



Lifelong Learning for Sustainable Futures: Lifewide, Ecological Perspectives from the UK Norman Jackson

This narrative provides background notes my presentation to the Education Policy Support for Children's Education in the Highland Plateau of China Conference July 18-20th, 2021. I am grateful to the conference organisers for the opportunity to share my ideas on the ways in which I believe policy for education and lifelong learning needs to evolve to support distant sustainable futures for individuals, communities, societies and the planet. The notes, slides and other resources can be found at: <https://www.lifewideeducation.uk/qinghai.html>

1 THE MORAL PURPOSE OF EDUCATION AND POLICY SUPPORT FOR EDUCATION & LEARNING

Education Policy Support for Children's Education in the Highland Plateau China

LIFELONG LEARNING FOR SUSTAINABLE FUTURES
LIFEWIDE & ECOLOGICAL PERSPECTIVES FROM THE UK
PROFESSOR NORMAN JACKSON
<http://www.norman.jackson.co.uk/qinghai.html>

The whole of life is learning therefore education can have no endings
Eduard Lindeman (1926)

Our long learning life 2021-2121

Learning in the educational environment

Learning through interacting with the world, experiencing & reflecting upon it

According to Professor Michael Fullan, the moral purpose for education is to make a positive difference to people, to enable them to develop the potential they have to lead fulfilled and productive lives. "I ...use the phrase 'moral purpose' to indicate we are talking about principled behavior connected to something greater than ourselves that relates to human and social development"¹. It is this concern to contribute to the development of others that motivates people to become a teacher.

Education is our most powerful social technology. When we create policies to support education, allocate resources and train and develop people to deliver and support the policies, we are trying to make judgements as to what actions will best achieve this moral purpose, while balancing other concerns - for example the need for economic prosperity, cultural reproduction and contribution and responsible citizenship, and the resources we allocate as a society to support education.

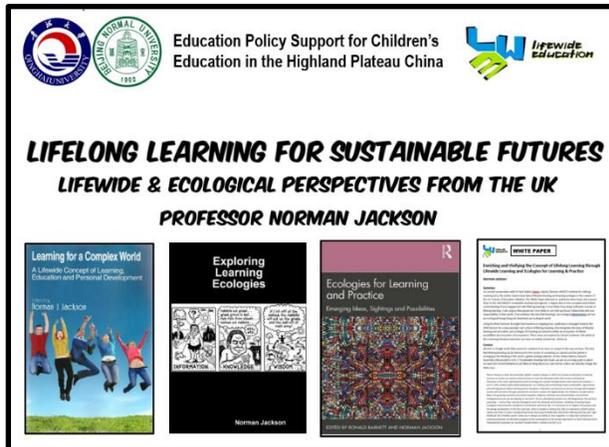
Underlying my presentation is the belief that we have reached a point in human history where the moral purpose of education and a commitment to learning throughout life needs to be broadened to encompass the health and vitality of the planet that sustains all life. I argue that policy makers in all spheres need to adopt a new ecological world view within which to construct policy. . A view that I think is consistent with what the UN policies for sustainable development are trying to achieve.

My scholarly interests are in higher education and everyday learning but I believe that educational policy has to be fully integrated across all stages of life. We tend to think of education and learning throughout life as separate things but we need to think in the way that Eduard Lindeman did 100 years ago when he said, "that the whole of life is learning and education can have no endings". Policy support for education should be fully integrated into policy support for a lifetime of learning. We call this lifelong

learning I believe that working towards sustainable futures requires us to make explicit the lifewide dimension of lifelong learning as this is the dimension in which we act.

The young students of today are likely to live well into the next century and the education they receive today must provide the foundation for 100 years or more of learning and undergoing to adapt to a world that is in continuous formation: a world that will be profoundly different to the world we know today. These are the core challenges for educational policy makers and practitioners who are concerned about the distant rather than the near future.

2 A NEW MEGA-CONTEXT FOR LEARNING & EDUCATION

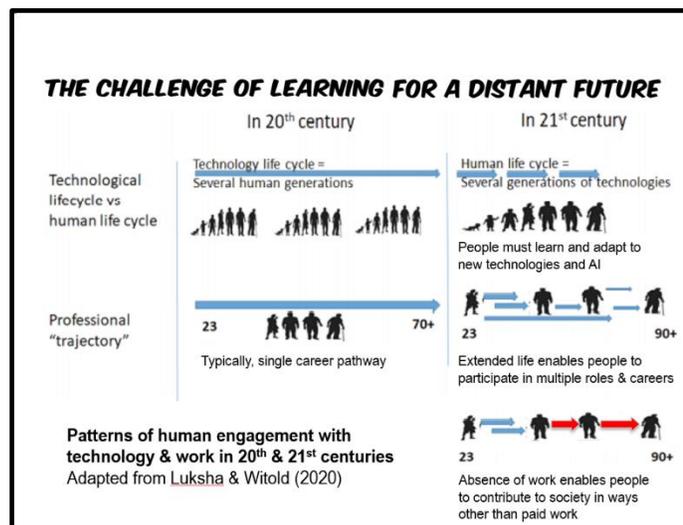


We have reached a turning point in the history of human civilization where a new concern is emerging that will need to be addressed by educational leaders, policy makers and practitioners. Namely, the concern that over the coming decades we will need to learn attitudes, values and behaviours that will help sustain and regenerate the health of our planet and the ecosystems it supports. This is a new and significant context for education and learning: A context that is framed by the United Nation’s 2030 Agenda for Sustainable Development^{2,3} and UNESCO’s Futures of Education initiative^{4,5}.

We are ecological beings enacting life within and with an ecological world of relationships and interdependencies. We inhabit a world in continuous formation but we are an integral part of its formation and not separate from it. If we are to succeed in the project called, ‘learning for a future that is sustainable for all living things’, we need a paradigm of lifelong learning, education, action and achievement that embraces consciously and fully the lifewide dimensions of everyday life and its fundamentally ecological character. The educational thinking underpinning my talk is published in the three books and a White Paper^{6,7,8,9}.

3 THE CHALLENGE OF LEARNING FOR THE DISTANT FUTURE

National education policies and practices across much of the western world are influenced by neoliberal thinking in the service of a social market economy. They are focused on the present and near future – preparing people for the world of work they will enter when they leave fulltime education, in the belief that this is what societies and economies need. They are characterised by: prescriptive tightly enforced national curricula based on an outcomes-based model of learning and assessment, school and teacher accountability and market-like competition between schools.



There is an underlying assumption that by equipping students with the knowledge and skills to perform in the present they will automatically be able to adapt to and cope with new situations in their future. But perhaps for the first time in human history we are approaching a future that the present might not prepare us for future¹⁰. According to Daniel Susskind the pathway to the future involves increasingly rapid introductions of new technologies, ever expanding information flows, decreasing shelf-life of knowledge, less work for most people, where people will increasingly need to co-exist with intelligent machines and AI and where humans themselves are likely to be part machines and incorporate AI¹¹. The future of the young people today will not replicate what it has been in the past. Enabling learners to prepare themselves for such a future (future readiness) poses enormous challenge for educators, educational institutions and societies. In addition to the knowledge, skills that are traditionally developed through formal education, it means developing people as whole people with qualities, aptitudes and values that are uniquely human. It also means enabling them to experience and practice resilience in a world that they cannot control rather than only training them for specific jobs or skills within stable and controlled learning environments. *“The core of the foundation for readiness lies in developing a strong inner self that is resilient, reflective, and able to see, develop and value positive connections and relationships [with the world].”¹²*

According to Ron Barnett¹³ education that is focused on the present is formed around a knowledge-rich and skill-based curriculum. Whereas a curriculum that is future-oriented engages deeply with the ontological dimension of being human in a world of great uncertainty that is constantly reforming, and of undergoing, becoming different, as we engage with and adapt to this constantly emerging world. His argument provides a philosophical foundation for the idea of 'pedagogy for future learning' and the idea that lifelong learning is a never ending process of becoming.

