

# Being Animal by Design

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This paper introduces *Being Animal*, an ecoliteracy tool for use in Upper Primary (years 3 to 6), created as part of ongoing AHRC-funded practice-based Design PhD research. The tool utilises design process for educative ends-in-themselves; this is termed by the author *Design as a Learning Process* (DLP). DLP is an engaging, active pedagogy; learner-centred it puts subject knowledge to work with intuitive creative insight to synthesise new ideas and create artefacts that further enhance learning. Through a 'nature-based' design process *Being Animal* seeks to educe ongoing dispositional empathic connection with and as 'nature', known here as *Regenerative Empathy as Nature* (REN). Through a seven stage process pupils connect physically, emotionally and knowledgably with an animal they design as / with / for. It is proposed that practicing relating and appropriately responding to the needs of other-than-humans at this pivotal development stage helps establish an ecocentric, caring, communal, and creative orientation that will rise positively to future personal, social and environmental challenges.

**Keywords:** *Learning*

## **1. Socio-Environmental Context**

- Halve CO2 emissions by 2030 and decarbonise by 2050 to keep global warming to liveable levels. (IPCC 2018)
- Restore habitat and end pesticide misuse or insects may be extinct within decades. (Sanchez-Bayo & Wyckhuys 2019)
- 1st May 2019, the UK Parliament unanimously declares an environment and climate emergency

The perilous state of life on earth as we know it is unsurprising to those engaged in an environmental movement that has sounded the alarm for over five decades. We have now reached the endgame. Whether or not we are able to avert the worst-case scenarios of climatic, biological and social collapse (Bendell 2018), it is clear change is coming.

We can either proactively rise to the systemic challenges inherent in the ‘wicked problems’ (Rittel & Webber 1973) of the Anthropocene, refiguring humankind’s relationship with the earth to one of Sustainment (Fry 2012), celebrating our entanglement (Haraway 2016) with the more-than-human (Abram 1996, 2011) and mitigating disaster; or we will need to reactively adapt to a planet radically less hospitable to human life. For good or bad, new ways of being in the world will be required for a time of transition. Both pro- and re-active scenarios call for a resurgence in creativity, and human and other-than-human [re]connection.

## **2. Ecoliteracy in Schools**

In England all local authority maintained schools must adhere to the National Curriculum. Free schools, academies and private schools have freedom to utilise other curricula, or design their own. Of the 16,941 Primary-stage state schools in England 5,444 are academies, 213 free schools, and 11,284 local authority maintained schools (<https://www.get-information-schools.service.gov.uk/Establishments/>). Whilst only two-thirds of public Primary-stage state schools are required to follow the National Curriculum, all government-funded schools are subject to high-stakes Standardised Attainment Tests (SATs) in English and Mathematics, and formal Teacher Assessment in Science – all aligning with National Curriculum content.

The National Curriculum at KS2 was last overhauled under Michael Gove in 2013. With a narrow and deep focus on English and Mathematics, Gove’s changes were pilloried by progressive education experts at the time (Bassegy et al, 2013). The National Curriculum in England Key Stages 1 and 2 Framework Document contains statutory requirements and non-statutory notes on the compulsory subjects. 66% of the document’s subject pages are given over to Mathematics and English and 19% to Science, leaving just 15% for other subjects. The National Teachers’ Union is one of many educational organisations critical of the curriculum and the SATs that drive it (NUT, 2017).

Prior to Gove’s intervention, Education for Sustainable Development (ESD) was a stated purpose within the National Curriculum, and various government schemes lent support to ESD policies including Sustainable Schools 2020, Every Child Matters and Building Schools for the Future. According to Sustainability and Environmental Education (SEEd 2017) over 500 organisations worked on ESD in UK schools, providing a support network that has since all but collapsed. In light of disappearing government drivers for sustainability in education, and with no mention of climate change, or biodiversity in the curriculum, there is little

external motivation to cover this vital area. The pressures of delivering the core subjects with their attendant testing leaves little space for teachers to explore and pursue sustainability learning. A 2016 survey by SEEd found that time was the most often cited challenge to teaching sustainability (2/3 of respondents). The survey also highlighted a significant skills gap – with 9/10 teachers having received no ESD in their teacher training.

