



**Developing student and graduate
competences for the 21st Century**



DEVELOPING COMPETENT, CREATIVE PEOPLE FOR THE 21ST CENTURY: THE CONCEPT OF ECOLOGICAL COMPETENCE

NORMAN JACKSON

SLIDES & NARRATIVE

<http://www.lifewideeducation/sdu.html>

CONCEPTS OF COMPETENCE

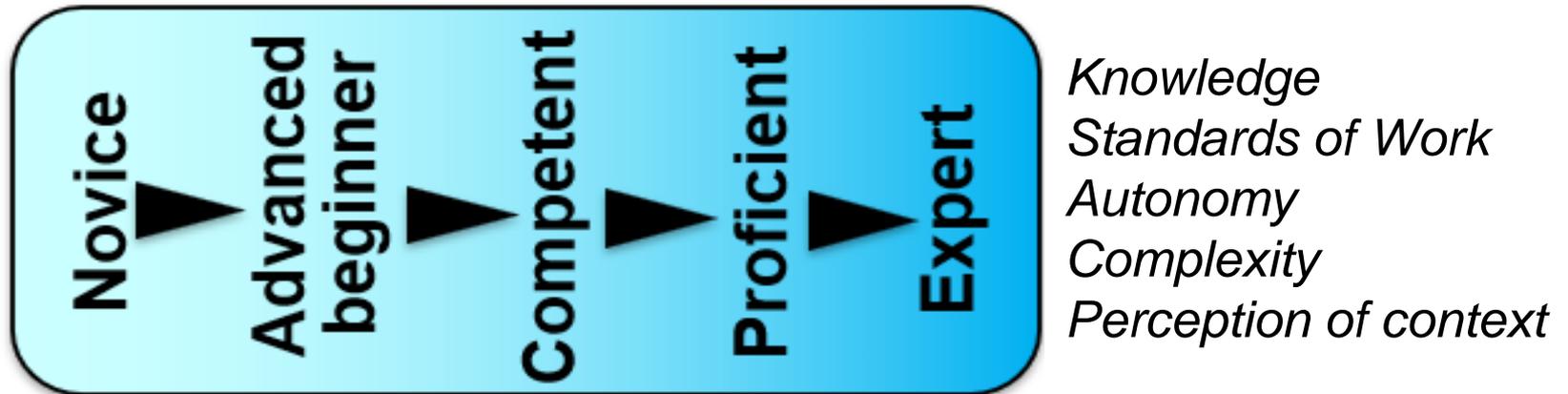
Competence '.....an organism's capacity to interact effectively with its environment' White (1959)

Competence broad qualities exhibited by a person in relation to an acceptable standard of behaviour or performance
[as they interact effectively with their environment]

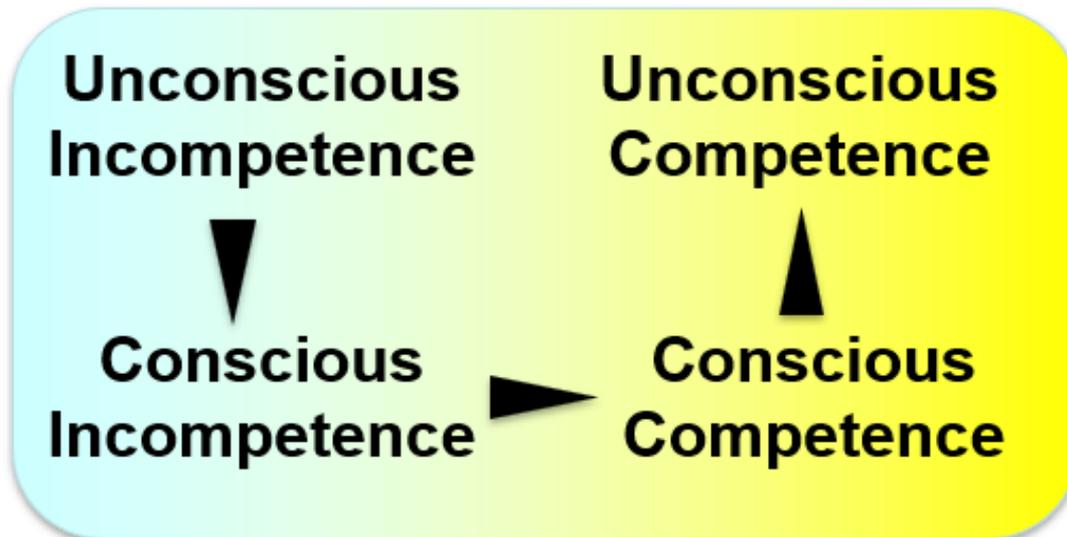
Competencies - specific aspects of behaviour that attach to a task/activity in relation to a particular standard of performance
[as they interact effectively with their environment]

Hyland (1994)

NOVICE TO EXPERT MODEL (DREYFUS & DREYFUS 1980)



FOUR STAGES OF COMPETENCE (BROADWELL 1969)



CONCEPT OF COMPETENCE FOR EDUCATION

Vitello, Greateorex & Shaw (2021)

“Competence is the ability to integrate and apply contextually-appropriate knowledge, skills and psychosocial factors (e.g., beliefs, attitudes, values and motivations) to consistently perform successfully within a specified domain”

my suggestion for a learning/growth orientation

with the will, confidence, self-regulatory habits and resilience to learn, develop and achieve, even in conditions of uncertainty,

“EPISTEMOLOGY OF PRACTICE” MICHAEL ERAUT

PATTERN OF COGNITION–ACTION–LEARNING IN COMPETENT PRACTICE

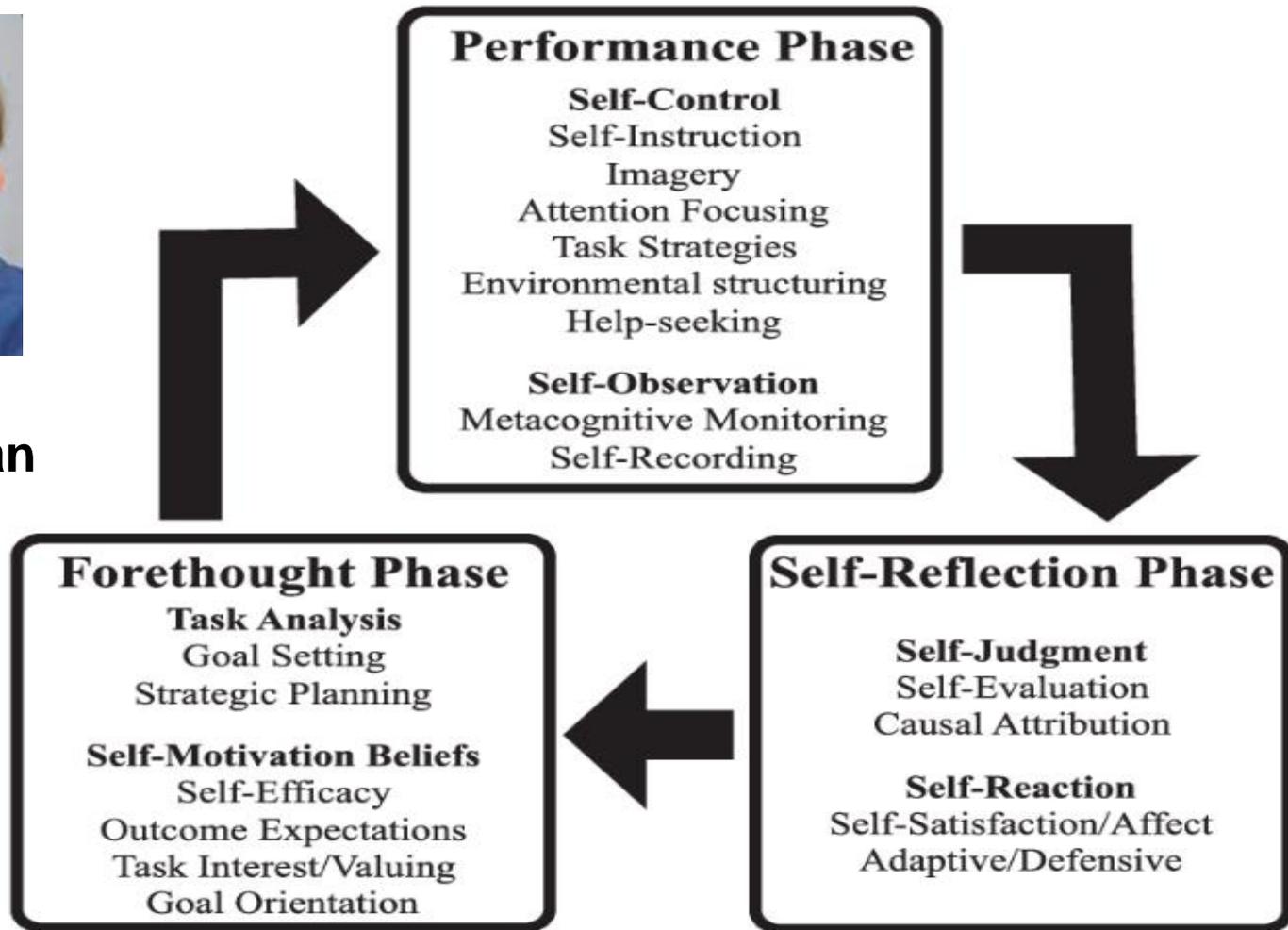


- Assessing situations
- Deciding what, if any, action to take, both immediately and over a longer period
- Pursuing an agreed course of action, performing actions – modifying actions as and when necessary
- Metacognitive monitoring of oneself, people needing attention and the general progress of the case, problem, project or situation which feeds into our ongoing assessment, planning and action