4 THE FIRST CHALLENGE OF LEARNING FOR A DISTANT FUTURE

The first challenge of learning for a distant future is framed by a question like: Q HOW DO WE SUSTAIN & REGENERATE OURSELVES FOR A LIFETIME OF LEARNING IN A WORLD THAT IS IN CONTINUOUS FORMATION? Recognising that we are active participants in its formation.

Our approaches in all levels of education, are mainly inherited from a world of the past that was more stable. Formal education encourages learners to only appreciate learning through an institutional and academic perspective: a way that is fairly linear and unproblematic, that mostly comes from listening to authorities, reading texts, answering questions through essays in the way the teacher expects, and generally complying with the rules of the institutional/academic system of learning and behaving using knowledge that is often abstract and decontextualized. More than this, institutions create stable, safe, low-risk, low stress, environments for learning with no obstacles where, learning is scaffolded, encouraged and supported and where the information needed to learn is already codified in books, articles and easy to access lectures and power point presentations.



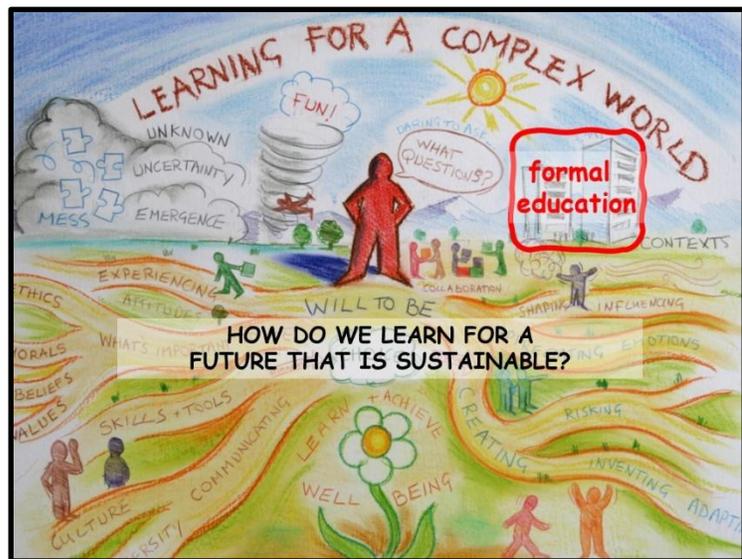
All practitioners know that learning and developing ourselves to achieve something significant in the practice world outside institutions is not like this. We drew this picture on the wall of our Centre at the University of Surrey to remind ourselves that the world of learning outside the university is a messy, full of ambiguity, uncertainty and often conflict requiring negotiation and resolution. In this world knowledge is contextual, situational, partial, tacit and often embodied in the practice and the behaviours of people. There are no textbook answers to a situated problem involving unique people in unique circumstances, and possibly no clear-cut answers, only partial answers that must be implemented and adapted to fit the context in an experimental way – monitoring effects and adjusting where necessary. Furthermore, the learning that emerges when a practitioner engages with a complex problem or situation, is often not what was expected. It's all far removed from the predictive outcomes-based learning we find in education.

5 THE CHALLENGE OF LEARNING FOR A SUSTAINABLE DISTANT FUTURE

There is no point in learning for a distant future if we can't sustain that future. So a second challenge can be framed by a question like.

Q HOW DO WE LEARN FOR A FUTURE THAT IS SUSTAINABLE?

Many decades of scientific research has shown that human behaviours have not only reshaped our world to make it more habitable for more humans, but in doing so have had a serious detrimental impact on planetary resources and systems that sustain all forms of life. It is only a matter of time before we cause irreversible damage.



“Our current global footprint is about one and half times the Earth’s total capacity to provide renewable and non-renewable resources to humanity. In 35 years, with an increasing population that could reach 9.6 billion by 2050, and if our consumption needs and production patterns remain the same, we will need almost 3 planets to sustain our ways of living. Impacts from climate change continue and intensify, biodiversity loss is still accelerating, and non-renewable resources are increasingly exploited, bringing us closer to breaching more planetary boundaries.”¹⁴

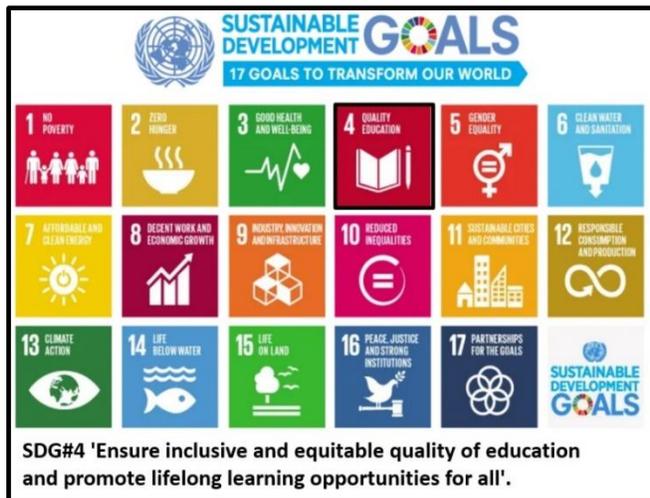
The second universal challenge focuses attention on learning and unlearning how we individually and collectively can live a life that minimises damage to our environment, that utilises resources in the most efficient and effective way, and wherever it is possible leads to a sustainable regenerative world so that humankind has a future.

6 THE WICKED CHALLENGE OF SUSTAINING OUR FUTURE

This challenge of sustaining our future has the characteristics and qualities of a wicked problem¹⁵ in so far as it comprises a multitude of complex, inter-related problems which are difficult to solve because of incomplete, contradictory, and changing requirements that are often difficult to recognize. There are no right and wrong answers only many possibilities and the many stakeholders have different perspectives, conflicting priorities and partial solutions. The vast scale, complexity and multifaceted nature of the problem requires the involvement of the whole of humanity and we all have a responsibility for offering ideas on how the problem can be tackled.



7 THE UN'S SUSTAINABLE DEVELOPMENT GOALS



The United Nations is the world's global strategic thinker and planner when it comes to sustainable development and providing leadership in policy making.

The wicked problem of humanity's future survival and flourishing is framed by the United Nations 2030 Agenda for Sustainable Development, which offers 17 Sustainable Development Goals (SDGs) with 169 associated targets which are integrated and indivisible^{2,3}.

Education has its own goal - SDG#4 'Ensure inclusive and equitable quality of education and promote lifelong learning opportunities for all'.

This SDG gives education a new role – to raise awareness of the problem of sustainable development and encourage behaviours that will support sustainable development – the achievement of SDGs. It also contains within it a new and important role for lifelong learning – to enable individuals and societies to learn how to sustain themselves and regenerate their world and to apply their learning.

ADDITIONAL NOTES: The Sustainable Development Goals (SDGs) or Global Goals are a collection of 17 interlinked global goals designed to be a "blueprint to achieve a better and more sustainable future for all".² The SDGs were set up in 2015 by the United Nations General Assembly and are intended to be achieved by the year 2030. They are included in a UN Resolution called the 2030 Agenda or what is colloquially known as Agenda 2030.³ The SDGs were developed in the Post-2015 Development Agenda as the future global development framework to succeed the Millennium Development Goals which ended in 2015.

The 17 SDGs are: (1) No Poverty, (2) Zero Hunger, (3) Good Health and Well-being, (4) Quality Education, (5) Gender Equality, (6) Clean Water and Sanitation, (7) Affordable and Clean Energy, (8) Decent Work

and Economic Growth, (9) Industry, Innovation and Infrastructure, (10) Reducing Inequality, (11) Sustainable Cities and Communities, (12) Responsible Consumption and Production, (13) Climate Action, (14) Life Below Water, (15) Life On Land, (16) Peace, Justice, and Strong Institutions, (17) Partnerships for the Goals.