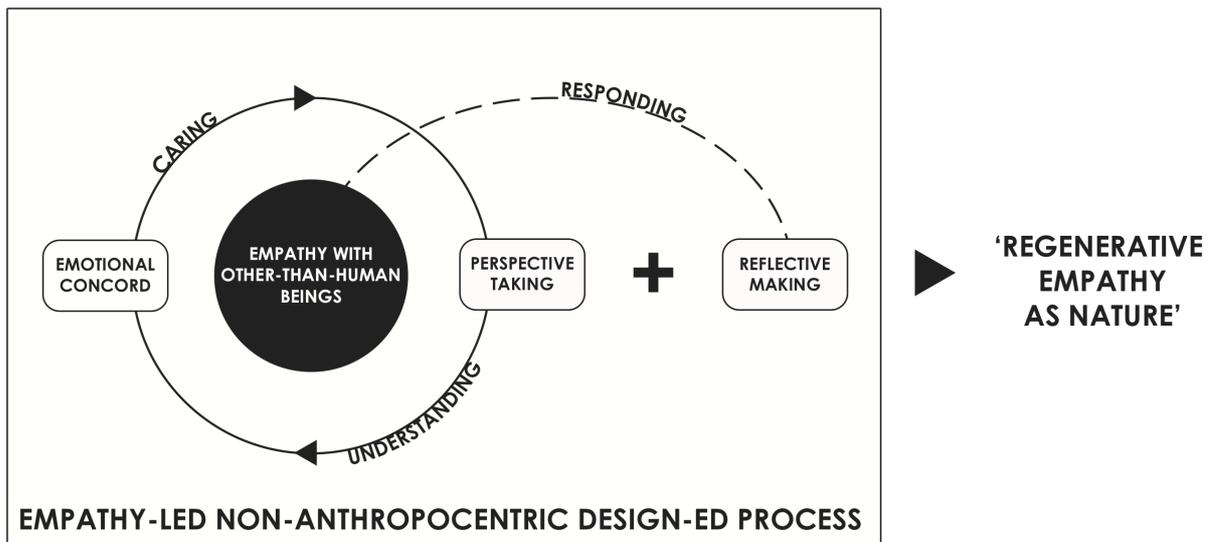
NGOs have attempted to fill the ESD policy gap, and partially inspired by Louv's seminal work on 'nature-deficit order' in children (Louv 2005, 2016) a growing number of programs push for and facilitate outdoor learning and play opportunities for children. These programs are bolstered by plentiful research showing self-reported wellbeing rises from these interventions (RSPB, 2013. National Trust, undated). Intervention by NGOs is welcome, and is supported by a growing evidence base (Lumber 2017), but lacks cohesion.

As it stands the KS2 primary curriculum in England is far removed from the holistic, transformative pedagogical approach advocated by environmental educationists (Kahn 2009, Orr 2004, Jickling & Sterling 2017) and appears to be ever distant from the promotion of an education conducive to uptake of the attributes and skills needed to create future environmental stewards. It is essential that this tide is turned, and reoriented towards creative, whole-school systems-based approaches that promote wellbeing of people and planet. But whilst there is no sign that the current UK government is responding to this need, and any likely alternative sits in the UN 'sustainable growth' dichotomy (Jickling & Sterling, 2017), it is also imperative that appropriate, affective environmental education interventions are targeted within the current system. These interventions should fit the needs of teachers whilst disrupting the current flow. *Being Animal* seeks to fulfil this task.

### **3. Being Animal Tool**

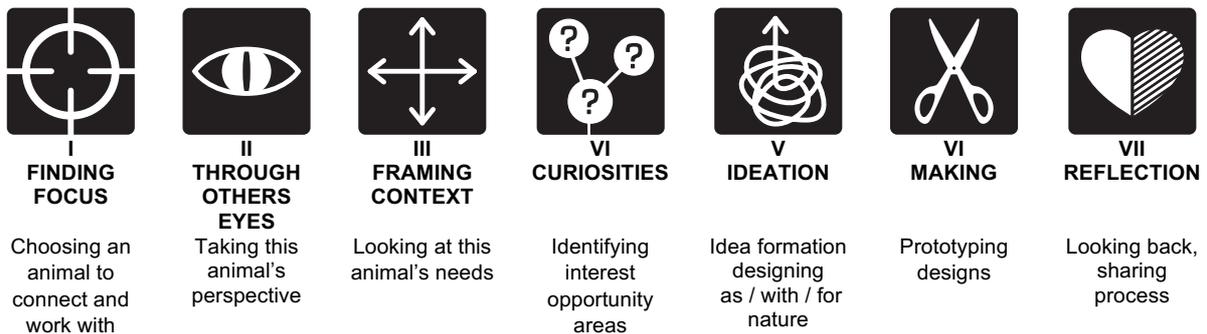
The *Being Animal* teaching tool aims to boost creativity and help [re]connect people to nature and each other. Connection to nature is linked to pro-environmental behaviours, and supports positive mental health outcomes (Lumber 2017). The tool uses a *Design as a Learning Process* (DLP) to draw out *Regenerative Empathy as Nature* (REN) in middle childhood (7-11). It is proposed that practicing relating and imaginatively responding to the needs of other-than-humans at this pivotal development stage helps establish an ecocentric (Leopald 1949), biophilic (Wilson 1993), caring, communal, and creative orientation that will rise positively to future personal, social and environmental challenges. The tool is designed to guide and support whole class delivery of hands-on, affective, empathy-led, formative DLP experiences that educe, nurture and embed REN in Key Stage 2.