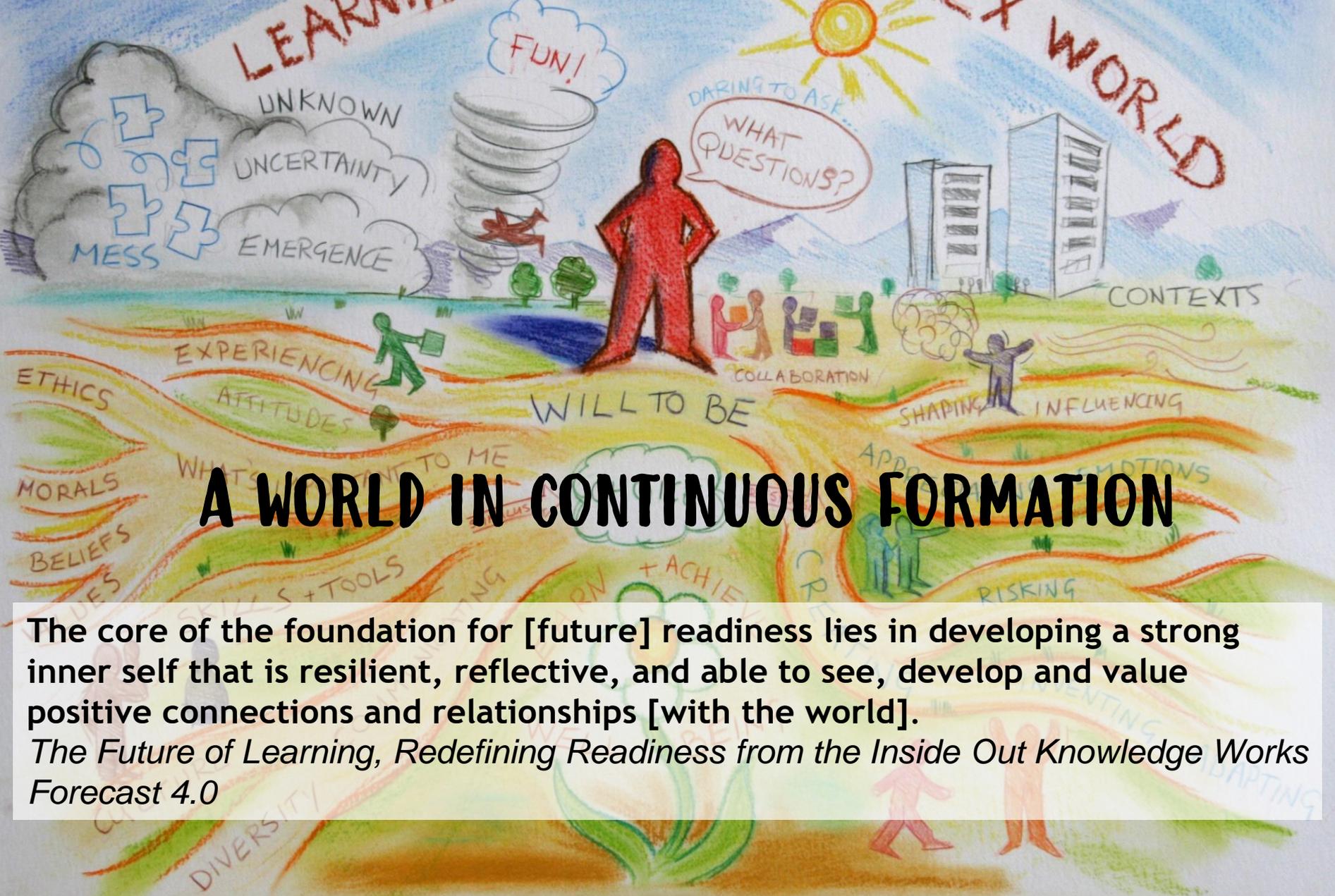
SELF-REGULATION – PSYCHOLOGY OF COMPETENT PRACTICE



**Barry
Zimmerman**



LEARNING FOR A COMPLEX WORLD

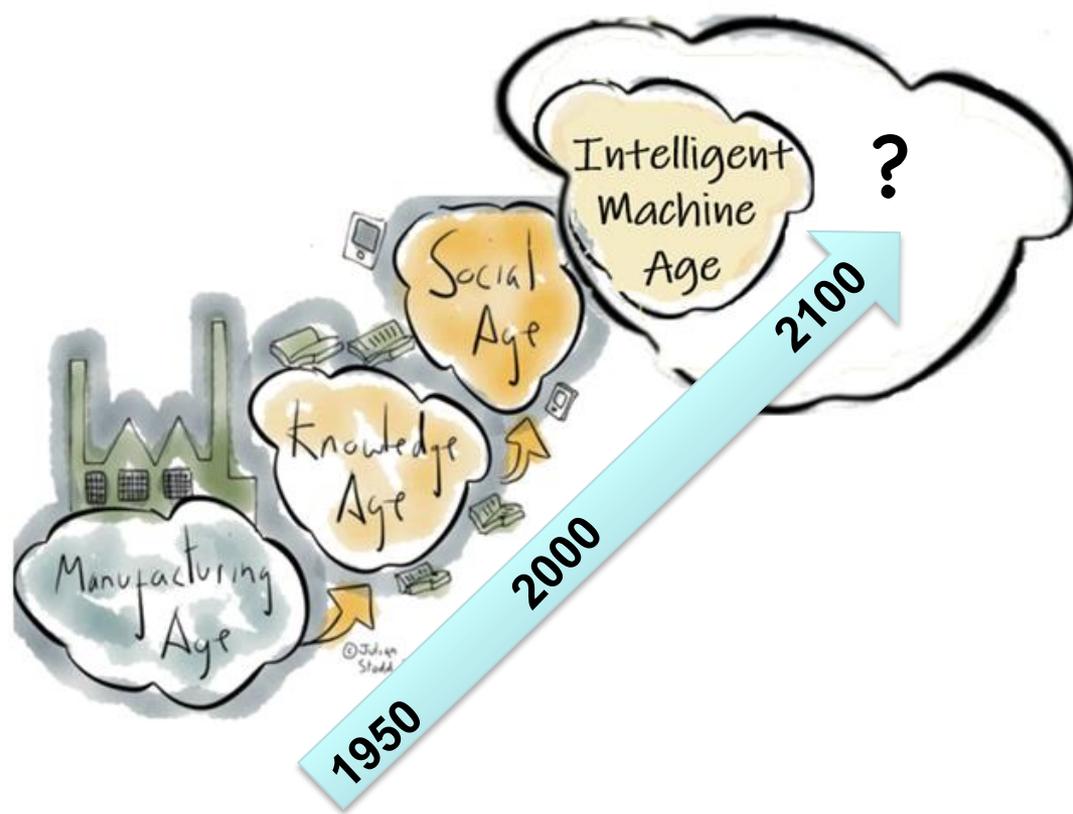
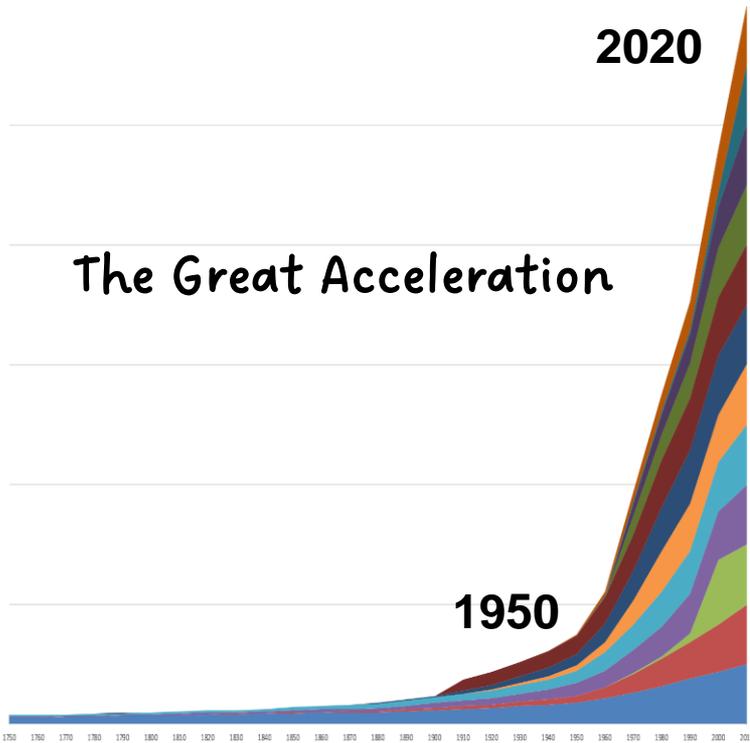


A WORLD IN CONTINUOUS FORMATION

The core of the foundation for [future] 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].

The Future of Learning, Redefining Readiness from the Inside Out Knowledge Works Forecast 4.0

A WORLD IN RAPID FORMATION

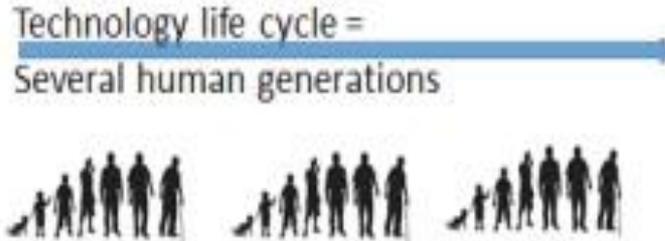


SUSTAINING SELF THROUGH A LIFETIME OF WORK

In 20th century

In 21st century

Technological
lifecycle vs
human life cycle



Human life cycle =
Several generations of technologies



Continuously learning and adapting
to new technologies and AI

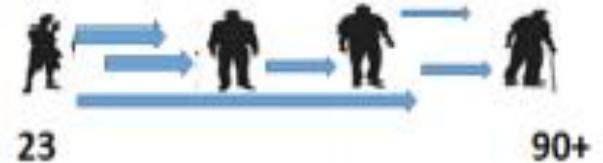
Professional
"trajectory"



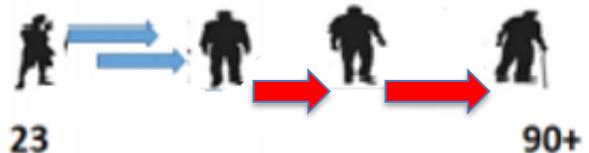
Single or dual career pathways



You can find work if you want it



Many roles & careers –
regenerating self many times



Absence of work for many enables
people to contribute to society in
ways other than paid work