Though the goals are broad and interdependent, two years later (6 July 2017) the SDGs were made more "actionable" by a UN Resolution adopted by the General Assembly. The resolution identifies specific targets for each goal, along with indicators that are being used to measure progress toward each target.[3] The year by which the target is meant to be achieved is usually between 2020 and 2030.[4] For some of the targets, no end date is given. Source: [Sustainable Development Goals - Wikipedia](#)

8 WHAT DO WE NEED TO THINK ABOUT WHEN WE DEVELOP NEW POLICY & PRACTICE FOR SUSTAINABLE FUTURES?

I want to briefly consider 4 ideas.

POLICY SUPPORT FOR EDUCATION AND LIFELONG LEARNING FOR SUSTAINABLE FUTURES

What do we need to think about when we develop policy to support education and learning for sustainable futures?

- 1 Develop understanding of what sustainable development & sustainable futures mean, especially for individuals in their own contexts.
- 2 Develop an ecological view of living, learning & achieving, and a lifelong concept of learning by making the lifewide dimension of learning explicit
- 3 Build the capacity of the system to learn and develop collaboratively
- 4 Experiment - use these ideas to develop understanding of how we support education & lifelong learning for sustainable futures

9 CREATING PERSONAL GOALS FOR A SUSTAINABLE FUTURE

The UN’s SDGs and related actions, are directed at Governments, NGO’s, large corporations and global agencies but it is not easy for individuals to understand how they might use them to guide their actions in their everyday lives. So the United Nations 10 YFP Sustainable Lifestyles and Education Programme¹⁶ in collaboration with Futera, developed the Good Life Goals <https://www.goodlifegoals.org/>.¹⁷

POLICY SUPPORT FOR EDUCATION AND LIFELONG LEARNING FOR SUSTAINABLE FUTURES

What does learning for a sustainable future mean to me?

GOOD LIFE GOALS

<https://sdghub.com/goodlifegoals/>

1 The goals can and should be customised by individuals to guide their choices and behaviours in their everyday life in ways that are consistent with the high level SDG’s .

2 The goals have been created for western (perhaps urban) life styles and there is merit in non-western (perhaps rural) communities devising their own.

I will return to the way these goals might be used in our own learning lives later in my talk.

10 POLICY SUPPORT FOR EDUCATION AND LIFELONG LEARNING FOR SUSTAINABLE FUTURES – WHAT ARE THE KEY IDEAS WE NEED TO CONSIDER?

UNESCO's *Institute for Lifelong Learning*¹⁷ is the body tasked with developing ideas and perspectives on education and learning for sustainable futures to aid policy makers and provide resources to support practitioners. This is the first place to go for information and resources about education and lifelong learning for sustainable futures.

In 2019 UNESCO published a framework¹⁸ for the implementation of education for development stating

LEADING THINKING

UNESCO
ESD FRAMEWORK

uii UNESCO Institute for Lifelong Learning

ROADMAP
Education for Sustainable Development

VISION
Embracing a culture of lifelong learning

Future Thinking
WORKING PAPERS

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.

To develop a culture of lifelong learning it must be the governing principle for education policy

4.7 ESD in action is basically citizenship in action. It evokes the lifelong learning perspective, taking place not only at school, but also outside the school environment, throughout the life of each individual.....ESD in action requires a new perspective on the roles and functions of schools.

The UNESCO Education for Sustainable Development webpage¹⁹ contains numerous resources to help educational institutions and national educational leaders and policy makers understand and take action in this important area.

The **Education for Sustainable Development Roadmap** was published in 2020⁴. It defines 5 priority areas for what member states must do to support and implement ESD.

- 1 ESD must be integrated in global, regional, national and local policies related to education and sustainable development.
- 2 the promotion of whole-institution approaches to ensure we learn what we live and live what we learn.
- 3 empowering educators with the knowledge, skills, values and attitudes needed for the transition to sustainability.
- 4 recognizes young people as key actors in addressing sustainability challenges and the associated decision-making processes.
- 5 the importance of actions in the communities as they are where meaningful transformative actions are most likely to occur.

ESD raises the awareness of the 17 goals in education settings: it enhances the understanding of learners and the general public on what the SDGs are and how these goals connect with individual and collective lives.

ESD promotes critical and contextualized understanding of the SDGs: Sustainable development often requires a balancing act among diverse views and priorities. ESD raises questions on the inter-linkages

and tensions between different SDGs and provides learners with the opportunity to navigate the required balancing acts with its holistic and transformational approaches.

ESD mobilizes action towards the achievement of the SDGs: ESD efforts address sustainable development issues, more specifically the SDGs. These efforts continue to mobilize action for sustainable development in education settings, in particular in communities, through whole-institution approaches. 4p

Education has its own goal - SDG#4 to 'Ensure inclusive and equitable quality of education and promote lifelong learning opportunities for all'. This SDG gives education two new roles. The first is to raise awareness of the problem of sustainable development and encourage behaviours that will support sustainable development – the achievement of SDGs across whole societies. A number of organisations have produced resources to support educators and educational institutions in developing awareness including the 'World's Largest Lesson'

<https://worldslargestlesson.globalgoals.org/>

SDG4 also contains a new and important role for lifelong learning – to enable individuals and societies to keep on learning how to sustain themselves and regenerate their world.



The overarching role of education is to lay the foundations for a transformed society underpinned by a culture of learning through the whole of life. The recognition that the role of education in the sustainable futures project is not just about learning in school but is also about applying learning in the world outside of school, connects education with personal action in the lifewide dimension of lifelong learning.

Embracing a Culture of Lifelong Learning was also published in 2020⁵. It argued that sustainable development cannot be achieved without a culture within which people were committed to lifelong learning and, lifelong learning must be the governing principle for education policy. It identified 10 enablers of a culture of lifelong learning only the first of which I will focus on.

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

UNESCO Inst for Lifelong Learning – commissions foresight studies to imagine, in an intelligent and informed way what the future might look like. One of these Working Papers²⁰ opened up a whole new way of thinking about our place an ecological world.

“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.”

11 TOWARDS AN ECOLOGICAL WORLDVIEW:

I am going to argue that this is the direction of travel we need to take and we have to develop a new ecological worldview within which to think about the practice of education and learning and to think about policy that will support such practice. According to DuPlessis and Brandon there are three underlying narratives in an ecological worldview²¹ and they have profound implications for the way we perceive learning and education.

POLICY SUPPORT FOR SUSTAINABLE FUTURES TOWARDS AN ECOLOGICAL WORLDVIEW

- 1 The earth must be viewed 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.
- 2 The phenomenal world is constantly regenerated through interactions within systems at all scales and levels of existence (physical, intellectual, emotional, social and spiritual). Phenomena (like practice, learning, creativity and other achievements) do not exist independently, but come into being through different types of relationship and interaction.
- 3 The world is dynamic, ever-changing, emergent and therefore continually in a state of formation. Humans participate in its formation and are shaped by it.

(Adapted from Du Plessis and Brandon 2015)

12 ECOLOGICAL WORLD VIEW

The ecological world view tells us that all organisms in our ecological – relational and interdependent world exist within an ecosystem. A natural ecosystem comprises the complex set of relationships and interactions among the resources, habitats, and residents of an area for the purpose of living.

People are no different to other organisms – we inhabit different ecosocial system comprises the complex set of relationships and interactions among the humans, resources and habitats of an environment for the purpose of not only living but doing many other things. The main difference between us and other organisms is that we change and reconstruct our environments so that they are more hospitable to what we want to do and achieve.

ECOLOGICAL PERSPECTIVE ON PRACTICE & LEARNING

A natural **ecosystem** comprises the complex set of relationships and interactions among the resources, habitats, and residents of an area for the purpose of living.



