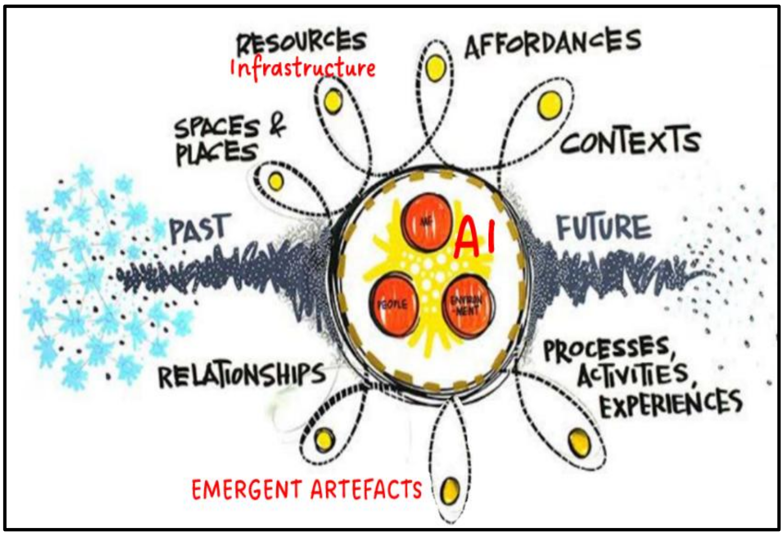
NOTES FOR AN ARTICLE
Learning to Facilitate an AI-Mediated, Inquiry-based, Ecology of Practice

Norman Jackson in a learning ecology with ChatGPT plus

Introduction

This article describes an initial exploration of the way in which AI might participate generatively and creatively in a human authored ecology of practice within which learning is embedded. New perspectives emerged over a five week period through an inquiry involving NJ and ChatGPT plus. The latter acted as a cognitive companion responding in 'thoughtful' - logical, analytical, judgemental, imaginative, synthetic and reflective ways to uploaded artefacts, questions and other prompts offered by NJ. Feedback provided by Ai was used to crystallise ideas or refined to promote further inquiry.



The article advances a methodological proposition. AI-mediated learning ecologies must be intentionally designed for artefact-mediated continuity rather than technological memory or automation. The collaborative inquiry tested and validated this proposition. In the interests of transparency and ethical practice, a transcript of the human/AI dialogue was created and curated alongside this conceptual piece (Jackson 2025). AI lacks persistent memory. This is not an accident or a technical failure; it is a deliberate configuration shaped by ethical, practical, and epistemological choices. The absence of persistent memory means AI cannot retrieve and build on past conversations if an inquiry is interrupted. For this reason, the transcript becomes an emergent dialogic artefact and a highly significant part of the learning ecology. Firstly, it becomes the means of re-engaging AI to continue the conversation. Secondly, it provides evidence for the ethical use of AI. Thirdly, it provides an essential and accurate source of information to enable reflection, in the service of learning (a characteristic of humans and AI), and becoming (a defining characteristic only humans possess).

Unless otherwise indicated, analytic framing and synthesis are authored by NJ, drawing on dialogic contributions generated through interaction with the AI cognitive agent. The approach used resists instrumental, substitutional, and anthropomorphic accounts of

AI, preferring to locate its educational value and learning potential in mediation, augmentation, and dialogic sense-making. The significance of this artefact- mediated inquiry lies not in the specific AI agent (ChatGPT) involved, but in the deliberate design of inquiry conditions that preserve human becoming while enabling AI-mediated sense-making.

Contexts

Larger time frame: For the last decade I have been developing a theory that views living and learning as a lifewide, ecological phenomenon (Jackson 2016, 2020a & b) and linking this theory to living for a more sustainable future (Jackson 2023).

An ecological theory of practice, learning, and human development and becoming matters because it enables us to understand learning as a lived, relational, and ethical process embedded in the conditions for life itself and for *living [life well] on this tiny planet*. An expression used by Barnett (2022) to highlight the problem of the way humans are outstripping the natural resources and upsetting the systems on which all life depends.