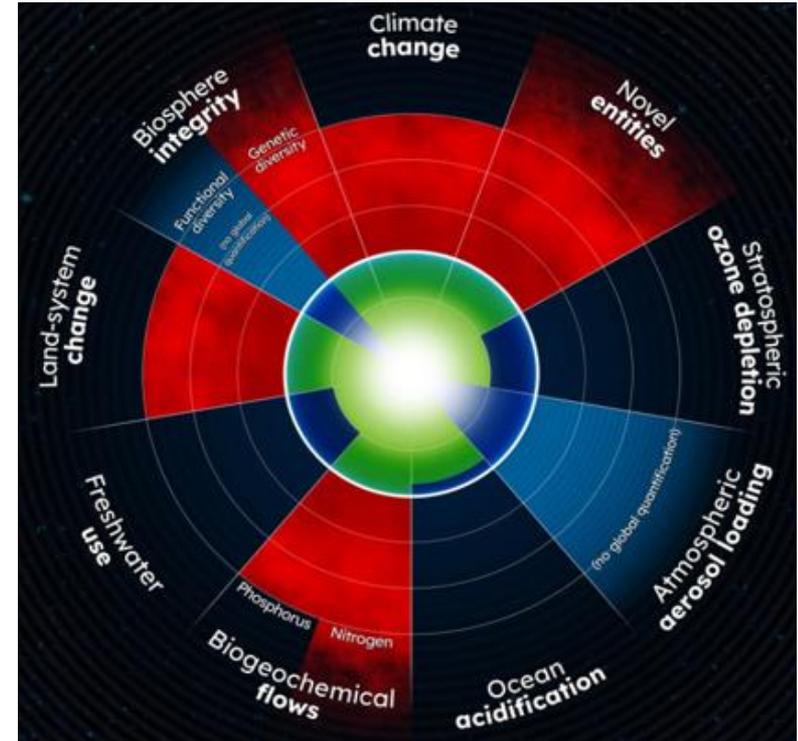
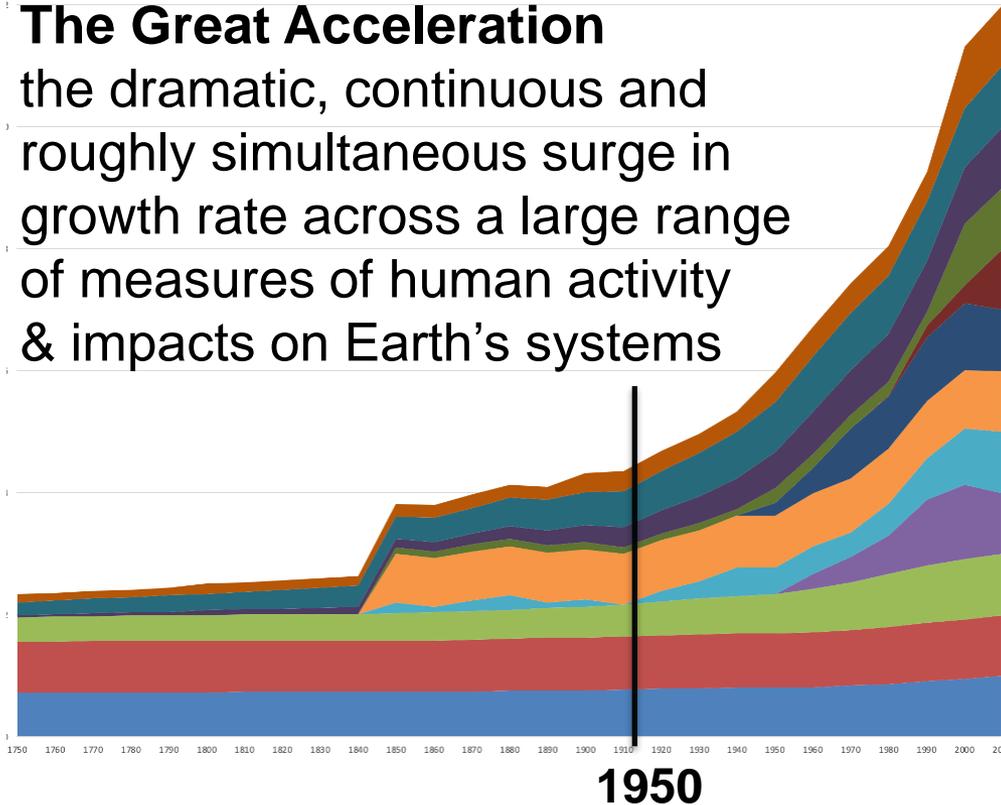
Human engagement with technology & work

Adapted from Luksha & Witold (2020)

21ST CENTURY GLOBAL CHALLENGE

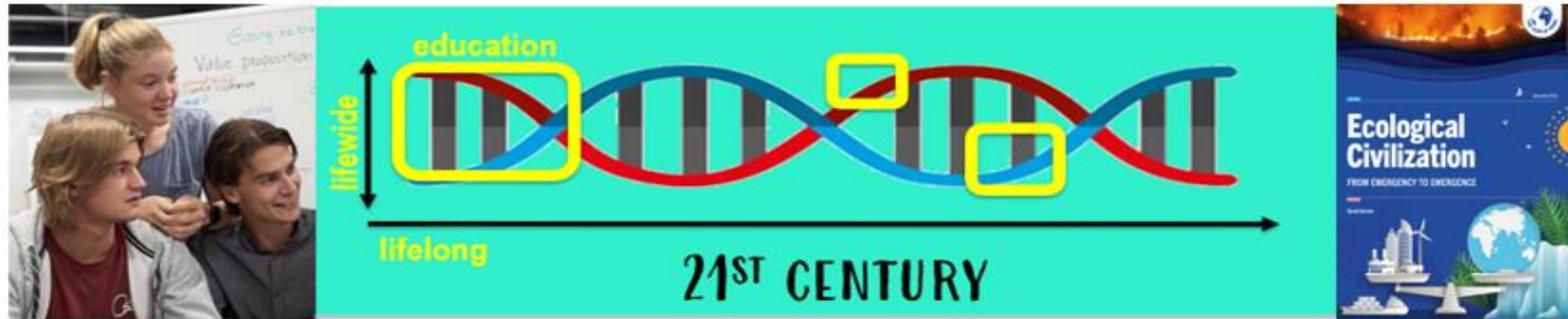
The Great Acceleration

the dramatic, continuous and roughly simultaneous surge in growth rate across a large range of measures of human activity & impacts on Earth's systems



Rockström & Gaffney (2021)
Breaking Boundaries: The
Science of Our Planet.

COMPETENCE TO MAKE THE TRANSITION TO A WORLD FOUNDED ON ECOLOGICAL PRINCIPLES

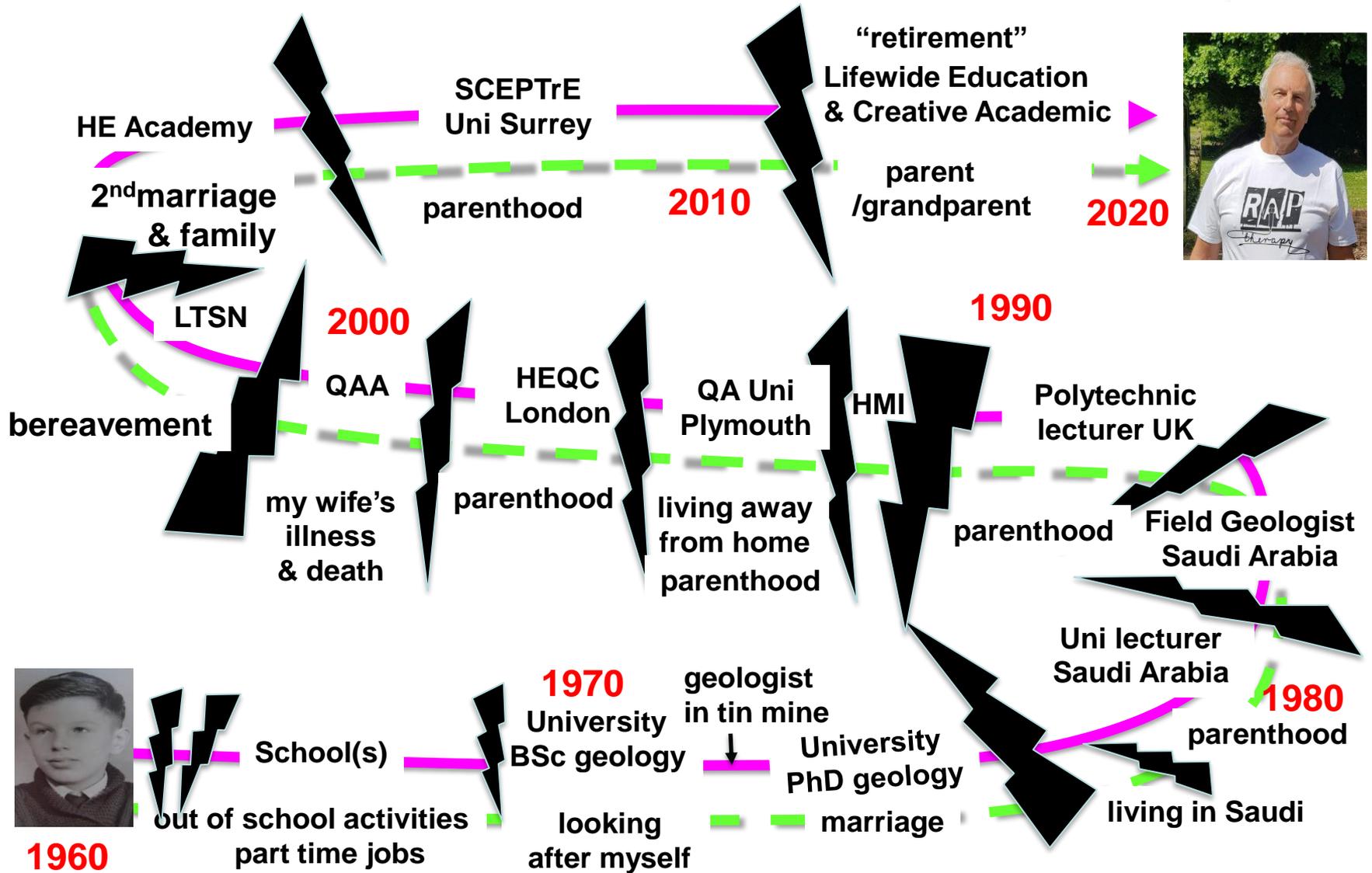


Holistic notions of competence for 21st century must embrace an **ecological world view** : mindful that we are ecological beings, enacting life within and with an ecological world of relationships, connectivity and interdependency



'AN ORGANISM'S CAPACITY TO INTERACT EFFECTIVELY WITH ITS ENVIRONMENT' WHITE (1959)

LIFELONG DIMENSION OF OUR FORMATION



'AN ORGANISM'S CAPACITY TO INTERACT EFFECTIVELY WITH ITS ENVIRONMENT' WHITE (1959)