A human **ecosocial system** comprises the complex set of relationships and interactions among the human inhabitants, resources and habitats of an environment for the purpose of – acting, performing, producing, making, creating, learning, achieving and more



13 ECOSOCIAL SYSTEMS FOR LIVING, LEARNING & ACHIEVING

A world in formation in which everything is connected and interdependent lends itself to the idea of ecosystems as a description of the dynamic environment in which people, technology and the material and non-material environment interact. The idea of ecosocial systems forces us to think of the whole system in which people live and work, form relationships and interact in order to achieve the things they value and access the flows of information and resources that are essential to learning, doing and achieving.

innovators as a global community of practice and thought-leadership that will support the design of key components of Learning Ecosystems in different regional contexts.

We might illustrate the principle of an ecosystem using Higher Education. The ecosystem is represented in the figure as a nested structure with three levels - global-national-local.²⁷

At the local level a university ecosystem is designed to encourage and support learning. Universities are long lived organisations and in some ways they have changed relatively little over decades or centuries. They include physical spaces such as classrooms, lecture theatres, laboratories, computer rooms and specialist rooms - like workshops, dance studios and music rehearsal rooms. We must also include the virtual spaces the institution has created to enable people to interact and learn. There are also libraries and learning resource centres and informal social spaces such as cafes, bars, and even outside public spaces where people meet and talk. But these spaces are just one part of a complex socio-material environment which includes tools and other materials necessary for learning, rules that govern behaviour and practice (policies, procedures, regulations and administrative frameworks), and culture (the unspoken rules and the ways in which things are done). Together, these elements create an environment within which teachers teach and continually develop their practices, and learners learn and develop themselves. A university ecosystem influences but does not control the learning ecologies of its learners or the ecologies of practice created by teachers in order to enable learners to learn.

At the national level are other HE institutions and agencies that regulate, help develop or provide services to the system. At the global level there are infinite possibilities for learning and collaboration. This level has changed beyond all recognition in the last 20 years through the growth of the internet and an ever expanding number of internet platforms all providing services to learners, mobile technologies and ubiquitous internet access. It is the interactions between providers and between learners, provider and other agents that open possibilities for entirely new educational/learning ecosystems that Lusaka and others draw attention to as they look to the future. I would also argue that the same structures, information and opportunity resources and agencies provide the infinite possibilities for individuals to create their own ecologies for learning.

The same sort of ecosystem structure and relationships applies at the primary and secondary levels of education systems. The idea of educational ecosystems as a way of viewing social organisation, and the distribution and utilization of resources and agency is a powerful idea that educational policy makers can incorporate into their thinking. But to talk about ecosystems in education without considering the ecology of practices within the ecosystem is a serious omission. **So can we develop ecological theories of learning and practice that can be integrated into this ecological view of the world?**

15 TOWARDS AN ECOLOGICAL THEORY OF PRACTICE & LEARNING

When we engage in professional practice – such as a teacher engages in everyday, we place ourselves in the practical and conceptual territory of learning through the experience of doing something in order to achieve something that is professionally valuable.

Learning through the experience of doing connects us to educational theorist John Dewey. For Dewey doing and the experience that emerges is always a dynamic two-way process. He referred to this process as a 'transaction': 'An experience is always what it is because of a transaction taking place between the individual and, what at the time, constitutes the environment' ^{28, p43}.

"When we experience something we act upon it, we do something; then we suffer or undergo the consequences. We do something to the thing and then it does something to us in return: such is the peculiar combination. The connection of these two phases of experience measures the fruitfulness of experience. Mere activity does not constitute experience." ^{29, p104}

Dewey elaborates on this two-way process, suggesting that experience involves both 'trying' and 'undergoing' ^{29 p104}. 'Trying' refers to the outward expression of intention or action. It is the purposeful engagement of the individual with their environment or in Dewey's words, *"doing becomes trying; an experiment with the world to find out what it is like"* (ibid). Through action an attempt is made to have an impact on the world. 'Undergoing', the other aspect of the 'transaction' in experience, refers to the consequences of experience on the individual.

Anthropologist, Tim Ingold reinforces Dewey's transactional ideas and tells us that we should not think of ourselves and our environments as separate things - we are indivisible bound together through an ecology of life and of living and experiencing and developing through our experiences of the world. *'organism plus environment' should denote not a compound of two things, but one indivisible totality* ^{30 p19}, *"this totality is not a bounded entity but a process in real time: a process, that is, of growth or development"* ^{30 p.20}.

This way of perceiving ourselves in and connected to the world is core to the ecological world view within which learning and education need to be understood.

16 APPLYING DEWEY'S INTERACTIONAL MODEL OF LEARNING THROUGH EXPERIENCE TO THE CLASSROOM

IN SEARCH OF AN ECOLOGICAL THEORY OF LEARNING THROUGH EXPERIENCE

JOHN DEWEY



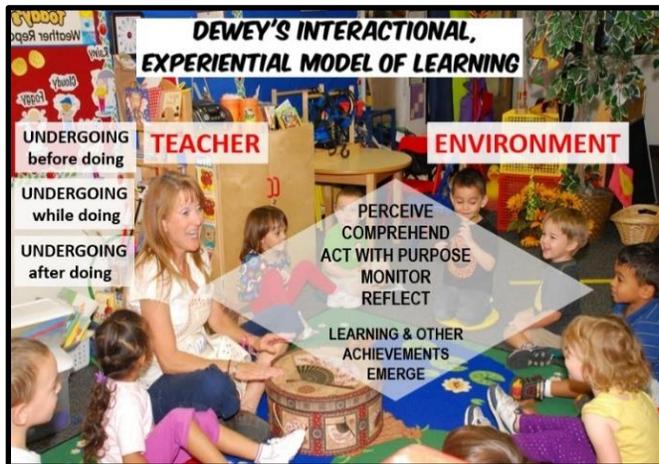
Learning is a transaction between a person and their environment

"When we experience something we act upon it, we do something; then we suffer or undergo the consequences. We do something to the thing and then it does something to us in return"
(Dewey, 1916)

Experience involves both 'trying' and 'undergoing' (Dewey, 1916)

'Trying' refers to the outward expression of intention or action. It is the purposeful engagement of the individual with their environment, *"doing becomes trying; an experiment with the world to find out what it is like"*

'Undergoing', the other aspect of the 'transaction' refers to the consequences of experience on the individual.



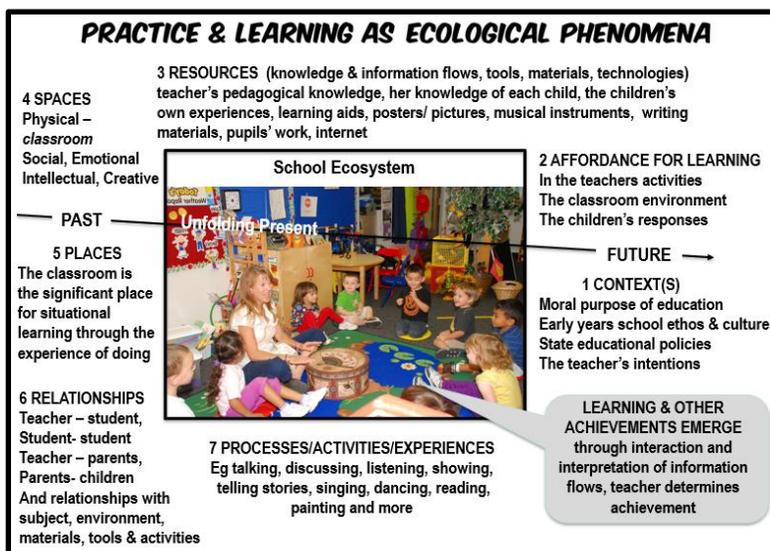
A visual representation of Dewey's transactional / interactional model of human experience that also incorporates Ingold's ecology of life idea and the enactivist and embodied view of cognition, is shown in the slide. The important point to make here is that this is the contextual and **situational** framework within which practice (intentional thinking and action) and related achievements like learning and creativity emerge, in our personal, social and professional lives.