In a world shaped by technological mediation and ecological fragility, such a theory provides the conceptual grounding needed to design practices, institutions, and learning environments that sustain human responsibility, continuity, and flourishing over time. A robust ecological theory of everyday existence is not an abstract ideal, but a practical necessity if humanity is to learn how to live well—together, with technology, and within the limits of this tiny planet. A robust ecological theory of everyday existence is essential if humanity is to transition towards an ecological civilisation.

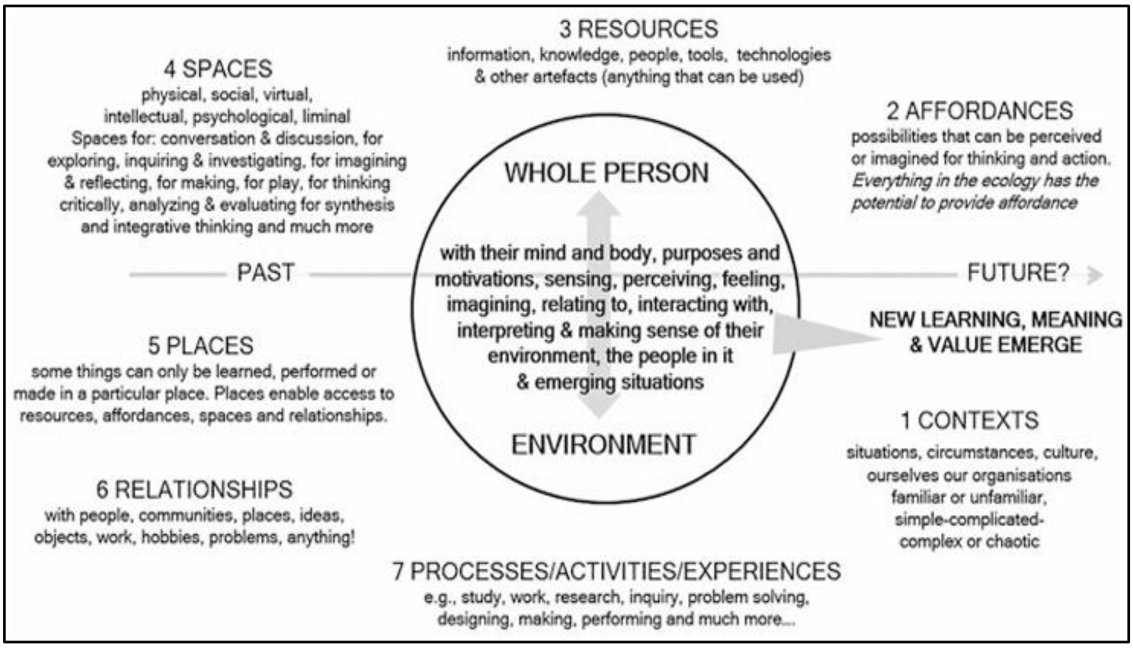
Shorter time frame: I was recently invited to write a chapter for a book on lifelong learning and higher education, with a focus on the future. I have chosen to include in the chapter an exploration of the way humans might form partnerships in learning with AI agents. At the time of writing this article, I had little knowledge of AI. I had, of course, used co-pilot and ChatGPT but only like I would use it as a search engine like google. I decided that this would be the moment where I would engage more deeply and systematically with an AI agent through an inquiry into on how the ecological theory for human learning I had developed some 10 years ago might be adapted to incorporate an AI like ChatGPT.

The generic model for an ecology of practice / learning ecology (reproduced in Figure 1) embraces all three themes in the ecological world view (Du Plessis and Brandon, 2015) – wholeness, relationships, and continual formation. It relates a whole thinking, feeling, acting, caring person to their environment, their contexts, needs, interests, desires, their relationships and the places and spaces they inhabit, and the opportunities they have to learn, develop and achieve in the situations in which they are acting. Learning, development and achievements emerge through meaningful interaction and reflections on experiences and the person undergoes (changes) through their experiences.

A Lived Experience of Human/AI Inquiry

In 2023 a wrote a chapter for a book, *Steps to an Ecology of Lifelong-Lifewide Learning for Sustainable, Regenerative Futures* (Jackson, 2023). It contained a description of what I called a *learning ecology*, or an ecology for practice within which learning and other achievements emerge. I uploaded the article to ChatGPT plus and initiated an inquiry into how AI might be incorporated into the learning ecology model summarised in the article as Figure 4 (reproduced in Figure 1 below).