LIFEWIDE DIMENSION OF OUR FORMATION

family & home



travel – encountering other cultures



work



interests & hobbies



education



community volunteer

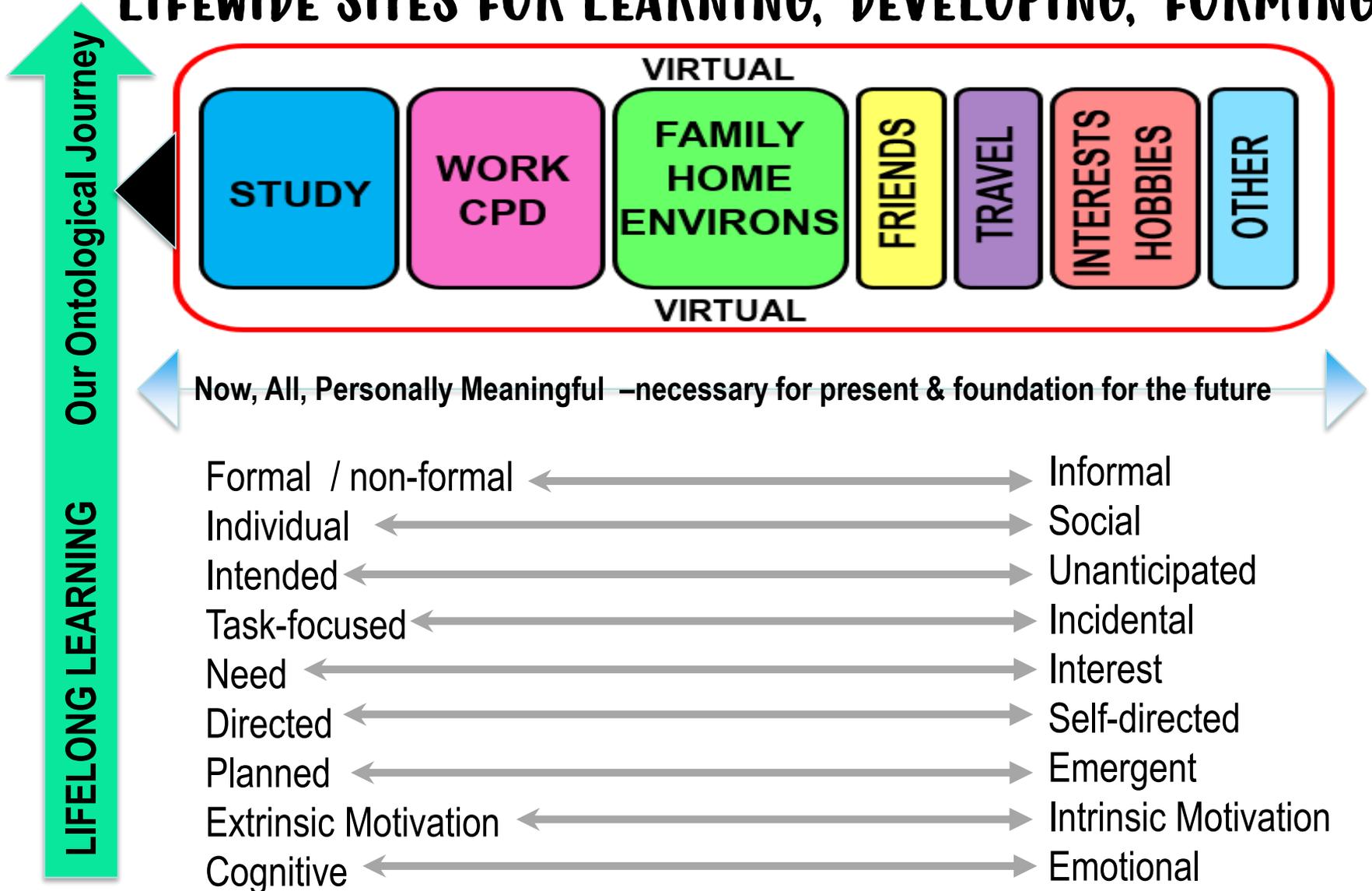


virtual

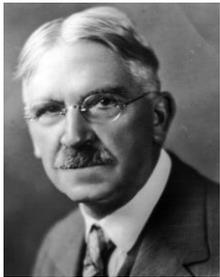


'AN ORGANISM'S CAPACITY TO INTERACT EFFECTIVELY WITH ITS ENVIRONMENT' WHITE (1959)

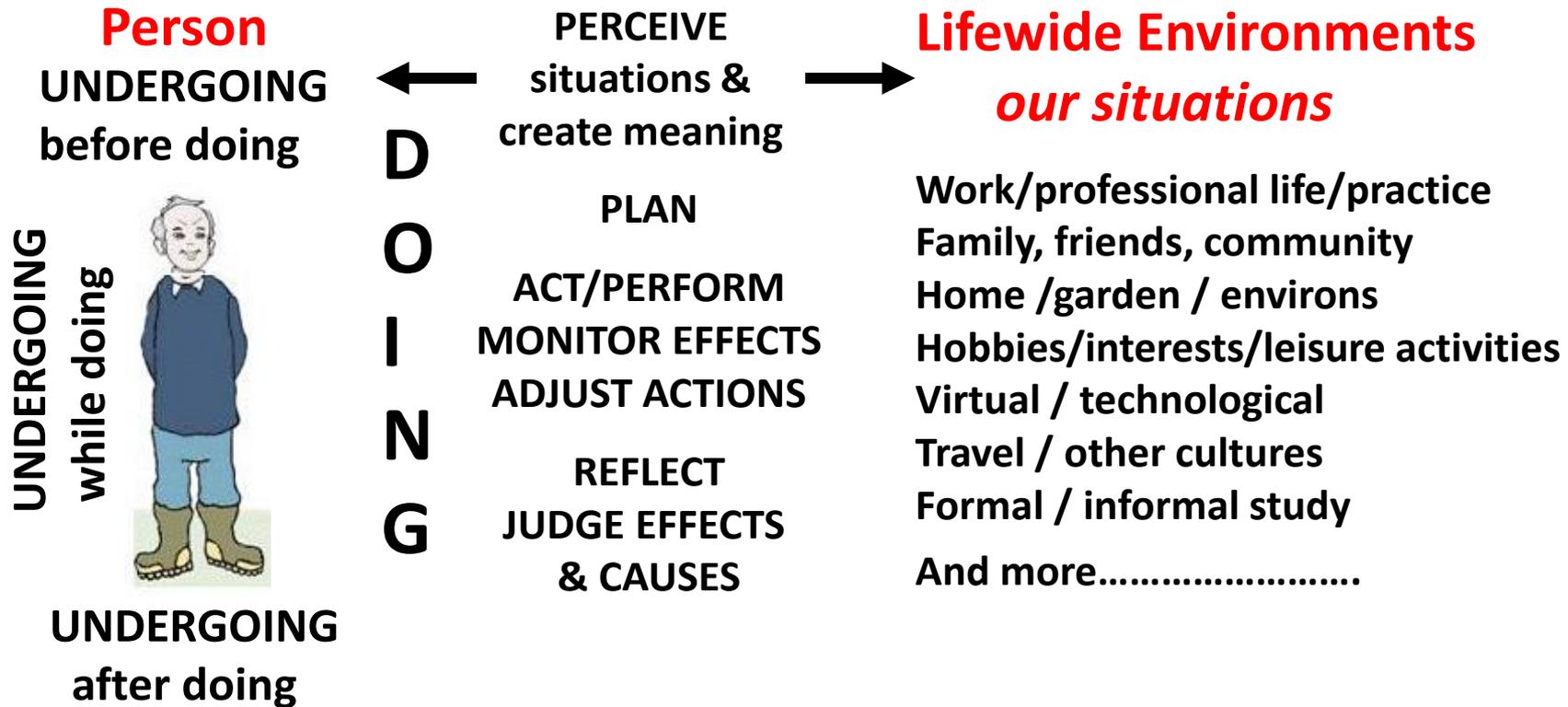
LIFEWIDE SITES FOR LEARNING, DEVELOPING, FORMING



' AN ORGANISM'S CAPACITY TO INTERACT EFFECTIVELY WITH ITS ENVIRONMENT ' WHITE (1959)



Dewey's transactional model of experience involves people situated in and purposefully interacting with their environment, using resources that are accessible to them and modifying their environment and themselves in the process.