The school teacher perceives her environment and makes sense of the situation. From her

learned repertoire of actions she selects the actions that are most likely to engage her students, she monitors the effects and adjusts her actions where necessary. Learning and other achievements emerge through the interactive process. After the class she critically reflects on her actions and their effects and learns from her remembered experience and imagined possibilities.

17 ECOLOGIES FOR PRACTICE & LEARNING

By studying the nature of the interactions we can create a map of the dynamic world the teacher is inhabiting and influencing and gain insights into her ecology of practice. Her ecology of practice has a present as it unfolds in her classroom as she causes or interacts with each new situation. In her near future she is likely to reflect on her experiences and learn from them. And in her more distant future she will draw on the experience and what she learns as she plans new actions.



The teacher's thinking and actions are shaped by 1) a range of contexts including the ethos and culture of the school and the various policies that affect what and how she teaches. 2) Affordances for learning are everywhere – they are in her teaching practises, in the classroom and the resources it contains, they are also in the children who have experiences and insights they can share 3) this is a specialised environment rich in resources including tools, to support learning. Furthermore, the teacher and her students are themselves important

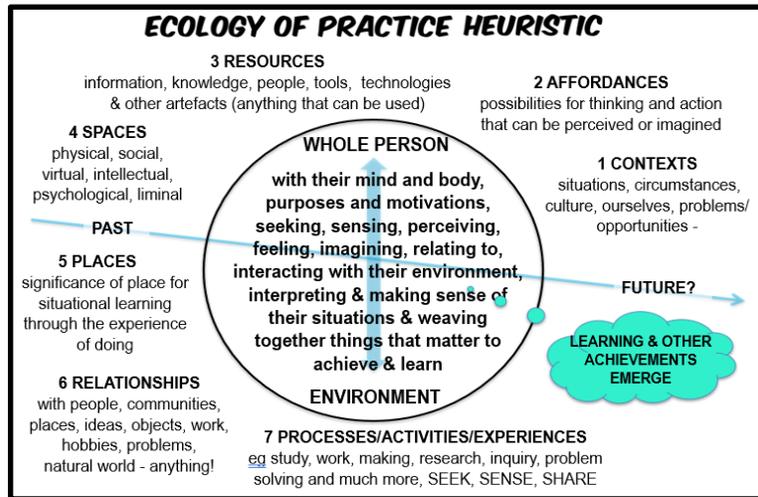
resources. In addition to the 4) physical space provided by the classroom, the teacher helps create cognitive, psychological, emotional and playful spaces within this particular 5) place - the teacher and her students associate this place with certain activities and behaviours for situational learning. Everyone and everything in this environment is 6) related and these are explored and developed through the particular 7) activities that are orchestrated and facilitated by the teacher. The classroom is a place where meanings are shared and co-created.

The components of this ecology for practice in which the intentional outcome is learning and development, are woven together by the teacher in a part deliberate, part opportunistic act. The teacher is creator but she only comes to understand the effects of her ecology as it unfolds and so she monitors the effects and adjusts her actions where it is appropriate. Through her actions, the tools she uses and the feedback she gains through her senses, the teacher extends her mind and body into his environment so that she becomes indivisible with it and the ecology she is creating. The ecology is the vehicle for her being and her undergoing.

18 A FRAMEWORK TO AID UNDERSTANDING OF AN ECOLOGY FOR PRACTICE & LEARNING

From this simple example of practice we can devise a mapping tool or heuristic that we can use to examine and interpret any practice within which learning emerges. ^{7,31}

This heuristic provides the foundation for an ecological perspective on learning and practice.



WHY IS THE ECOLOGICAL PERSPECTIVE IMPORTANT FOR EDUCATORS, LEARNERS & POLICY MAKERS?

The value in trying to develop the idea that learning is an ecological process is firstly, to seek a better explanation, and therefore consciousness of what learning to achieve something difficult in the turbulent world outside the classroom is really like. It offers another way of connecting the cognitive apprenticeships of novice learners who are preparing for professional practice to the expert and often hidden practices of experienced practitioners.

Secondly, it could help those in higher education who design and teach the curriculum, to pay particular attention to those aspects of pedagogy and curriculum that prepare learners for the ways and means of learning they will depend on in their long and complex learning lives. This 'preparation for a lifetime of learning' is at the heart of the higher education project and it is a shared responsibility between those who teach and support learners, and the learners themselves. Encouraging learners to recognise their own responsibility to develop themselves to the point where they can confidently create their own ecologies for learning is the most important collaborative project between teachers and learners and between novice practitioners and their supervisors, mentors and colleagues in work place settings.

Thirdly, it might help to open-up, in a constructive way, the meaning of what it is to be employable, and encourage people to think beyond the acquisition of generic skills to more holistic ways of knowing, being and performing in the social world of highly situated and contextualised learning and practice.

Implicitly, in this proposition is the fourth idea that learning ecologies and ecologies of learning are, in work settings, connected to ecologies of practice. By adopting an ecological perspective on learning in

education we can make stronger connections to work practices that relate to a particular disciplinary field.

Fifthly, an ecological learning paradigm will help challenge those who believe that an effective curriculum design must reduce learning to a series of pre-specified learning outcomes and assessment criteria. It will encourage and support those who believe that we can do more to help learners develop themselves as creative, self-directing and self-regulating human beings through more holistic and less prescribed ways of facilitating and assessing learning.

But most importantly the ecological perspective on learning, shows us that we are fundamentally ecological beings – thinking and acting in an ecological – relational and interdependent manner – and our very existence depends on this. Understanding this relationship between us and our actions, our environments and our learning and achievements puts us in a better position to understand how we might contribute to a sustainable future.

19 POLICY SUPPORT FOR EDUCATION & LIFELONG-LIFEWIDE LEARNING FOR SUSTAINABLE FUTURES

While education can do much to develop knowledge, understanding and empathy for a world that needs our concerted and deliberate action to sustain and regenerate it, education alone cannot achieve this goal.

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 deliver a more sustainable regenerative world. We need policies that integrate and support education and lifelong learning for sustainable futures.

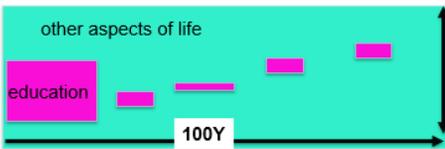
POLICY SUPPORT-EDUCATION & LEARNING FOR SUSTAINABLE FUTURES
INTEGRATION OF EDUCATION & LIFELONG LEARNING



Visions rooted in moral purpose

The whole of life is learning therefore education can have no endings *Eduard Lindeman (1926)*

continuous learning ethos pervades all spheres of life-learning for oneself, for others and for the planet, it [plays] a key role in driving sustainability **UNESCO (2020)**



Lifelong learning: All learning activity undertaken throughout life with the aim of improving knowledge, skills and competencies within a personal, civic, social, **environmental** & employment-related context (Commission of European Communities 2001)

Lifewide learning: All learning and personal development that emerges through our interactions with the world in the multiple contexts & situations we inhabit contemporaneously at any point in our life, to develop knowledge, understanding skills, capabilities, dispositions, values and meaning within personal, civic, social, **environmental** & employment-related contexts.

The UNESCO vision for a sustainable future highlights the important role of lifelong learning.