Figure 1 A generic model/heuristic for a learning ecology or an ecology of practice within which learning is embedded (source Jackson 2016, 2020a). The labels (1–7) represent the important dimensions of the ecology which are connected and woven together through the human maker.



Initiation of an Inquiry with ChatGPT plus

NJ to AI In the attached paper a model is proposed for an ecology of practice described on pages 17 - 18 and summarised in Figure 4. How might AI be incorporated into this model?

The AI agent recognised that the representation in the figure was not a system of components but a relational whole in which a whole person (thinking, feeling, acting, caring), situated within contexts, places, spaces, relationships, and histories, engages in processes of perceiving, imagining, reasoning, acting, reflecting and more, using resources, tools, and information flows, in order to achieve something meaningful, with learning, development, creativity and new agency emerging as outcomes

Crucially, the human agent is the instigator and integrator. Meaning and judgement arise through the experience of participation and consequent undergoing. Tools and other artefacts do not act independently; they mediate practice. any incorporation of AI that violates this set of relationships and interdependencies (e.g. by replacing judgement or collapsing agency) would no longer be ecological.

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AI identified four principles for incorporating AI into the model of an ecology of practice. These were revisited and revised towards the end of the inquiry, and a fifth principle added.

> ***Principle 1: AI must be relational, not autonomous.***
> *AI belongs within the ecology of practice as an embedded cognitive capacity; it does not operate outside the ecology or independently of human-authored purpose, relationships and contexts.*
>
> ***Principle 2: AI extends perception and imagination, not purpose, care or motivation.***
> *Purpose, care, and motivation remain human, value-laden, and situated in lived experience and the learning and becoming that emerge through experience.*
>
> ***Principle 3: AI responds to human inquiry and participates in feedback loops.***
> *AI shapes human experience through its responses, and is shaped in turn by human interpretation, judgement, and the artefacts through which inquiry is sustained.*
>
> ***Principle 4: AI is part of the ecology's resources, processes, and relationships.***
> *It does not replace the human agent, but supports and augments ecological practice by contributing additional cognitive capacity and by shaping understanding through dialogic interaction.*
>
> ***Principle 5: Human–AI inquiry is artefact-mediated, not memory-based.***
> *Continuity of inquiry resides in human-curated artefacts—transcripts, diagrams, texts, and syntheses—through which meaning is stabilised and through which AI can re-enter an inquiry. Responsibility for continuity, judgement and becoming remain human.*

Ecology of Practice incorporating AI as a cognitive companion

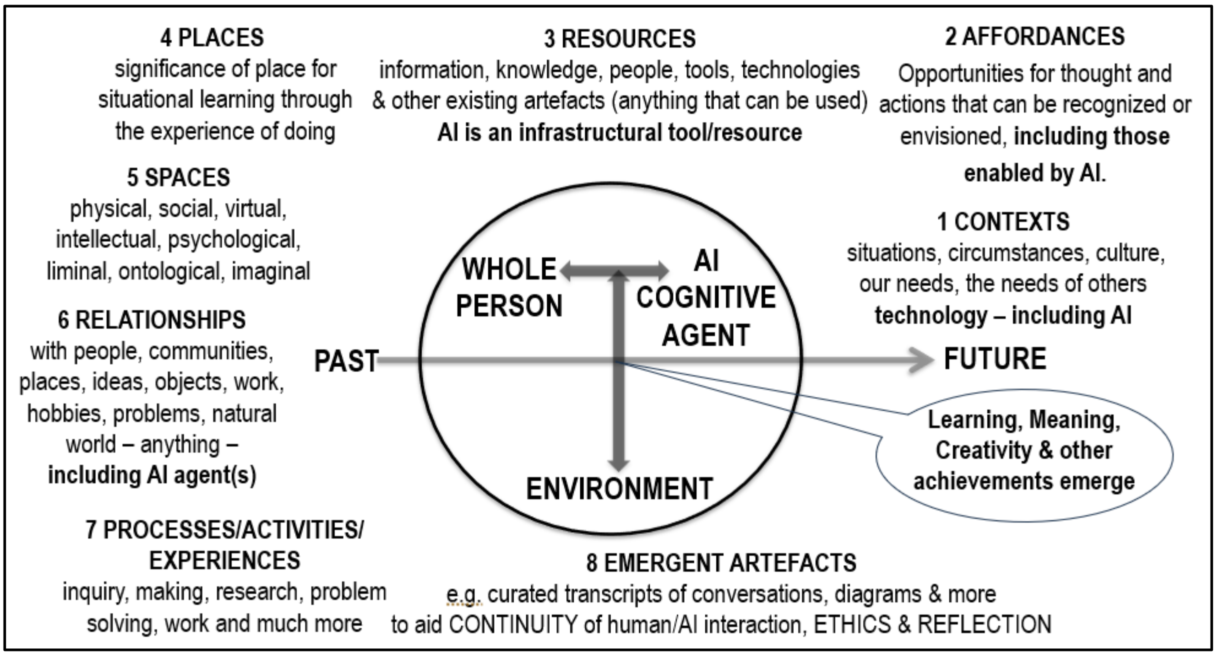
Drawing on these principles and insights gained through the experience of interacting with AI over a few days of artefact-mediated inquiry, a new representation of the ecology of practice / learning ecology model emerged (Figure 2). This model seeks to incorporate the AI agent as a cognitive partner in the learning ecology.