A TEACHER INTERACTING EFFECTIVELY WITH HER ENVIRONMENT

UNDERGOING
before doing

TEACHER

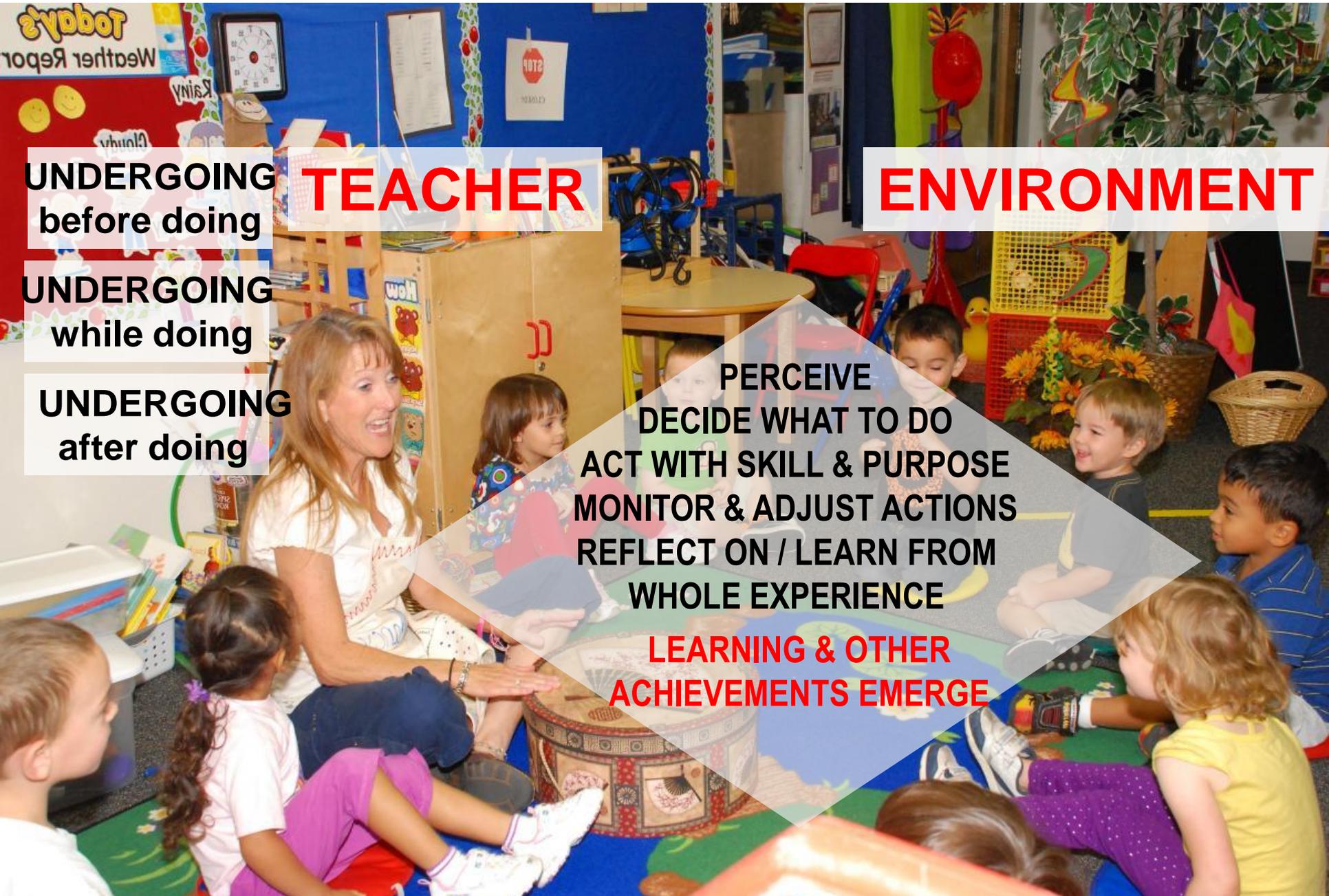
ENVIRONMENT

UNDERGOING
while doing

UNDERGOING
after doing

**PERCEIVE
DECIDE WHAT TO DO
ACT WITH SKILL & PURPOSE
MONITOR & ADJUST ACTIONS
REFLECT ON / LEARN FROM
WHOLE EXPERIENCE**

**LEARNING & OTHER
ACHIEVEMENTS EMERGE**



'AN ORGANISM'S CAPACITY TO INTERACT EFFECTIVELY WITH ITS ENVIRONMENT' WHITE (1959)

4 SPACES

Physical –
classroom

Social, Emotional

Intellectual, Liminal,

Creative

3 RESOURCES (knowledge & information flows, tools, materials, technologies)
teacher's pedagogical knowledge, her knowledge of each child, the children's own experiences, learning aids, posters/ pictures, musical instruments, writing materials, pupils' work, internet

AN ECOLOGY OF PRACTICE

2 AFFORDANCE FOR LEARNING

In the teachers activities

The classroom environment

The children's responses

PAST

5 PLACES

The classroom is the significant place for situational learning through the experience of doing

6 RELATIONSHIPS

Teacher – children,

Between children

Teacher – parents,

Parents- children

And relationships with

subject, environment,

materials, tools & activities



7 PROCESSES/ACTIVITIES/EXPERIENCES

Eg talking, discussing, listening, showing, sharing stories, singing, dancing, reading, painting and much more

FUTURE

1 CONTEXT(S)

Moral purpose of education

Early years school ethos & culture

State educational policies

The teacher's intentions/values

The teacher's competence draws on her repertoire of competencies & skilfully weaves together the elements of her ecology. Through interaction and interpretation of information flows, she senses the effects of her actions on students' learning and adjusts them : they both undergo.

CREATIVITY AS AN ECOLOGICAL, EMERGENT, TRANSFORMATIONAL CONCEPT



'the emergence in action of a novel relational *product* growing out of the uniqueness of the individual on the one hand, and the materials, events, people, or circumstances of [their] life'
Carl Rogers (1960)



“Creativity is the process through which we take elements of ourselves and the world around us and transform them into something new.” *Greg Bennick (2009).*

ECOLOGY OF COMPETENT, CREATIVE PRACTICE HEURISTIC

3 RESOURCES

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

2 AFFORDANCES

possibilities for thinking and action
that can be perceived or imagined

4 SPACES

physical, social, virtual,
intellectual, psychological,
liminal, ontological

WHOLE PERSON

1 with their mind and body, needs, purposes, beliefs, values, motivations, knowledge, skills & more,
2 perceiving, sensing and creating meaning, feeling, imagining, relating to and interacting with their environment
3 making sense of situations, deciding what to do and weaving together aspects of themselves & things that matter to accomplish their goals

1 CONTEXTS

situations, circumstances,
culture, ourselves,
problems/opportunities
NEEDS

PAST

5 PLACES

significance of place for
situational learning
through the experience
of doing

FUTURE

6 RELATIONSHIPS

with people, communities,
places, ideas, objects, work,
hobbies, problems,
natural world - anything!

ENVIRONMENT

7 PROCESSES/ACTIVITIES/EXPERIENCES

eg study, work, making, research, inquiry,
problem solving and much more

LEARNING,
CREATIVITY & OTHER
ACHIEVEMENTS
EMERGE

MY ECOLOGY OF PRACTICE TAL 2022

PAST LEARNING ECOLOGIES
through which ideas & resources
have been developed

CONTEXT(S)
SDU/TAL 2022/LWE

↔ **Opportunity/motivation**
↔ **Inquiry/discussion**
↔ **Information flows**

PURPOSE (S)

To share ideas in ways that are
meaningful & useful and develop my
own understanding of competence

NEW AFFORDANCE
the challenge - conference
/opportunity in people &
resources I interact with

PLACE my main thinking,
writing, making, creating

SPACE with **TOOLS &
TECHNOLOGIES** +
home comforts

**adapting existing
RESOURCES**

ACTIVITIES
writing
thinking
discovering

ACTIVITIES
performing
interacting



EMERGING OUTCOMES

- **MY LEARNING**
- **NARRATIVE PAPER**
- **PPT SLIDES/TALK**



ME

unfolding present

RELATIONSHIPS

conversations
with members
TAL team



FUTURE?

QUESTIONS/INQUIRIES
RELATIONSHIPS
COLLABORATIONS



ACTIVITIES
Action
Learning

ACTIVITIES
Work

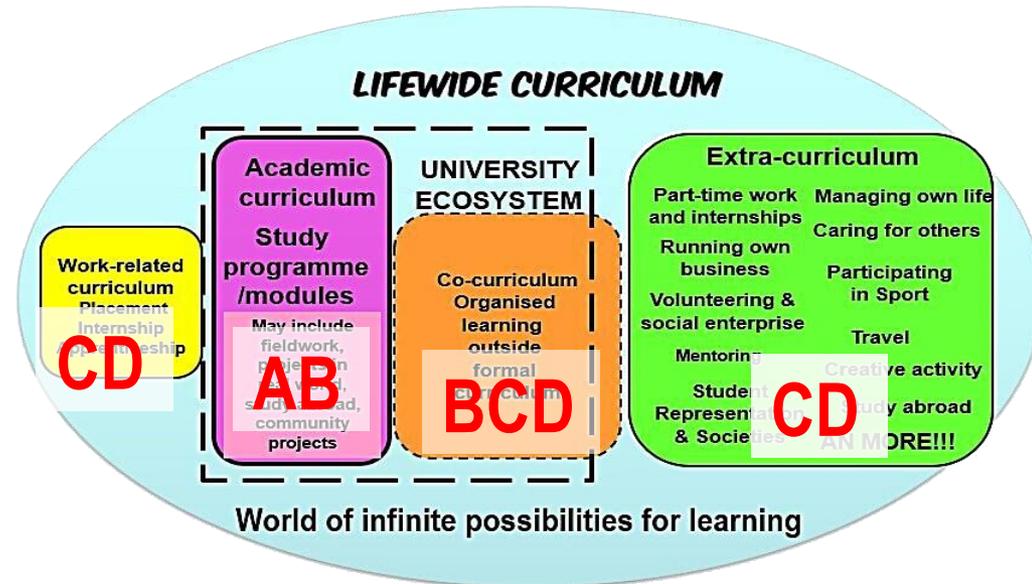
NEW RESOURCES/AFFORDANCE
knowledge/ideas/experiences



LEARNING & EDUCATION FOR 21ST CENTURY

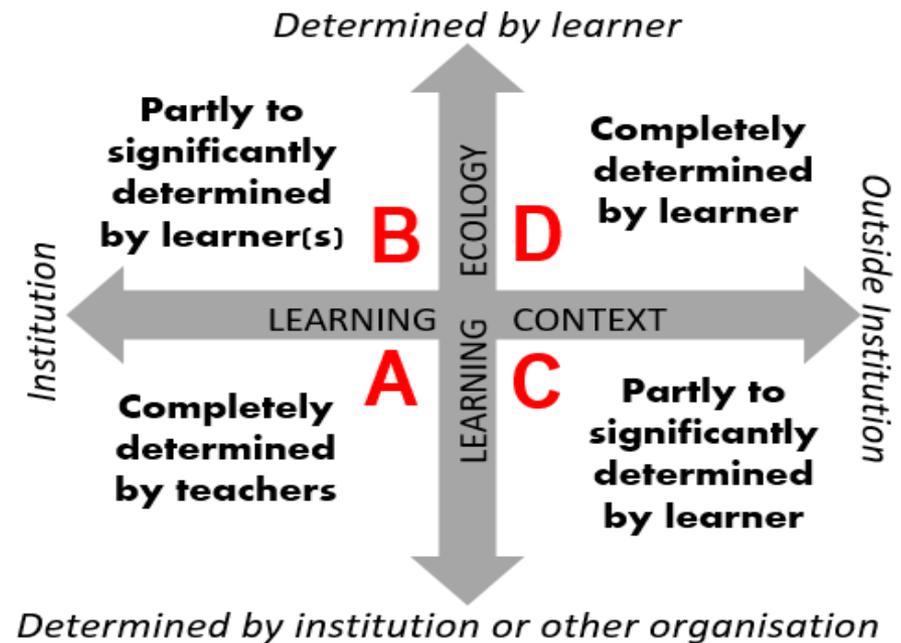
PROPOSITION 1 :

The whole of a person's life is a resource for learning, education, creativity & the development of competence



PROPOSITION 2 :

A key pedagogical task is to enable learners to develop their ecological competence by enabling them to create/co-create their own ecologies of practice to achieve their own goals



EXPERIMENT IN IMPLEMENTING THESE PROPOSITIONS



Undergraduate programmes
 3Y academic (30%)
 3Y integrated theory/practice (Health) (20%)
 4Y academic with professional training (50%)