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....a continuous learning ethos pervading all spheres of life....learning for oneself, for others and for the planet, it [plays] 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 ^{5 p14}

To achieve this cultural shift we need an enhanced vision of lifelong learning that values learning as a lifewide (every part of life at any point in time) lifelong (every point in time along the journey of life) enterprise in every aspect of life. It's a vision and culture that reaches beyond the SDG#4 goal -

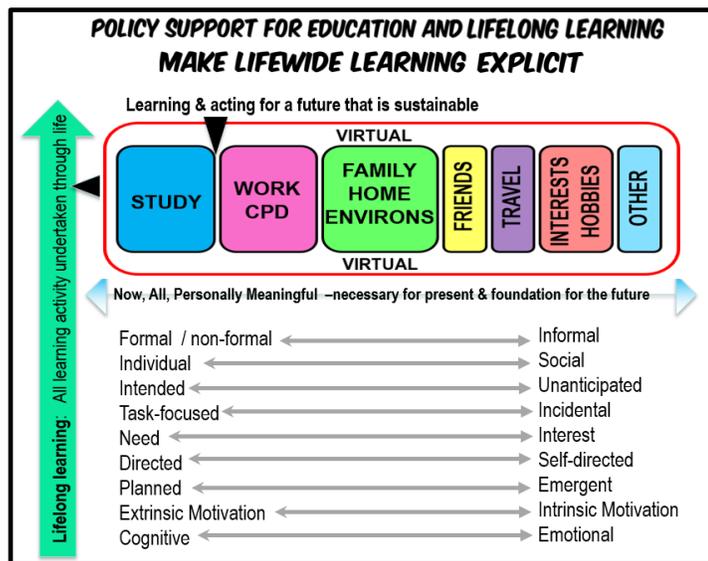
“promote lifelong learning opportunities for all” to the idea that “the whole of life is learning therefore education can have no ending”³.

In fact, there has already been a shift in the policy world from the idea that lifewide learning is implicit within the lifelong learning concept to seeing it as an explicit dimension, worthy of consideration and implementation in its own right. In 2010 the EU commissioned a Foresight study aimed at predicting how education, training and learning would evolve towards 2030 as a basis for the development of policy. The report emphasised the importance of learning throughout life (lifelong learning) but enriched the concept by emphasizing the importance of learning across a person’s life (lifewide learning).

“The overall vision [for the future of learning] is that personalisation, collaboration and informalisation (informal learning) will be at the core of learning in the future. These terms are not new in education and training but they will become the central guiding principle for organising learning and teaching. The central learning paradigm is thus characterised by lifelong and lifewide learning and shaped by the ubiquity of Information and Communication Technologies (ICT).”^{31,32}

20 MAKING LIFEWIDE LEARNING FOR SUSTAINABLE FUTURES EXPLICIT WITHIN LIFELONG LEARNING

The concept of lifewide learning provides the most comprehensive and inclusive framework within which we can understand learning, personal development and action. Because of this lifewide learning provides the foundation for a better understanding of the nature of lifelong learning.⁶ The lifewide dimension contains all the circumstances of our current life and determine who we are. It is in this dimension of our life that we make changes – we change / develop our behaviours through the choices we make which is why this dimension of living and learning is so important to the idea of sustainable futures.



These ideas clearly locate learning and development in particular contexts and situations in our lives, the concept is dominated by situational, experiential learning it incorporates all forms of formal, non-formal and informal learning. But its our capacity to reflect on experiences and create narratives from which we are able to extract new meaning that enables us to integrate and apply our learning to other situations.

21 ADOPTING AN ECOLOGICAL WORLD VIEW

Crucially important is the adoption of an ecological world view that fully acknowledges that humans are, like all other organisms, embedded within ecosystems and that we are ecological, not just social, beings. And that every thing we do and the phenomenon associated with our doings like learning, creativity and other achievements are profoundly ecological in nature. More than anything this will, in time, deepen our understandings of our impacts on the world and help us sustain our future.



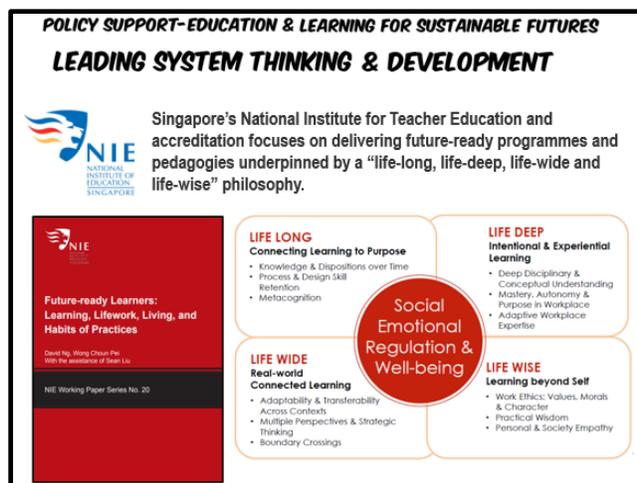
21 SYSTEM LEADERSHIP IN DEVELOPING THINKING & PRACTICE –

Every education system needs its ‘thought leaders’ and capacity and agency for developing educational thinking and practice from which effective and appropriate policy to support education and lifelong learning emanates.

In the context of this presentation, I offer the Singapore, National Institute for Education as an example of a system level thought leader level with capacity and agency to bring about change.

NIE is responsible for overseeing the training, development and accreditation of teachers. Their work is underpinned by a philosophy that embraces the lifewide dimensions of learning.

Its publicly accessible working papers, like the one illustrated³⁴, and other publications provide an excellent resource to stimulate thinking about the way education and learning need to evolve to achieve sustainable futures. Their Future Ready Learners Working Paper states: “education success must be measured beyond typical achievement standards. The three purposes (and outcomes) of education are: developing learning (knowledge); developing lifework (vocation); and developing living (citizenry, values, and sustainability) that enable individuals to live peacefully and collegially with one another in society.”^{34 p8}



22 LEARNING TO LIVE SUSTAINABLY

This is all about learning at every scale and contextualizing and applying learning in our own situations.

There are a lot of resources available for thought leaders and policy makers, and for educators. Here is a small sample of sites. Clearly UNESCO sustainable development and UNESCO Institute for Lifelong Learning are important sites for thought leaders and policy makers.

The Worlds Largest Lesson has abundant multicultural resources for teachers including lesson plans and some resources in Chinese.

<https://worldslargestlesson.globalgoals.org/>

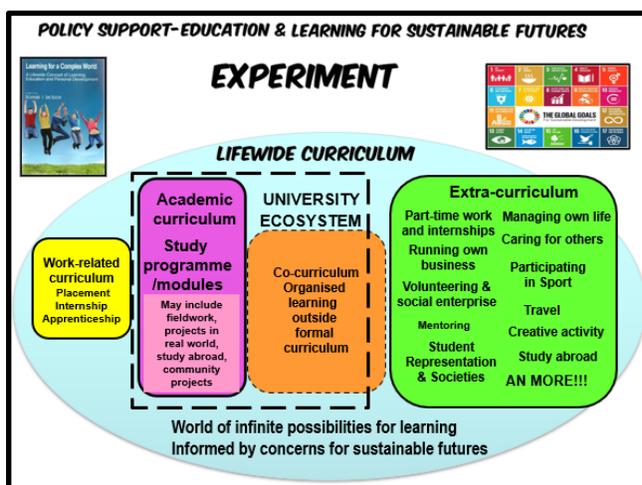
Gaia Education is the leading authority on education for sustainability aimed at people who want to engage or are leading their own sustainability projects. It offers a 120hr x 8 module online course and a design experience where you can apply your learning to your own project.

<https://www.gaiaeducation.org/elearning-programmes/design-for-sustainability/>

The website allows you to download its curriculum document.

