for the world is rapidly diminishing. H3 represents future patterns that are imagined/ envisioned but the patterns will only be fully realised in the future. H2 is the messy, turbulent domain of transitional thinking, doing, achievements (including innovations) and learning in the world as it forms.

We can use this framework to chart a pathway to a new paradigm and culture of lifelong learning in which a lifewide/ecological concept and approach to lifelong learning is valued, supported and recognised (Figures 10 & 11).

Figure 10 Using the three horizons tool to chart a pathway to a new paradigm and culture of lifelong learning in which a lifewide/ecological concept and approach to lifelong learning is valued, supported and recognised. Pts 1-10 are the key messages from the UNESCO Institute for Lifelong Learning Report (UNESCO 2020a). The bold text illustrates how the key messages could be developed to reflect the lifewide dimension of learning.
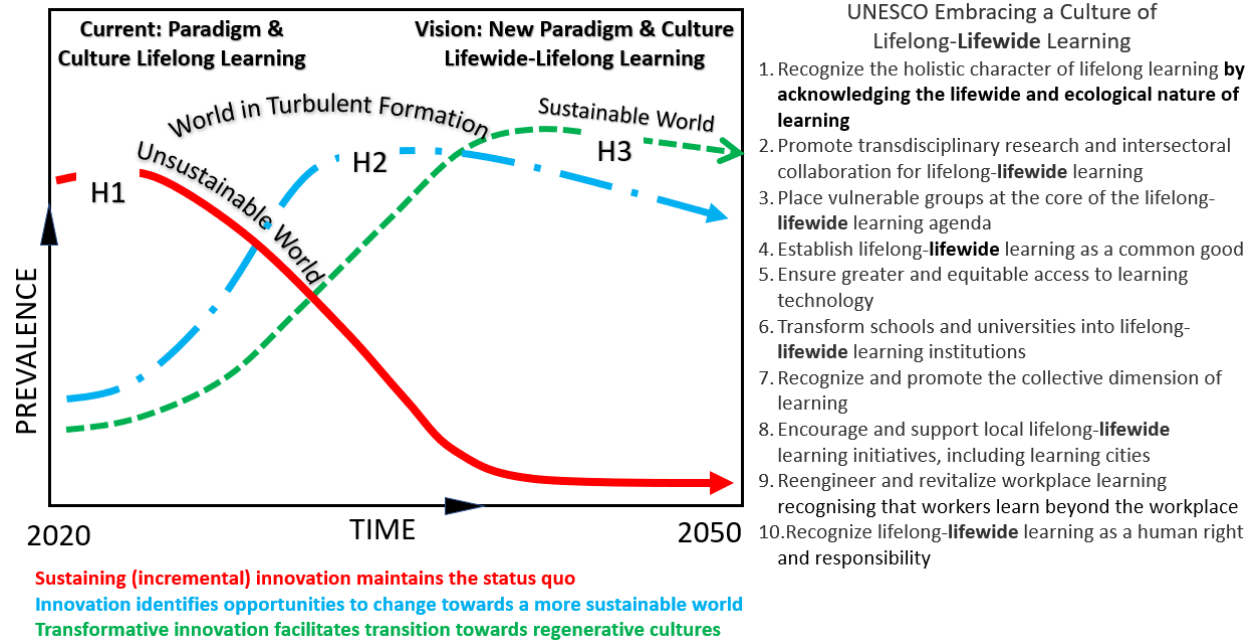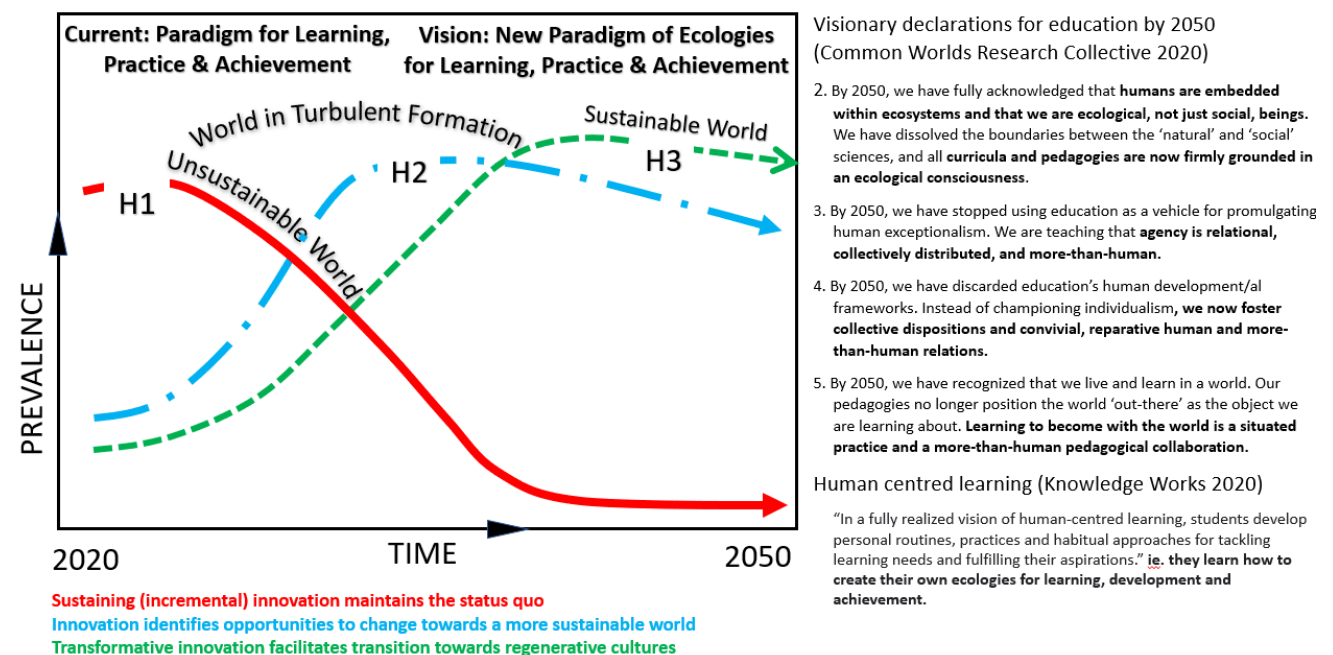