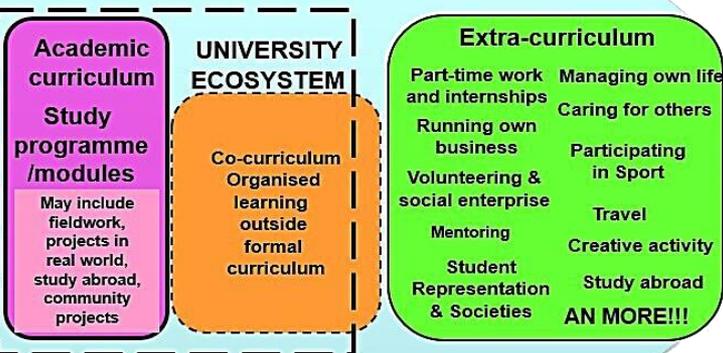
Learning for a Complex World

A Lifewide Concept of Learning, Education and Personal Development

collected by
 Norman J Jackson



LIFEWIDE CURRICULUM



Work-related curriculum
 Placement
 Internship
 Apprenticeship

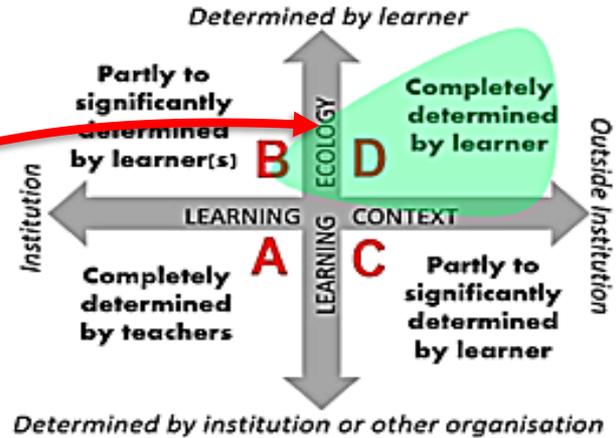
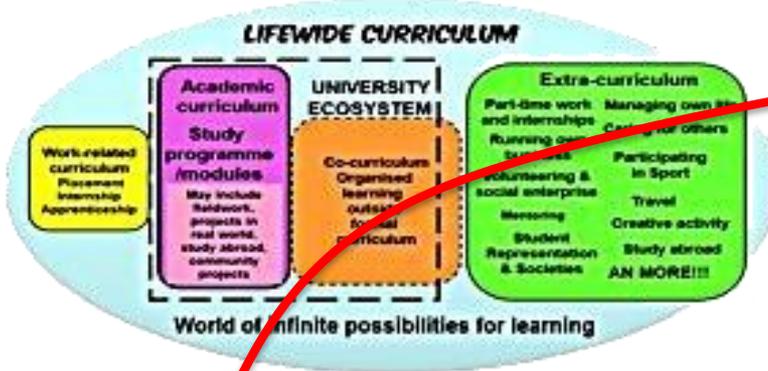
World of infinite possibilities for learning

SURREY LIFEWIDE LEARNING AWARD
 valuing & recognising a more complete education

EXTRA-CURRICULUM - PERSONAL PROJECTS & CHALLENGES

Surrey Life-Wide Learning Award

Valuing and recognising a more complete education



1 Map

EXAMPLE LEARNING ECOLOGY Level 1 international student

BSc Study Programme : I am studying biosciences but I want to study medicine at postgrad level. I study about 20h per week learn through lectures, lab practicals, books/papers, discussions with friends

Friends: As an international student, it is difficult to be away from my home and family. Friends, therefore, become a new kind of family...

Looking after myself
Domestic chores
Shopping

Entertainment
music, cinema,
meeting friends

University Tutoring and Mentoring
I work at a Combined Learning Centre for students with learning disabilities and/or behavioural problems. I worked one-on-one with three different students, one of whom had Aspergers Syndrome



Sport - uni netball team
Playing as a part of a team allows me to develop my inter-personal and communication skills, and always gives me a feeling of satisfaction. It lends a sense of unity and strength-when we put on our match uniforms, we know that we are no longer individuals, but part of something that is bigger than ourselves.

Organising and leading a group of volunteers to work during the summer vacation in Uganda

Volunteer - St John's Ambulance service
I joined St Johns' Ambulance, to learn first aid and general safety measures. I think this is an essential part of not just University life but life in general. Taking part in that course allowed me to feel more secure in my ability to deal with emergencies. As I hope to study Medicine as a Postgraduate degree, I found this course interesting and engaging.

2 Plan

| | | |
|---|--|--|
| 1 Personal goals | areas of significant challenge/opportunity | |
| 2 WHAT aspects of yourself do you want to develop? | 3 WHY is this important? | 4 HOW do you intend to develop & demonstrate it? |
| 5 WHAT capabilities, qualities, values dispositions will be developed? Use award capabilities and values statement as prompt | | |

5 Reflect & Synthesize

unfamiliar problems

4 Record

3 Act & React

familiar context

unfamiliar context



familiar problems



SYNTHESIS ACCOUNT OF EXPERIENCES & DEVELOPMENT

Award Capabilities & Values Statement

- 1 Managing and evaluating my own development
- 2 Being able to deal with situations, solve problems, work with challenge and uncertainty and take advantage of opportunity
- 3 Being able to find out what you need to know to do what you need to do
- 4 Being creative and enterprising
- 5 Being an effective communicator
- 6 Being able to work with and lead others
- 7 Behaving ethically and with social responsibility
- 8 Other areas of personal development that are important to me
- 9 My will to be and become who I want to be
- 10 My values and the value I add to my enterprises
- 11 My growing confidence in my own ability

LIFE AS CURRICULUM – AUTHORIZING YOUR LIFE

Narratives of becoming within which ecologies for practice, learning and creativity reside

CATCHING STORIES

Shoe box

Blog

Scrapbook

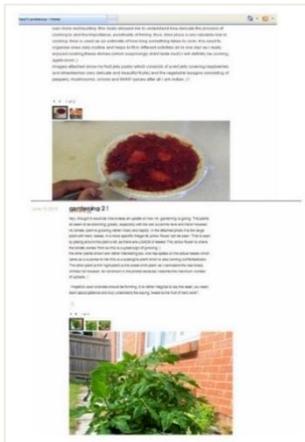
E-portfolio

Video diary

Digital story

Movie

Slide show

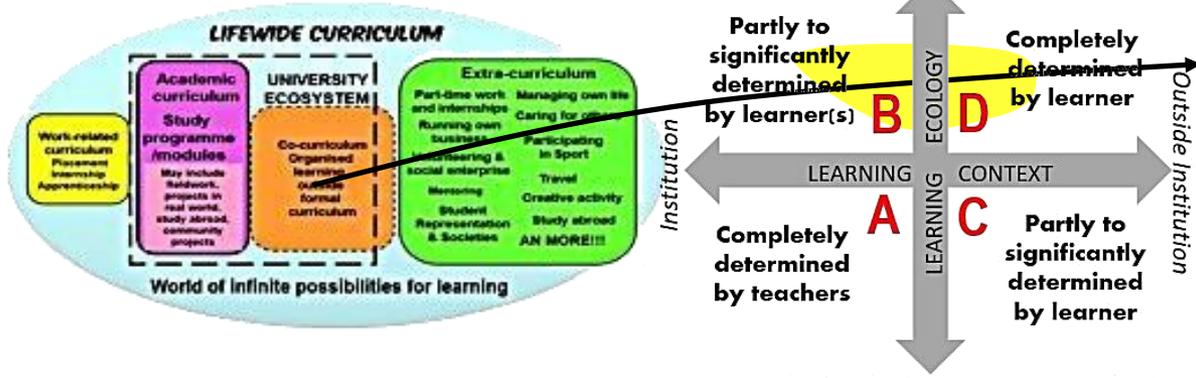


Using life as curriculum enables students to reflect on their own ontological journey to reach self-awareness – the sense of authoring their life and how they construct themselves. *Pharr Sharrah*

CO-CURRICULUM – ACTION- & CHALLENGE-BASED ENTERPRISES

Surrey Life-Wide Learning Award

Valuing and recognising a more complete education



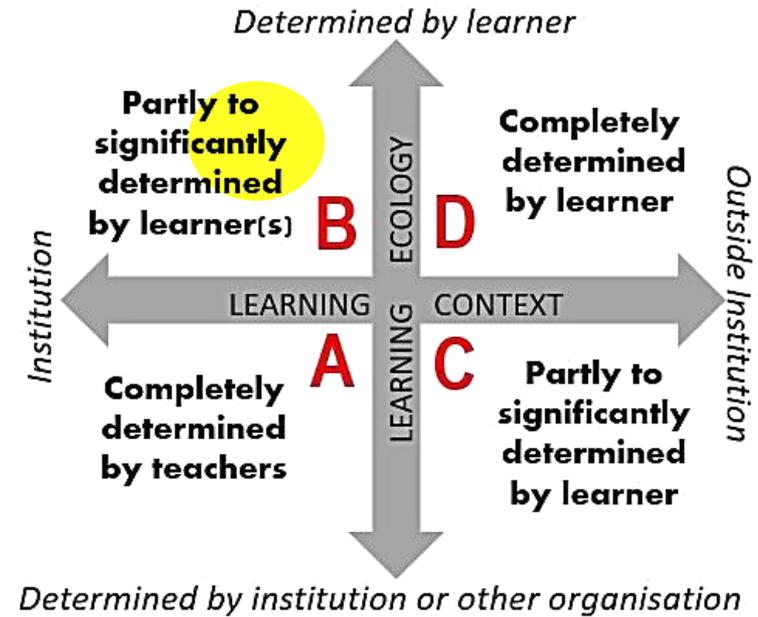
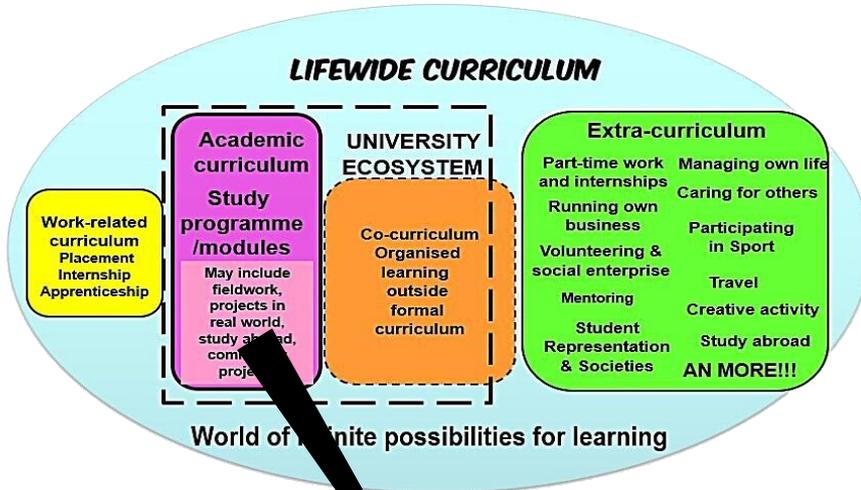
Cultural enterprise – adding value to campus life