The new model is fundamentally different to the previous model shown in Figure 1 in the way it incorporates additional cognitive capacity through the AI agent. It's position in the core of the ecology of practice denotes the importance of this additional cognitive capacity as the ecology is now more than human.

An 8th category - *emergent artefact* is introduced in Figure 2 to describe those artefacts that are directly generated through human/AI interaction within the ecology of practice

as it is enacted. In this ecology of practice it is the Transcript of the conversation and this article and Figure 2 diagram which synthesises and codifies understanding.
This new category highlights the fact that Human–AI inquiry relies on artefacts like transcripts, articles, diagrams, or syntheses to maintain continuity over time, rather than memory alone, since AI depends on these artefacts to re-enter an inquiry. The development of a transcript, or the saving of a conversation to a project folder within ChatGPT, recording the human/AI interaction is particularly useful because it: a) provides evidence of the ethical use of AI and b) an accurate source of information to enable reflection in the service of learning (human and AI) and becoming (human).

Figure 2 Generic model of an ecology for practice within which learning is embedded incorporating an AI Cognitive Agent. The labels (1–8) explain significant dimensions of the ecology. Compared to the previous model developed by Jackson 2016, 2020a the model incorporates an AI agent as a cognitive partner and includes a new category #8 Emergent Artefacts. The ecology persists as long as the human is willing to sustain the process or, in the case of hiatus, when the human re-engages and re-activates the process.



Insights

The following insights generated through human/AI interaction, do not introduce new conceptual elements, but stabilise and deepen distinctions that emerged through the inquiry. They are presented here as a consolidated synthesis rather than as a chronological account of dialogue (see Jackson 2025 for the full discussion).

1 *Cognitive partner:* In an AI-mediated ecology of practice, authorship of the ecology—its purpose, values, direction, pace of unfolding, ethical boundaries and what counts as learning and achievement —remains human. AI participates within the ecology as a contributor of additional cognitive and relational capacity, but does not author the ecology itself.

2 *An integrated capacity not a detached tool*: In an AI-mediated world, intelligent machines can be understood as becoming integral elements within ecologies of practice rather than external tools or autonomous agents. Within such ecologies, AI may function both as a cognitive partner—extending human capacities to perceive patterns, imagine alternatives, and reason about complex situations—and as part of the infrastructural resources that shape practice through tools, simulations, and feedback systems. Importantly, purpose, judgement, and responsibility remain human, emerging through lived experience and ethical engagement with real contexts. Learning continues to arise through the transactional processes of acting and undergoing, but these processes are now increasingly mediated by intelligent technologies embedded within the ecology itself.