23 THE NEED FOR EXPERIMENTATION

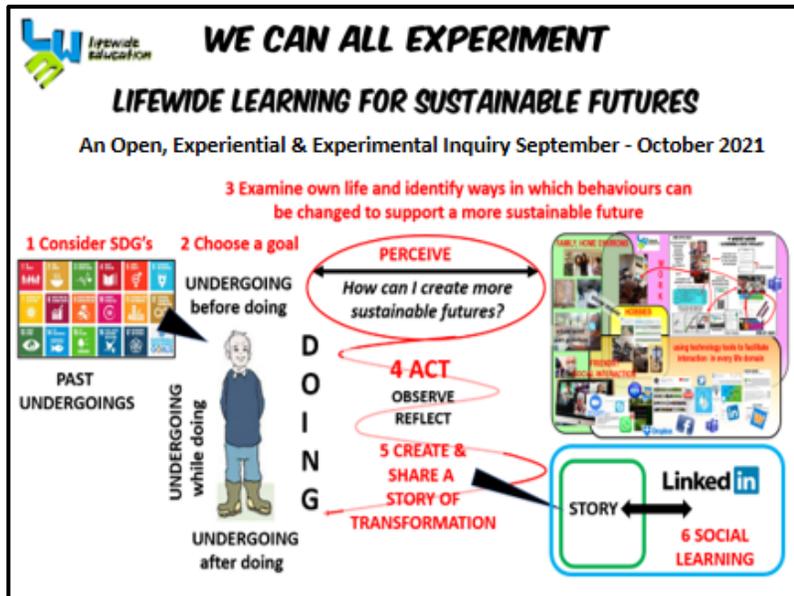
We can also learn through our own experiments. As the wicked problem of sustainable futures dictates there is no single solution only a multitude of possible contributions to the global solution and these contributions have to be adapted to particular physical / social-cultural environments. To participate in the learning for sustainable futures project we need to encourage experimentation at all scales and in all contexts. And we need to share the learning from such experiments.



have been adapted to incorporate these goals.

A decade ago I led an experiment at the University of Surrey in the UK to develop and apply the concept of lifewide learning to a higher education environment. The experiment demonstrated that it was possible to adopt a more comprehensive and holistic view of learning, development and achievement and expand the concept of curriculum so that it encompasses the whole of a learner's life. The results are described in my book Learning for a Complex World: A lifewide concept of learning, education and achievement^{6, 35}. This experiment was undertaken before the sustainable development goals were published but it could

24 WE ALL HAVE A RESPONSIBILITY TO TRY TO LEARN FOR A SUSTAINABLE FUTURE



I would like to conclude by mentioning an experiment we are undertaking in October-November. It takes the form of an open collaborative inquiry where participants will undertake to identify one or more SDG's and interpret them in the context of their own life. Over 4 weeks we want them to change some aspects of behaviour and create a narrative or story about their own process of learning for a more sustainable future.

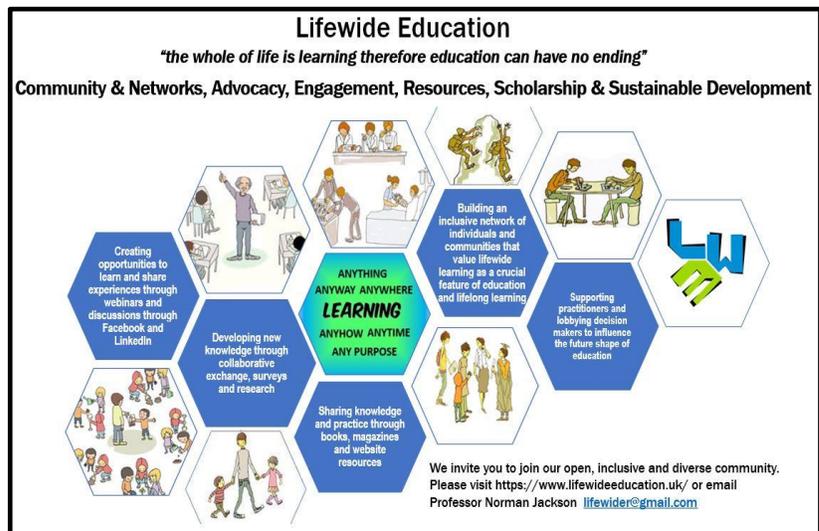
To join this collaborative experiential and experimental inquiry visit <https://www.lifewideeducation.uk/sustainable-futures.html>

25 Lifewide Education Community – global scholarship for practice network

In the UK we have established a community for people interested in lifewide learning and lifewide education. Membership is free and the community is open to anyone who is willing to share their ideas, practices and experiences in order to advance thinking and practice.

To find out more visit:

<https://www.lifewideeducation.uk/>



Conclusions

What might this mean for education policy support for education and lifelong learning in the Highland Plateau of China.

1 There is no escape from the wicked problem of a sustaining our future as a species. Children of today will be confronted by the same distant future that will happen in their lifetime, as every other child on the planet. We have reached a point in human history where the moral purpose of education and a commitment to learning throughout life needs to be broadened to encompass the health and vitality of the planet in order to develop *“a continuous learning ethos pervading all spheres of life.....learning for oneself, for others and for the planet”*⁵

2 To fully immerse ourselves in the challenge of sustainable futures, system thought leaders, policy makers and educators must embrace an ecological world view within which learning along with all other human activities and phenomenon can be viewed as ecological – related, connected and interdependent arising from our interactions with our environment. At the same time, lifewide learning should be explicitly recognised within the overall paradigm of lifelong learning – since this dimension contains the everyday activities within which people are able to develop and achieve a more sustainable future.

3 Policy makers have a responsibility to devise policies that will support education and encourage lifelong learning for sustainable futures. Policy must be joined up - we need integrated not separate policies, that are connected to other social policies within which sustainable development are prominent.

4 There is merit in devoting time and resources to participating in international projects and initiatives concerned with sustainable development and sustainable futures and related educational and learning innovations, to access emergent thinking and ideas and contribute to the global development of understanding.

5 There is merit in encouraging educational practitioners and policy makers to form local communities for thinking and action to develop strategies that are adapted to and effective in the local environment.

6 There is wisdom in encouraging and supporting experimentation at all levels, scales and contexts – schools, colleges, universities and the wider communities in which they are embedded. There is wisdom in collaboration to facilitate the sharing of results and the learning. Through such experiments and their evaluations, policy to support education and lifelong learning will be more effective.

7 There is wisdom in incorporating emerging ideas and understanding into the education and training programmes of new teachers, and the continuous professional development of experienced teachers, in order to develop the capacity of the education system to engage effectively with the need for sustainable futures.

8 It is necessary to develop resources to support teachers in their important work to support students' learning for sustainable futures. While there are abundant available resources provided by such organisations as UNESCO it is important to develop resources that are relevant and meaningful in local contexts.