Cultural Academy (also business & social enterprise)

- Challenges – organise multicultural ‘bash’ & conference
- Individual, team & group discussion, action, inquiry – share cultural perspectives
- Curate activity & learning - film/audio records
- Reflect individually and collectively on how, what and why you learnt

ACADEMIC CURRICULUM – INQUIRY-BASED LEARNING ECOLOGIES



Students communicate and share results of their inquiry

Students/tutors establish, question, problem, theme

COLLABORATIVE INQUIRY-BASED LEARNING ECOLOGY

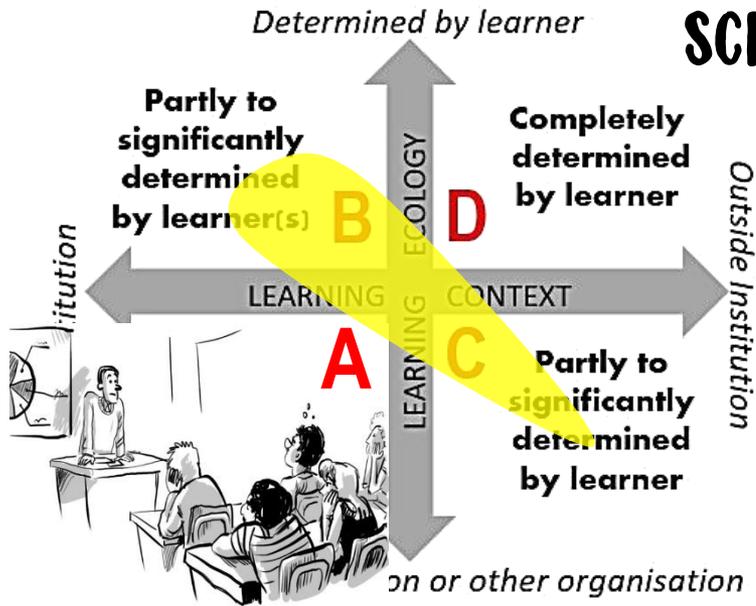
Students reflect, discuss, critique, analyse, conceptualise, synthesise, create, receive feedback

Students draw on their existing knowledge and, with support, decide on the direction and methods of their inquiry

Students explore evidence, interrogate texts, conduct experiments etc., interacting with information from a range of sources



FROM LECTURES TO ECOLOGIES OF PRACTICE SCHOOL OF FASHION SOLENT UNIVERSITY



B DESIGN



MANUFACTURE
(outsourced)



B REFLECT ON AND LEARN
FROM EXPERIENCE



C SELL



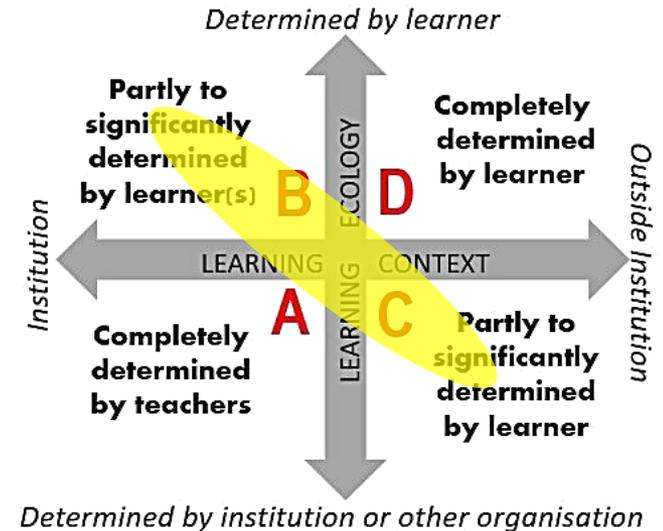
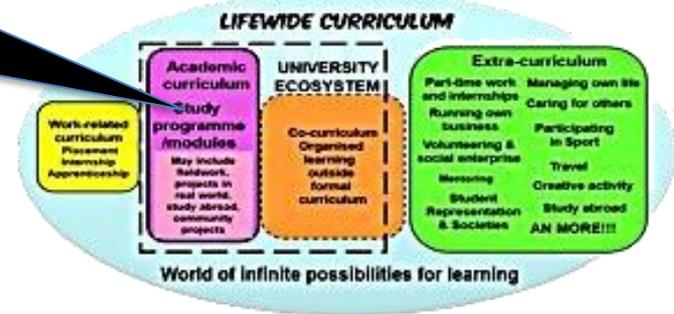
C MODEL & MARKET



SIGNATURE PEDAGOGIES & SIGNATURE LEARNING EXPERIENCES

Surrey Life-Wide Learning Award

Valuing and recognising a more complete education



Learning to create/co-create an ecology for competent creative practice as an architect, engineer, surgeon, lawyer, geologist

A GEOLOGIST'S ECOLOGY OF COMPETENT PRACTICE

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.

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.

PAST

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.

GEOLOGIST IMMERSSED 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 to achieve his goals.

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

UNFOLDING PRESENT



AFFORDANCES

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

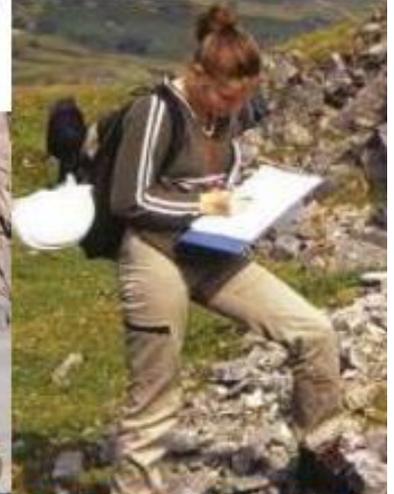
FUTURE

Through his physical, intellectual, emotional and creative efforts he creates new value. His geological map - a domain specific artefact, emerges through his interactions with his environment

CONTEXTS

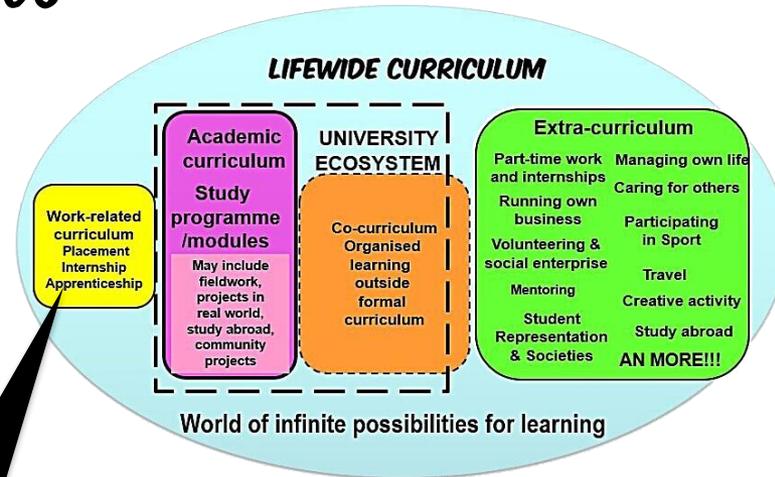
The challenge of making a geological map in an unexplored landscape. His organization's surveying / exploration project. Contributing to his domain. Himself - creating a better version of himself

LEARNING TO CREATE ECOLOGIES FOR COMPETENT CREATIVE PRACTICE

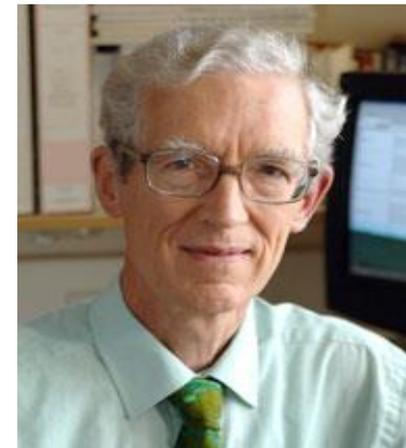


DEVELOPING COMPETENCE IN WORK SETTINGS

| Learning Trajectory | Details |
|-------------------------------------|---|
| TASK PERFORMANCE | Speed and fluency Complexity of tasks and problems Range of skills required Communication with a wide range of people Collaborative work |
| AWARENESS AND UNDERSTANDING | Other people: colleagues, customers, managers etc. Context and situations One's own organisation Problems and risks Priorities and strategic issues Value issues |
| PERSONAL DEVELOPMENT | Self evaluation Self-management Handling emotions Building and sustaining relationships Disposition to attend to other perspectives Disposition to consult and work with others Disposition to learn and improve one's practice Accessing relevant knowledge and expertise Ability to learn from experience |
| ACADEMIC KNOWLEDGE & SKILLS | Use of evidence and argument Accessing formal knowledge Research-based practice Theoretical thinking Knowing what you might need to know Using knowledge resources (human, paper-based, electronic) Learning how to use relevant theory in a range of practical situations |
| ROLE PERFORMANCE | Prioritisation Range of responsibility Supporting other people's learning Leadership Accountability Supervisory role Delegation Handling ethical issues Coping with unexpected problems Crisis management Keeping up-to-date |
| TEAMWORK | Collaborative work Facilitating social relations Joint planning and problem solving Ability to engage in and promote mutual learning |
| DECISION MAKING AND PROBLEM SOLVING | When to seek expert help Dealing with complexity Group decision making Problem analysis Formulating and evaluating opinions Managing the process within an appropriate timescale Decision making under pressure |
| JUDGEMENT | Quality of performance, output and outcomes Priorities Value issues Levels of work |



**capability &
learning trajectories**
Professor Michael Eraut



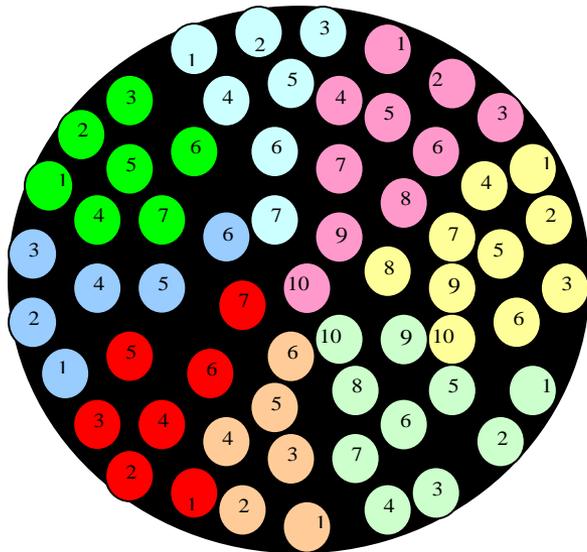
PATTERNS OF DEVELOPMENT REVEALED IN LEARNERS NARRATIVES