UNESCO Embracing a Culture of Lifelong-**Lifewide** Learning

1. Recognize the holistic character of lifelong learning **by acknowledging the lifewide and ecological nature of learning**
2. Promote transdisciplinary research and intersectoral collaboration for lifelong-**lifewide** learning
3. Place vulnerable groups at the core of the lifelong-**lifewide** learning agenda
4. Establish lifelong-**lifewide** learning as a common good
5. Ensure greater and equitable access to learning technology
6. Transform schools and universities into lifelong-**lifewide** learning institutions
7. Recognize and promote the collective dimension of learning
8. Encourage and support local lifelong-**lifewide** learning initiatives, including learning cities
9. Reengineer and revitalize workplace learning recognising that workers learn beyond the workplace
10. Recognize lifelong-**lifewide** learning as a human right and responsibility

Figure 11 Using the three horizons tool to chart a pathway to a new paradigm in which learning is understood as an ecological phenomenon consistent with the vision elaborated in three of the 'Visionary declarations for education in 2050' (Common Worlds Research Collective (2020) and the vision of human centred learning (Knowledge Works 2020).

Visionary declarations for education by 2050 (Common Worlds Research Collective 2020)

2. By 2050, we have fully acknowledged that **humans are embedded within ecosystems and that we are ecological, not just social, beings.** We have dissolved the boundaries between the 'natural' and 'social' sciences, and all **curricula and pedagogies are now firmly grounded in an ecological consciousness**.

3. By 2050, we have stopped using education as a vehicle for promulgating human exceptionalism. We are teaching that **agency is relational, collectively distributed, and more-than-human.**

4. By 2050, we have discarded education's human development/al frameworks. Instead of championing individualism**, we now foster collective dispositions and convivial, reparative human and more-than-human relations.**

5. By 2050, we have recognized that we live and learn in a world. Our pedagogies no longer position the world 'out-there' as the object we are learning about. **Learning to become with the world is a situated practice and a more-than-human pedagogical collaboration.**

Human centred learning (Knowledge Works 2020)

"In a fully realized vision of human-centred learning, students develop personal routines, practices and habitual approaches for tackling learning needs and fulfilling their aspirations." **ie. they learn how to create their own ecologies for learning, development and achievement.**

## Towards An Enriched Concept of Lifelong Learning

To achieve the goal of an enhanced concept of lifelong learning and a culture within which the whole of life is valued for its potential for learning and action in the service of mankind and the planet, would require certain actions and responses to be undertaken along the H2 (experimentation and innovation) curve. Some of these innovations will contribute to changes in thinking, practice and changes in the environment and culture along the H3 implementation trajectory.

Figure 12 imagines the journey towards the 2050 vision 'Embracing a Culture of Lifelong Learning in which citizens of the world:
- appreciate the holistic nature and fundamental significance of lifelong learning by recognising the lifewide dimension and ecological nature of learning.
- recognise that we are embedded within a multitude of ecosystems and that we are ecological, not just social, beings… all curricula and pedagogies are now firmly grounded in an ecological consciousness.
- develop and apply human centred learning to nurture a love of learning in all dimensions of life, the agency to create ecologies for learning and practice and that embody a concern for the wellbeing of others and the earth as well as sustaining and nurturing themselves.