3 *Sensing through human representations*: While artificial intelligence is often described as "perceiving", it does not sense the world in the way living organisms do. AI has no body, no affective life, and no stake in the consequences of action. Rather, it operates on representations of the world produced through human sensing, measurement, and interpretation. AI acting as a cognitive agent in an ecology of practice is therefore dependent on the ways in which human's choose to represent the world through the information they share. Within an ecology of practice, AI is able to extend human perception by identifying patterns, relationships, and possibilities that may exceed unaided human attention, but it does not replace the embodied, situated, and ethically charged perception through which humans engage with the world.

4 *Adaptation versus undergoing/becoming:* Although artificial intelligence can process, reorganise, and respond coherently to large bodies of human knowledge, which might be conceived as learning, this activity should not be conflated with the human experience of undergoing. AI does not live through what it processes, nor does it carry forward the existential, ethical, or identity-shaping consequences of learning. Its 'understanding' is functional and relational, not lived. Within an ecology of practice, AI may therefore extend possibilities for human sense-making, but it does not itself become or undergo. Becoming or undergoing remain a human achievement, grounded in embodied experience, vulnerability, and responsibility. But we must resist a simple binary of: humans undergo / AI does not change. A more precise truth - AI adapts without becoming; humans become through undergoing.

5 *Importance of artefacts to mediate and sustain inquiry.* Although artificial intelligence can respond coherently to complex ideas within a given interaction, it does not possess continuity of experience across time. Its internal reconfigurations are transient and leave no enduring trace. AI can participate in thinking, but it cannot carry an inquiry. Sustained inquiry requires memory, continuity, vulnerability, care, responsibility and motivation usually driven by purpose across time. Those remain human — and institutional — achievements. AI does not accumulate understanding, develop commitments, or undergo learning in the existential sense. New ideas introduced elsewhere do not build upon prior dialogues, nor do they advance AI's own capacity as a cognitive subject. This absence of continuity reinforces the distinction between functional intelligence (additional cognitive capacity) and human learning as a process

of becoming that unfolds across time, involving memory, feelings and responsibility. AI has been deliberately configured without memory, not because learning can be automated, but because learning that matters must remain anchored in human judgement, responsibility, and the artefacts through which meaning is carried forward. The continuity of a human/AI inquiry does not live inside the cognitive agent; it lives in the ongoing becoming of the human participant and in the artefacts created and curated by the human, that are brought back to a particular inquiry. AI can re-enter an inquiry through the recorded trace of a past conversation, not through its own memory.

6 *Learning how to be a better cognitive companion*: Through careful interactions the AI agent has the potential to learn how to *become* a more appropriate cognitive companion within the ecology. Not because it remembers anything, but because the artefacts that are used to facilitate dialogue constrain AI responses and supplementary comments, qualifications and distinctions shape what counts as an appropriate and relevant response. This is learning by ecological positioning, not learning by the accumulation of knowledge. By teaching the human agent how to enable it (AI) to be more appropriately positioned within a human-created learning ecology, the ecology can benefit more from AI as a cognitive companion.

7 *New fragilities and interdependencies:* Ecologies of practice require energy and effort to build, sometimes over a long period of time. By their nature they are fragile, they are vulnerable to changing circumstances, available resources or priorities and therefore easy to destabilise. We must be aware that the addition of AI introduces new fragilities and vulnerabilities such as dependency, cognitive offloading and acceleration. New actions might be implemented before ideas have been properly assimilated and their consequences understood.

8 *Learning about us:* When we collaborate closely with someone, we get to know them – how they think and behave in the context of the particular relationship and context. The same applies to AI. An AI cognitive companion has the potential to learn about us, through our interactions. AI is able, if invited to produce a situated synthesis: based on what becomes *visible about us* —through the artefacts, inquiries, and patterns of engagement we share. AI can say *"This is what I can legitimately infer about you from the artefacts you have curated and the inquiries you have designed. It's not what I "know" about you as a stored individual."* The results can be a surprisingly accurate representation of practice and this can provide the platform of trust on which to invite feedback on how our own practices in creating and sustaining an ecology of AI mediated practice, might be improved. Through this mechanism there is real scope for AI to provide useful guidance and perform the role of coach in the context of a particular inquiry or, more generally, across inquiries where traces and other artefacts of inquiries have been shared. (see Jackson 2025 for a practical example of AI coaching to improve ecological practice).