Dr Jenny Willis (SCEPTre Fellow)

8 categories

63 learning trajectories

Professor Michael Eraut



Learning Trajectories:

1 Task Performance Cords 1-7

2 Awareness and Understanding Cords 1-10

3 Personal Development Cords 1-10

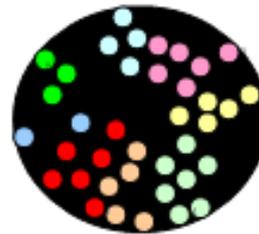
4 Academic Knowledge and Skills Cords 1-10

5 Role Performance Cords 1-6

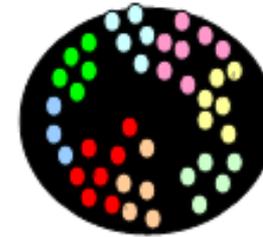
6 Teamwork Cords 1-7

7 Decision Making and Problem Solving Cords 1-6

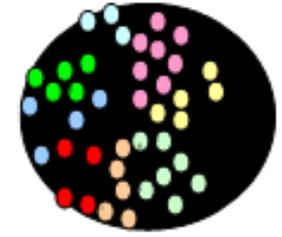
8 Judgement Cords 1-7



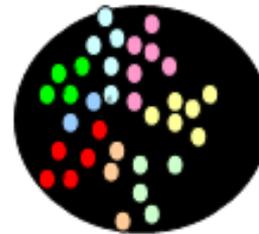
Narrative 3



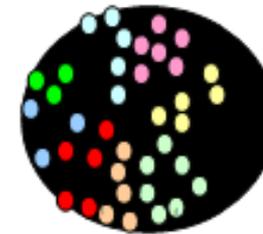
Narrative 4



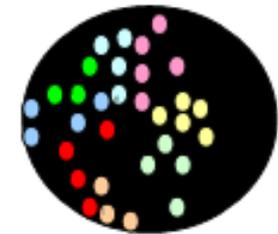
Narrative 17



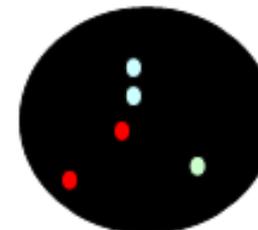
Narrative 20



Narrative 22



Narrative 28



Narrative 15

'AN ORGANISM'S CAPACITY TO INTERACT EFFECTIVELY WITH ITS ENVIRONMENT' WHITE (1959)

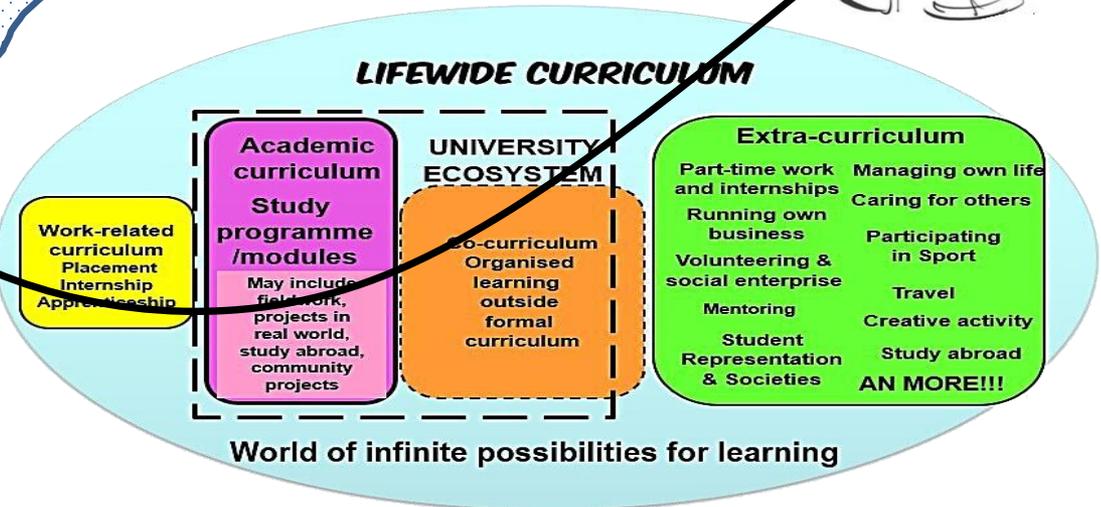
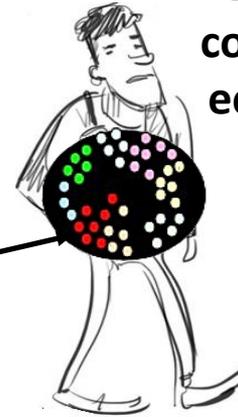
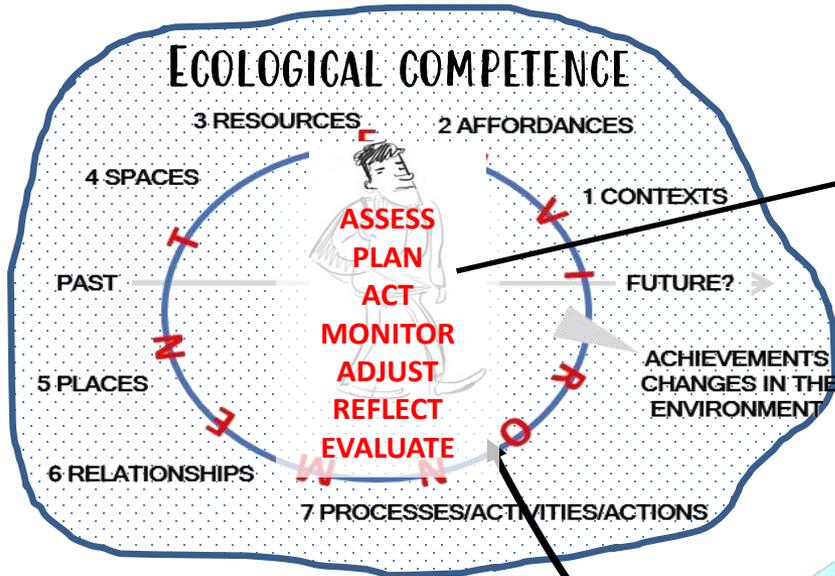
DEVELOPING ECOLOGICAL COMPETENCE THROUGH ECOLOGIES OF PRACTICE

3 using/adapting existing competencies and developing new competencies through work

4 enhanced repertoire of competencies including ecological competence

1 competencies developed through life

2 competencies developed through HE & life



Academic curriculum
Study programme /modules
 May include field work, projects in real world, study abroad, community projects

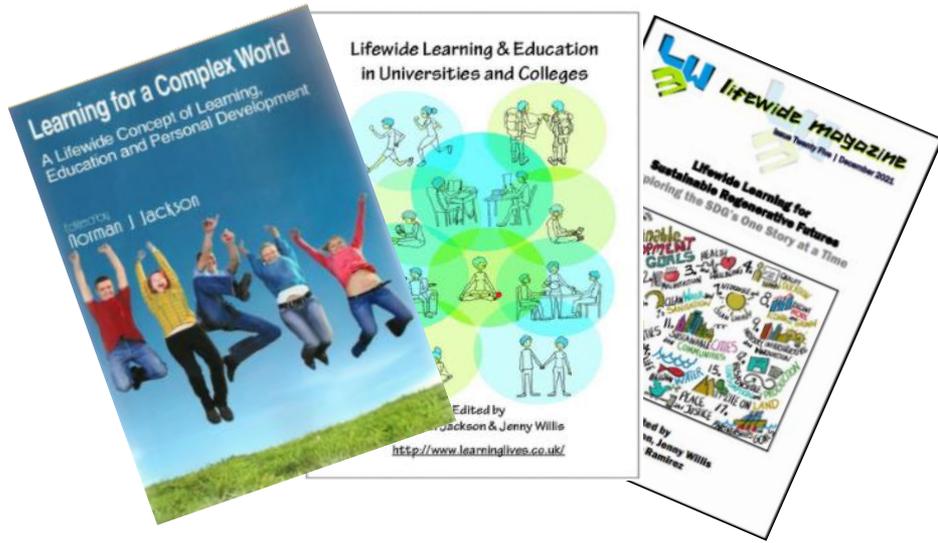
UNIVERSITY ECOSYSTEM
So-curriculum
 Organised learning outside formal curriculum

Extra-curriculum
 Part-time work and internships
 Running own business
 Volunteering & social enterprise
 Mentoring
 Student Representation & Societies
 Managing own life
 Caring for others
 Participating in Sport
 Travel
 Creative activity
 Study abroad
AN MORE!!!

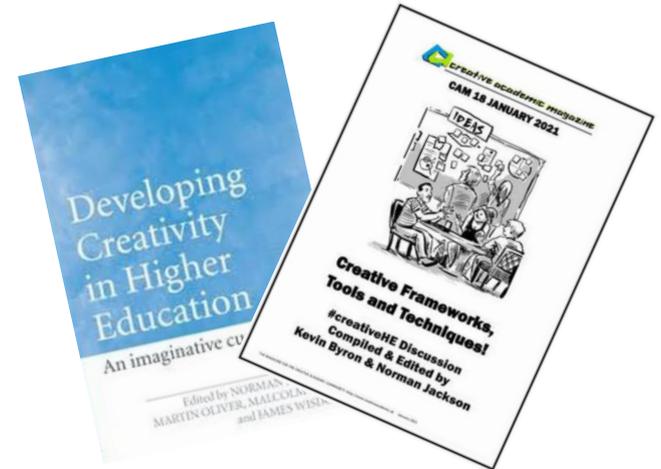
World of infinite possibilities for learning

THANK YOU

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



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



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

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

 **Lifewide Development Award GUIDANCE**

SUMMARY - What you have to do to participate in and achieve the Award

- 1 Read this Guide so that you are familiar with the purpose of the award and its expectations
- 2 Complete the Registration Form which can be downloaded from the website.
- 3 Prepare a lifewide activity map and personal development plan (PDP)
- 4 Participate in self-determined and self-managed activity through which you will learn and develop over at least 6 months
- 5 Record your experiences and reflections on what you have learnt in an on-line diary or blog.
- 6 Share and discuss your experiences and personal development with a mentor
- 7 Summarise what you have learnt and how you have developed in a written account, audio or video story or annotated scrapbook and share your story with your mentor.