There is not much detail but there is the sense of direction, a sense of what to aim for and some of the elements of action and activity that will be necessary to make progress at scale.

Figure 12 Journey to a future world in which humanity holds a shared concept of lifelong-lifewide learning and a culture within which the whole of life is valued for its potential for learning and action in the service of mankind and the planet. Key actions and changes are mapped onto the three horizons foresight tool.
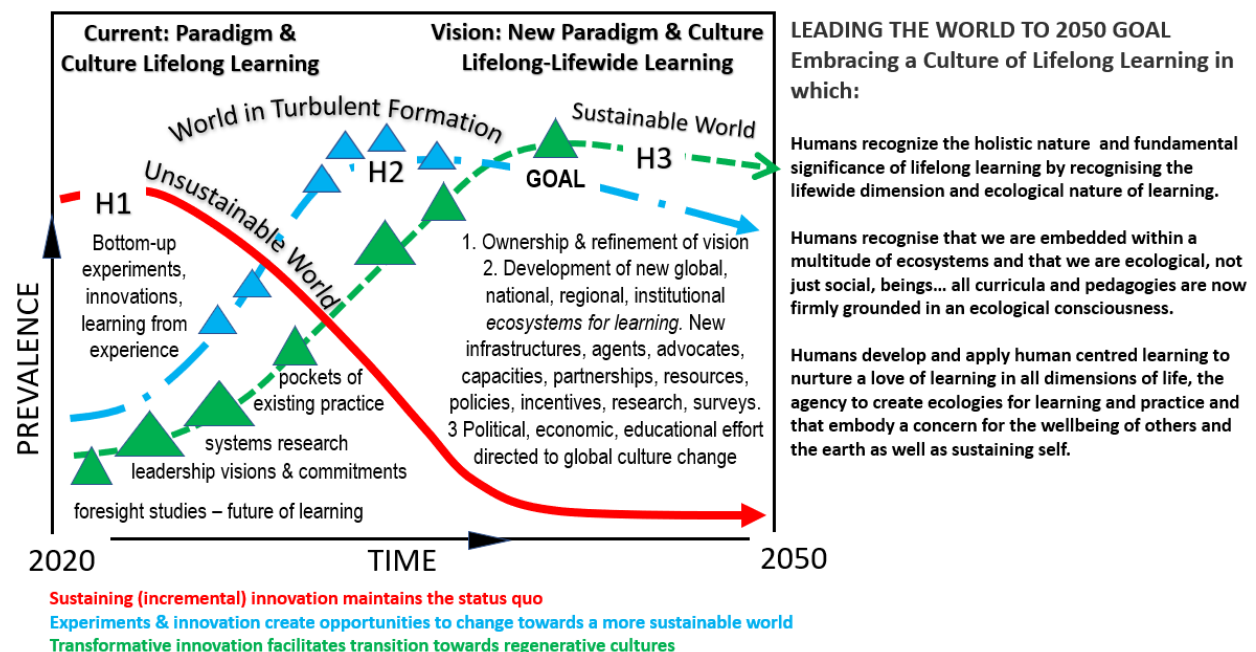
Setting out a vision in the manner such as is set out in 'Embracing a culture of lifelong learning' (UNESCO 2020a) creates new conditions within which research and imaginative thinking can be undertaken. Research and development from local to global scales will encourage ideas to emerge and enable them to be tested and existing practices that are consistent with the vision to be identified and shared.

Educational leaders and educators will contribute new and innovative practices, as will agents who can see new possibilities for business or social enterprise. At some point serious commitments and investments will have to be made to create new infrastructure, policies and resources. The path will not be easy but this is the nature of a world in formation.

Optimum educational practice is currently predicated on an explicit alignment of learning intentions, teaching and learning practices, resources and assessment criteria, and practice within a controlled, safe, supportive, low-risk environment, where the primary measure of success is to recall what has been learnt under exam conditions. This approach encourages learners to view learning as a logical, linear, structured, fairly abstract (decontextualized), unemotional, safe, risk and conflict-free, and essentially independent and mainly cognitive process. However, learning in the world outside a formal educational environment is nothing like this. It's contextual and highly situated in complex cultural settings. It is often messy, unstructured, partial and ambiguous, risky, conflictual, negotiated, experiential, and emotional. It's often social and highly collaborative and it often emerges as a result of trying to achieve something.

Learners will spend most of their lives living, working and performing in lots of other ways in the world of infinite possibilities. Our education institutions and systems are failing learners if they do not help them recognise and experience the messy world of learning outside the institutional environment and enable them to prepare themselves for a lifetime of learning, performing and achieving in it.