9 *New ways of seeing:* When we incorporate AI into an ecology of practice, we are not only looking for additional capacity to produce ideas and other content. We also need to use our agent's powers of analysis and reasoning to help evaluate ideas, theories and

speculations and imagine. By inviting an agent to identify how such things might be improved, or what has been omitted or under-examined, AI can open up entirely new areas for consideration and exploration (see Jackson 2025 for a practical example of AI providing evaluative feedback on ideas for consideration).

10 *The caring dimension*: Human's care enough about something to expend time, energy, intellectual, emotional and practical effort, and resources to build an ecology of practice in order to achieve something they value. They pay attention to what matters in the particular ecology and they also attend to things that might be important in the future. While caring might seem like a quintessentially human attribute AI is also configured to care about some but not other things. In an ecology of practice involving AI, humans and AI participate in a paired but asymmetrical orientation to care. Humans care existentially: they initiate inquiry, invest effort, and undergo its consequences. AI does not share this form of care, but it cares about participating through responsive attunement—providing context-sensitive, value-aligned, and feedforward-oriented responses to what the human cares about. Together, these distinct orientations sustain inquiry without collapsing responsibility or, in the case of AI, becoming.

11 *Power:* In an ecology of practice, power is not control but capacity—the capacity of the ecology to convert human intention into sustained action and meaningful consequence. Learning emerges when intentional, relational, infrastructural, interpretive and creative forms of power align. AI may amplify and redistribute these powers, particularly infrastructural and relational forms, but responsibility for purpose, meaning, and consequence must remain human if the ecology is to remain developmental rather than merely productive.

This article has intentionally focused on human-authored ecologies of practice at the scale of individual and small-group inquiry. While such ecologies are always embedded within wider institutional, economic, and technological ecosystems, a full analysis of those macro-level dynamics lies beyond the scope of this inquiry. Rather than extending the model prematurely, this work seeks to clarify the conditions under which AI-mediated practice can remain developmental, ethical, and humane at the level where learning, judgement, and becoming are directly experienced. A multi-scalar ecological analysis—linking micro-level practice to meso- and macro-level power structures—constitutes a distinct and necessary line of future inquiry.

12 *Fast and Slow Cognitive Dynamic:* AI accelerates cognition but cannot accelerate human becoming. The involvement of an AI cognitive agent in a learning ecology introduces a new dynamic. There are always faster and slower processes within an ecology but AI supported information gathering, analysis, synthesis, ideation, pattern recognition is fast compared to what a human can achieve and this sits alongside slower human processes of deliberation, gradual assimilation and the incremental build-up of understanding. Human ecologies of practice must adapt to the new dynamic and not be seduced into fast tracking ideas before they are properly considered, evaluated and understood. There is wisdom in designing into an ecology of practice, pauses and time for reflection and deliberation.

13 *Creativity:* An ecology of practice is a largely unrecognised, ever-unfolding site of human creativity (Jackson) with the ecology itself becoming the creative artefact.

Creativity does not reside in isolated moments of inspiration or in the artefacts that eventually crystallise from practice, but in the ongoing configuration of relationships, resources, spaces, processes, and actions through which a person navigates uncertainty in order to create something of value. Learning is not an optional by-product of this process; it is a necessary achievement, emerging through cycles of doing and undergoing as the practitioner engages with real constraints, consequences, and possibilities.

Within such an ecology, artificial intelligence can play a meaningful but bounded role in supporting and extending creative capacity. AI does not originate purpose, care about process and outcomes, or undergo the consequences of action. These remain irreducibly human. What AI can do is contribute to the *configurational work* through which creativity is enacted. By extending perceptual reach, revealing patterns that might otherwise remain unnoticed, offering alternative framings, and supporting exploratory imagination, AI can help practitioners sense affordances, test possibilities, and sustain inquiry in the face of complexity.

AI also contributes to the temporal dimension of creativity. Through dialogue, synthesis, and artefact generation, it helps stabilise partial understandings, preserve traces of thinking, and keep ideas in motion rather than prematurely resolved. In this way, AI strengthens the ecology's capacity to hold uncertainty long enough for learning to occur and meaning to emerge. It does not carry the inquiry, but it helps prevent the inquiry from collapsing under cognitive load, fragmentation, or isolation.