Sources

- 1 Fullan, M. (2002) Moral Purpose Writ Large School Administrator Available at: <https://michaelfullan.ca/wp-content/uploads/2016/06/13396048660.pdf>
- 2 UN General Assembly (2015) Resolution 70/1. Transforming our world: the 2030 Agenda for Sustainable Development Available at: https://www.un.org/en/development/desa/population/migration/generalassembly/docs/globalcompact/A_RES_70_1_E.pdf
- 3 UNESCO (2015) Education 2030 Incheon Declaration: Towards inclusive and equitable quality education and lifelong learning for all” UNESCO: Available at: <https://iite.unesco.org/publications/education-2030-incheon-declaration-framework-action-towards-inclusive-equitable-quality-education-lifelong-learning/>
- 4 UNESCO (2020a) Education for Sustainable Development: A Roadmap UNESCO Institute for Lifelong Learning. Paris Available at: <https://en.unesco.org/themes/education-sustainable-development>
- 5 UNESCO (2020b) Embracing a culture of lifelong learning: Contribution to the Futures of Education initiative Report | A transdisciplinary expert consultation UNESCO Institute for Lifelong Learning: Paris Available at: <https://www.sdg4education2030.org/embracing-culture-lifelong-learning-uil-september-2020>
- 6 Jackson, N. J. (ed) (2011) Learning for a Complex World: A Lifewide Concept of Learning, Development and Achievement Authorhouse Available at: <https://www.lifewideeducation.uk/learning-for-a-complex-world.html>
- 7 Jackson, N.J. (2016 & 2019) Exploring Learning Ecologies Chalk Mountain: LULU Available at: <https://www.lifewideeducation.uk/exploring-learning-ecologies.html>
- 8 Barnett, R. & Jackson, N.J. (Eds)(2020) Ecologies for Learning and Practice: Emerging Ideas, Sighting and Possibilities Routledge
- 9 Jackson N J (2021) Enriching and Vivifying the Concept of Lifelong Learning through Lifewide Learning and Ecologies for Learning & Practice Lifewide Education White Paper Available at: <https://www.lifewideeducation.uk/sustainable-futures.html>
- 10 Luksha, P. and Witold K. (2020) Transformation into a New Education Paradigm and the Role of Ecosystemic Leadership Cadmus Vol 4 Issue 2 part 2 p182-198 Available at: <Transformation-into-a-New-Education-Paradigm-PLuksha-WKinsner-Cadmus-V4-I2-P2-Reprint.pdf> (cadmusjournal.org)
- 11 Susskind, D. (2020). A world without work: Technology, automation, and how we should respond. Penguin Random House UK
- 12 The Future of Learning, Redefining Readiness from the Inside Out Knowledge Works Forecast 4.0 Available at: <https://knowledgeworks.org/resources/future-learning-redefining-readiness/>
- 13 Ronald Barnett (2004) Learning for an unknown future. Higher Education Research and Development v23 #3 247-260 Available at: <https://admin.hv.se/globalassets/dokument/stodja/paper-theme-2-5.pdf>
- 14 UNESCO (2018) 10YFP Sustainable Lifestyles and Education Programme. Available at: <https://www.oneplanetnetwork.org/sites/default/files/10yfp-sle-template.pdf>
- 15 Rittel, H. and Webber, M. (1973) ‘Dilemmas in a general theory of planning’ Policy Sciences 4, 155-169. Available at: https://urbanpolicy.net/wp-content/uploads/2012/11/Rittel+Webber_1973_PolicySciences4-2.pdf
- 16 Sustainable Lifestyles and Education Programme <https://www.oneplanetnetwork.org/sustainable-lifestyles-and-education>
- 17 Futera (2018) Good Life Goals <https://www.goodlifegoals.org/>
- 18 UNESCO (2019) Framework for the implementation of education for sustainable development. General Conference 40th Session Paris Available at <https://unesdoc.unesco.org/ark:/48223/pf0000370215>
- 19 UNESCO Education for Sustainable Development webpage <https://en.unesco.org/themes/education-sustainable-development>
- 20 Common Worlds Research Collective (2020) Learning to Become with the world: Education for future survival UNESCO Institute for Lifelong Learning Education Research and Foresight Working Paper 2020/WP-28/3 13pp Available at: <https://unesdoc.unesco.org/ark:/48223/pf0000374923>

- 21 Du Plessis, C. and Brandon, P.S. 2015. An ecological worldview as basis for a regenerative sustainability paradigm for the built environment. *Journal of Cleaner Production*, 109:53-61.
- 22 Lemke, J. L. (1997). Cognition, context, and learning: A social semiotic perspective. In D. I. Kirshner & J. A. Whitson (Eds.), *Situated cognition: Social, semiotic, and psychological perspectives* (pp. 37–55). Lawrence Erlbaum Associates Publishers.
- 23 Luksha, P., Cubista, J., Laszlo, A., Popovich, M., Ninenko, I (2017) Educational Ecosystems for Societal Transformation, *Global Education Futures*. Available at:
https://campfireconvention.uk/sites/default/files/GEF%20Vision%20Educational%20Ecosystems%20for%20Societal%20Transformation-ilovepdf-compressed_1.pdf
- 24 Global Education Futures Organisation https://www.gloaledufutures.org/vision_creation
- 25 Hannon, V., Thomas, L. Ward, S. Beresford, T. (2019) 'Local Learning Ecosystems: Emerging Models' WISE available at: https://www.wise-qatar.org/app/uploads/2019/05/wise_report-rr.1.2019-web.pdf
- 26 WISE Learning Ecosystems Living Lab <https://www.wise-qatar.org/wise-learning-ecosystems-living-lab/>
- 27 Jackson, N.J. (2020a) Ecologies for Learning and Practice in Higher Education Ecosystems Chapter 6 in R. Barnett and N J Jackson (Eds) *Ecologies for Learning and Practice: Emerging ideas, sightings and possibilities* Routledge p81-96
- 28 Dewey, J. (1938), (1997 edition) *Experience and Education*, New York: Touchstone.
- 29 Dewey, J. (1916) *Democracy and Education. An introduction to the philosophy of education* (1966 edn.), New York: Free Press
- 30 Ingold, T. (2000) *Hunting and gathering as ways of perceiving the environment. The Perception of the Environment. Essays on livelihood, dwelling and skill.* New York and London: Routledge, 2000.
- 31 Jackson, N.J. (2020b) From Ecologies of Learning to Ecologies of Creative Practice Chapter 12 In R. Barnett and N J Jackson (eds) *Ecologies of Learning and Practice: Emerging Ideas, Sightings and Possibilities* Routledge
- 32 Redecker, C., (2014) *The Future of Learning is Lifelong, Lifewide and Open.* In N J Jackson and J. Willis (eds) *Lifewide Learning and Education in Universities and Colleges* Available at: <http://www.learninglives.co.uk/e-book.html>
- 33 Redecker, C., Leis, M., Leendertse, M., Punie, Y., Gijsbers, G., Kirschner, P. Stoyanov, S. and Hoogveld, B. (2011) *The Future of Learning: Preparing for Change.* European Commission Joint Research Centre Institute for Prospective Technological Studies EUR 24960 EN Luxembourg: Publications Office of the European Union available at: <http://ipts.jrc.ec.europa.eu/publications/pub.cfm?id=4719>
- 34 Ng, D., Wong, C.P. & Liu, S (2020). *Future-ready Learners: Learning, Lifework, Living, and Habits of Practices.* (NIE Working Paper Series No. 20). Singapore: National Institute of Education. Available at:
<https://www.nie.edu.sg/research/publication/nie-working-paper-series/working-paper-series-no-20>
- 35 Jackson N J (2011) *An imaginative lifewide curriculum*, in N J Jackson (Ed) *Learning for a Complex World: A Lifewide Concept of Learning, Development and Achievement* Authorhouse Available at:
<https://www.lifewideeducation.uk/learning-for-a-complex-world.html>

The Author



Norman Jackson is Emeritus Professor of the University of Surrey, England, and Founder of 'Lifewide Education' and 'Creative Academic'. He began his career as a geologist (university teacher/ researcher and mining & field practitioner). A mid-career change led him to roles in several national Higher Education agencies - Her Majesty's Inspectorate, Higher Education Quality Council, Quality Assurance Agency, University for Industry, Learning and Teaching Support Network, and the Higher Education Academy. In these organisations he performed many different roles: inspector, researcher, policy maker, facilitator, educational developer, broker and curator. Later he Directed the Surrey Centre for Excellence in Teaching and Learning (SCEPTrE) at the University of Surrey

His work as an educator has formed around the challenges of encouraging higher education to take more seriously the creative development of learners and enable them to prepare themselves for the complexities, uncertainties and disruptions of long learning lives. At the Higher Education Academy he led work on 'creativity in higher education'. As Director of SCEPTrE at the University of Surrey, he developed and applied the idea of lifewide learning and education to give meaning and substance to the concept of lifelong learning. The ideas of ecologies for learning and practice emerged from this work and their educational value is now being championed through 'Lifewide Education' and 'Creative Academic', two social educational enterprises he founded.

He is Editor & Publisher for Creative Academic Magazine and Lifewide Magazine and his books include:

- Engaging and Changing Higher Education through Brokerage Routledge (2003)
- Developing Creativity in Higher Education: an imaginative curriculum Routledge (2006)
- Learning for a Complex World: a lifewide concept of learning, education and personal development Authorhouse (2011)
- Tackling the Wicked Challenge of Strategic Change: the story of how a University changed itself Authorhouse (2014)
- Exploring Learning Ecologies Chalk Mountain : Lulu (2016 & 2019)
- Ecologies for Learning and Practice: Emerging Ideas, Sightings and Possibilities Routledge (2020)

<http://www.normanjackson.co.uk/>

<http://www.lifewideeducation.uk/>

<http://www.creativeacademic.uk/>