The lifewide and ecological perspectives offered in this White Paper attempt to comprehend the dynamics of learning, development and achievement in a more holistic and realistic way. The interpretive frameworks offered can be applied to learning in formal and informal situations, and they embrace work practice contexts, allowing learners to see the relevance of their learning practices in education. The paper does not advocate the wholesale replacement of predictive outcomes-based learning, rather it argues for evolution towards a more comprehensive concept of learning that values the lifewide and ecological nature of learning and achievement as steps towards a richer conception of the meaning and practice of lifelong learning.

This imagined future is already here. The human need to create, to invent and experiment means that there are many practices and models already in existence that are consistent with the ideas that underpin this White Paper – but much more can be done if ideas are adopted systematically and encouragement is given to experiment and evolve.

In their insightful foresight report Luksha et al (2017 p.79) argue:
> in order for global culture to be infused with regenerative societal practices and for new systemic literacies and patterns to take root that foster "anti-fragility", these practices must become massively distributed skill-sets, mastered by a critical mass of people within the population. in support of this shift there are many practices that can be utilized when defining, identifying, and creating educational prototypes and learning ecosystems that support personal, collective and global thrivability.

In an ecosystem of infinite possibilities we need to pay attention to (ibid 81-2):
- *inspiring self-direction and creation of one's own learning ecologies — or self-guided learner pedagogy/andragogy. Forming learners instead of "knowers" focused on accumulating static knowledge through learner empowerment, personalized learning trajectories, and transformative (incl. initiatory) learning experiences.*
- *curriculum around meta-competencies including different methods of thinking, or emotional and social intelligence, in project- and practice-oriented learning, while encouraging access to facts and data, focusing*

on how information is integrated and discerned. nurturing diverse forms of intelligence and the ability to connect these forms in myriad ways to adapt to current and emerging conditions

- *rise of holistic education: forming, through holistic development and existential-skills oriented methodologies and learning environments, "whole children" and "whole adults" who are able to live happy, healthy and fulfilling lives, and are prepared to deal with the social and affective areas of their lives in the wholeness of their being.*

The two ideas presented in this White Paper are consistent and supportive of these proposals. They are not the only things that need to change but they do constitute important building blocks towards a vision of 'sustainability' and 'thrivability' and a culture that believes 'the whole of life is learning therefore education can have no ending' (Lindeman, 1926).

It has been widely argued that in order to move development into a positive curve towards sustainability, society needs to change the worldview/paradigm within which it currently operates; and that such a shift from a mechanistic to an ecological/living systems worldview is already happening. It is suggested that the purpose of the sustainability paradigm flowing from this worldview is not to conserve the status quo or meet ill-defined human needs, but to strengthen the health, adaptive capacity, and evolutionary potential of the fully integrated global social-ecological system so that it can continue regenerating itself, thereby creating the conditions for a thriving and abundant future – not only for the human species, but for all life (Du Plessisa and Brandonb 2015 p.53).

The question we have to ask is, how does this sustainability paradigm, with its focus on regenerating the whole of the social ecological system within which we are living and learning, change our understanding of what learning means and what it means to learn across and throughout our lives?

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Lifewide Education's role in a lifelong-lifewide learning ecosystem

Lifewide Education is a social learning enterprise inspired by Eduard Lindeman's vision and led by a small band of learning and education activists at the heart of a community of interest that advocates a lifewide, ecological approach to learning, personal development, education and achievement.

We believe that 'lifewide learning' embraces the most comprehensive understanding and practice of learning, knowledge and knowing, personal development and achievement. It includes all contexts for learning – learning that is developed in both structured educational environments and informal settings, learning that is directed or self-managed, learning that is intentional or unintended, learning that is driven by our interests and its intrinsic value, as well as our needs, and learning which just emerges during the course of our daily activity.

Lifewide learning is connected to several ideas that are all important to future learning.:
✓ learning anything/anywhere/anytime/anyhow/for any purpose
✓ that learning involves interacting with our environments through a multiplicity of technological tools
✓ that we have to motivate, plan, manage and self-regulate our own learning, development & achievement.
✓ that learning is both personal and individual, yet also social and collaborative.
✓ that learning involves, perception, reasoning, imagination, emotion, embodied action and creativity

ANYONE ANYTHING ANYWAY ANYWHERE LEARNING ANYHOW ANYTIME ANY PURPOSE

Lifewide Education is a transformative concept associated with lifewide learning when it is embraced and implemented by an educational institution. It recognises the lifewide dimension of learning, development and achievement and enables learners to view themselves as the designer of an integrated, meaningful life experience that incorporates formal education as one component of a richer set of experiences that embrace all forms of learning and achievement across and their life. Our aim is to support educational institutions and practitioners who would like to implement Lifewide Education. Visit https://www.lifewideeducation.uk/ for more information.