The process is designed to create empathy with other-than-human beings through perspective taking exercises. Responding creatively and compassionately to animal needs helps participants to see themselves as nature. The intent is to break down the human-nature divide to create REN – an ongoing, empathic connection as and with the living world.



#### 4. PROCESS OVERVIEW

*Being Animal* can be delivered as a short project over one or two full days, but is recommended as an extended topic over a half term. Whatever the timeframe chosen for delivery, the seven stages are offered as discrete lessons, and the class moves through the process together.



#### 5. STAGES DETAIL

##### I FINDING FOCUS

Choosing an animal of this land, with an embodied connection by place or presence. Native, local, agricultural, zoo animals can all be picked. A focus on the local is advised in for hands-on scientific enquiry. Teacher choice – select one pathway:

##### INSIDE

1. Audio Tails: natural history bird audios (choice of 10) supplied online, measure each other to find a dimension that fits (wingspan, beak length etc), listen to matched bird intro in groups
2. ££Handler Visit: animal visits can be an effective way to gain direct experience of different animals, explore feelings, sensations, group by interest
3. £Eye to Eye Cards: print out (in colour on heavyweight stock) and distribute the British animal eye cards supplied
4. Pets: parent bring a pet to class at start of day

##### INSIDEOUT

5. Recency: the last animal you were with and can remember by touch, sight, smell, evoking memory through sense cues
6. Affection: an animal that is well known to you e.g. a pet, a bird table visitor, a connection that makes you feel warm
7. Alphabet: an animal that begins with the same letter as your first or surname, list as many UK animals as you can think of, share, pick one
8. Character: an animal like you, explore the physical and personality traits you share, and those you wish you shared
9. Visioning: utilising the spoken script supplied to find an animal connection
10. £Literature: stories / poems / natural histories from or about animals e.g. Lost Words, The Last Wild

#### LOCAL ENVIRONS

11. Nature Spot: visit your local park, use all your senses, upturn deadwood to find mini-beasts, shake a branch onto a cloth, look up/down/across, chart findings, which are you drawn to
12. School: what animals are in your grounds, what stays, what passes through, stopping and looking closely up/down/across, capturing data over time day/night visitors - mammal tunnels, camera, bird table, which are you drawn to
13. Walk and Talk: find a circular walk to go animal spotting, groups of 6 keeping eyes and ears open, take turns to focus up/down/across, stopping, investigating and recording animals en route, which are you drawn to

#### TRIP

14. £Pond-dipping: a local stream, pond, lake edge provide a rich environment for exploration (nets, dipping trays, identification sheets, magnifying pots, pipettes)
15. ££Zoo:
16. ££Farm: petting

### II THROUGH ANOTHER'S EYES

Taking an alternative perspective. Sensing and imagining through the lens of the chosen animal body. Teacher path choice – select one:

#### INSIDE

1. Imajourney: blindfolded sensory weather journey, using props (e.g. cardboard wind, spray rain, heater sun), use question prompt sheet)

#### INSIDEOUT

2. Visioning & sharing: guided using script
3. Day in the life: first person storytelling
4. Embodying animality: moving/dancing/expressing as animal
5. Improvisation: group 'yes and' session, set up scenarios
6. Mask making and speaking as: using natural or scrap materials, listening circle
7. Doctor Dolottie: finger puppet interviews
8. Play on: creating rhythmic music conveying animal movement, culminating in a celebratory party
9. Storyboarding: a social interaction

#### LOCAL ENVIRONS

10. NatureVoice: photographs or drawings from nature

#### TRIP

11. ££Natural History Museum

### III FRAMING CONTEXT

Looking at the needs of this animal.

#### INSIDEOUT

Print worksheet provided, research, imagine, complete all:

- a) Draw home
- b) Family tree
- c) Ideal weather
- d) Favourite food
- e) Play friends
- f) Threats and fears
- g) Hopes
- h) Mission
- i) Map habitat and connections

Find links to animals chosen by other participants.

#### **IV CURIOSITIES**

Teaming up to probe interest area using mind maps or bubble diagrams

INSIDEOUT

Create Bubble diagram of all:

- a) Queries
- b) Notes
- c) Opportunities
- d) Ideas
- e) Problems
- f) Who, What, Why, Where, When?
- g) What ifs?

Answering own questions through research, discussion, reflection.

#### **V IDEATION**

Designing as, with or for nature

INSIDEOUT

Perspective (teacher choice – select one):

1. Design AS your animal, consider unique quirks, powers and attributes
2. Design WITH your animal as guide, inspiration and critic
3. Design FOR your animal, something that might be good for them

Briefing area (teacher choice – select one or print and make randomise tool):

1. Communicate
2. Shelter
3. Eat
4. Play
5. Move
6. Clean
7. Safety
8. Rest

#### **VI MAKING**

Prototyping designs using a limited selection of recycled and/or natural materials. Teacher choice – select one from INSIDE selection, or up to three from INSIDEOUT:

INSIDE

1. £Scraps sewing (distribute email to parents) Needles
2. Collage (distribute email to parents)
3. Reclaimed packaging modelling (distribute email to parents) optional £Makedo reusable fixings
4. Lego (from Infant classrooms)

INSIDEOUT (perhaps you can make in situ)

5. £Playdough Flour, Salt
6. Sticks (go out and collect)
7. £Cardboard (distribute email to parents) and washi tape
8. £Clay
9. £Paper cutting Craft knives
10. Drawing
11. Painting

## VII REFLECTING

On learning and process. Teacher choice – select two to four methods:

1. Open pair and share
2. Likes and dislikes
3. Opportunities for action
4. 5 Whys
5. Sharing circle
6. School display
7. Assembly

## 6. National Curriculum Links

In order to enhance relevance and uptake the *Being Animal* process ties into the statutory KS2 National Curriculum framework for Science (yr3-6 animals, yr4-6 living things and their habitats). It also supports Art & Design and Design & Technology (yr3-6 practice) through DLP. *Being Animal* is inherently cross-curricular in approach, touching multiple subject areas:

<u>Core Subjects</u>	<u>Connections on all Pathways</u>	<u>Possible choices</u>
English	Spoken language	Composition
Mathematics		Measure, Compare, Interpret and present data
Science	Everyday material properties, Animals, Living things and their habitats, Life cycles	Questioning, Observing, Gathering, recording, reporting data, Weather
<u>Foundation Subjects</u>		
Art & Design	Sketchbooks, Mastery	
Computing		Data representation, Networks
Design & Technology	Design, Make, Evaluate, Technical Knowledge, Ingredients	
Geography	Human/Natural Environments	Mapping, Fieldwork
History		Local history
Music		Create, Compose
Physical Education		Develop, Dance, Outdoor Adventure, Active Lives

## Other Subjects

PSHE                                      Personal, Social, Health

Additionally Being Animal supports Social and Emotional Aspects of Learning (SEAL) and traditional 21<sup>st</sup> Century Skills alongside environmental sensitivity:

Care – empathy, compassion, fairness, humility, kindness

Community – connection, conflict resolution, co-operation, listening

Creativity – curiosity, envisioning, flexibility, responding

Ecocentricity – biophilia, acting as nature, networks

Resilience – intrinsic motivation, self-regulation, self-governance

## **7        Progressive Pedagogy**

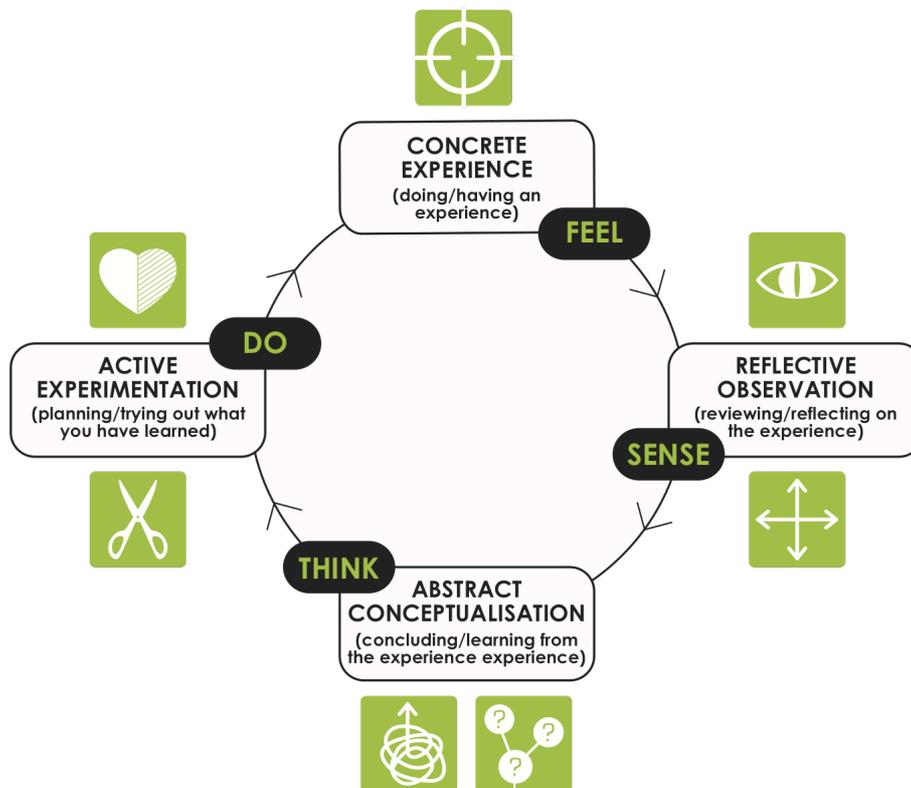
*Being Animal* draws on ecoliteracy models that emphasise nature connectedness, alongside real world action learning pedagogy and Design-as-Practice (Kimbell 2012). Key influences include Head-Heart-Hands (Orr 1992), which links to Bloom's Cognitive-Affective-Psychomotor Domains (Aubrey & Riley 2019). The Head-Heart-Hands model suggests that engaging a learner mentally, emotionally and physically will have positive long-term outcomes. Systems Thinking (Meadows 2008) allows us to engage in complexity by stepping back see the wider picture. From Deep Ecology (Macy & Brown 2014), comes the idea of dissolving the human / nature divide, and humans acting [and designing] as nature.

The *Being Animal* learning approach is constructivist, influenced by Friere's critical pedagogy (2014), alongside Dewey's notions of progressive democratic learning, Schön's reflective practice and Claxton's learning power (Aubrey & Riley 2019). *Design as a Learning Process* (DLP) has the potential to engage learners at the highest levels of Bloom's taxonomy. When using this tool in KS2 the expectation is that pupils will; apply knowledge, organise and conceptualise stimuli, and engage in non-verbal, artistic communication:

COGNITIVE DOMAIN (knowledge and information)	AFFECTIVE DOMAIN (attitudes and emotions)	PSYCHOMOTOR DOMAIN (practical and physical skills)
Knowledge	Receiving	Reflex movements
Comprehension	Responding	Basic fundamental movements
Application	Valuing	Perceptual abilities
Analysis	Organising and Conceptualising	Physical abilities
Synthesis	Characterising by value or value concept	Skilled movements
Evaluation		Non-discursive communication

*Bloom's Domain Taxonomy Hierarchies, adapted from Aubrey & Riley (2019), complexity engaged by Being Animal in KS2.*

The seven-stage *Being Animal* process loops into Kolb's learning cycle, with successive stages commencing at later points in the circle.



## KOLB'S LEARNING CYCLE with *Being Animal* process stages

### 8 Next steps

The project is an action research testing phase. *Being Animal* will be co-delivered with teachers across 4 schools over different timeframes – from 2 days to 8 weeks. Whatever period is chosen for delivery, the seven stages are offered as discrete lessons, so the class moves through the DLP together. Teachers are encouraged to undertake a significant portion of the process outside, with outdoor classroom, and nature visits inherent in the approach. Observation and unstructured interview data will feed into the next iteration – an online *Being Animal* teaching resource. Beyond the PhD there is scope for the tool to be developed for different users and contexts, and alternative empathy targets.

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**About the Author:** Sarah is a changemaker, propagating socio-environmental flourishing through design. On graduating Goldsmiths EcoDesign BA in 2003 she founded [re]design, to help move the industry towards sustainability. A keen collaborator Sarah's diverse output includes tools, books, workshops, lectures, products and exhibitions.

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