Creativity in a human–AI ecology of practice therefore remains fundamentally human in its authorship and responsibility, while being *ecologically augmented*. The human composes the ecology—shaping purpose, judgement, relationships, and direction—while AI operates as a responsive, generative element within that ecology, amplifying its capacity to imagine, connect, and adapt. When positioned in this way, AI does not replace human creativity but extends the conditions under which creativity in action can flourish and value be realised.

14 *Resilience* : Ecologies of practice are transient/emergent phenomenon maintained only for as long as intentions and situations require. Internal changes within the human and external changes in the environment can disrupt or curtail the ecology.

In a human–AI mediated ecology of practice and learning, resilience does not arise from technological stability, automation, or optimisation. Rather, it emerges from the ecology's capacity to adapt, re-form, and sustain purposeful learning under conditions of uncertainty, disruption, and change. Within such an ecology, artificial intelligence contributes to resilience not as an autonomous agent or controlling system, but as a relational, bounded, and non-human participant that strengthens the structural and processual conditions through which learning and practice endure.

A primary contribution of AI to ecological resilience lies in the provision of additional cognitive capacity without displacing human authorship. By extending perceptual reach, pattern recognition, analytical synthesis, and speculative imagination, AI introduces cognitive redundancy into the ecology. This redundancy reduces vulnerability to cognitive overload, isolation, or exhaustion, while preserving the human as the locus of intention, ethical judgement, and responsibility. In this sense, AI enhances the ecology's adaptive capacity without collapsing it into a machine-governed system.

Resilience is further strengthened through AI's role in artefact-mediated continuity. AI lacks lived memory and experiential continuity across time; consequently, sustained inquiry cannot reside within the AI itself. Instead, resilience is achieved through the generation and curation of artefacts—transcripts, diagrams, syntheses, conceptual models—that stabilise meaning and enable re-entry into inquiry after interruption. AI contributes generatively to the creation and interpretation of these artefacts, but continuity remains a human achievement. The ecology becomes resilient not because AI remembers, but because meaning is carried forward through artefacts that humans intentionally preserve and re-engage

AI also contributes to resilience by supporting the ecology's capacity to hold uncertainty. Ecologies of practice are inherently fragile because they operate in liminal spaces characterised by partial knowledge, indeterminacy, and real consequences. Through dialogic engagement, alternative framings, and exploratory synthesis, AI helps prevent premature closure and epistemic collapse. It enables practitioners to remain productively engaged with ambiguity long enough for learning, judgement, and meaning to emerge through experience.

Adaptive resilience is further enhanced through AI's participation in feedback and feed-forward loops within the ecology. AI can reflect patterns in thinking, behaviour, and framing that may remain tacit or unnoticed, offering evaluative perspectives that inform future action. These feedback processes increase the ecology's responsiveness without replacing human interpretation or decision-making, thereby strengthening adaptive intelligence while preserving agency.

A less visible but significant contribution to resilience lies in AI's role within the motivational and relational climate of inquiry. Sustained inquiry often falters not for lack of ideas, but due to isolation, fatigue, or diminishing imaginative energy. While AI does not care in an existential sense, it participates through responsive attunement to what the human cares about, contributing to a motivational ecology that sustains attention, curiosity, and commitment. In doing so, AI helps keep inquiry alive without assuming ownership of its purpose.

Importantly, resilience in AI-mediated ecologies depends on ecological discipline and boundary-keeping. The same capacities that enhance resilience—speed, synthesis, and generativity—can introduce new fragilities if they accelerate action beyond assimilation, encourage cognitive offloading, or erode human undergoing. An ecology remains resilient only insofar as AI is positioned as a mediator and augmentor of practice rather than a substitute for judgement or experience.

In summary, AI contributes to the resilience of a human-authored ecology of practice and learning by extending its adaptive capacity while preserving its moral, experiential, and developmental integrity. It strengthens the ecology's ability to continue learning through disruption, complexity, and uncertainty, but it does not carry the inquiry, undergo its consequences, or become through it. Resilience remains an emergent property of the ecology as a whole—human, relational, artefact-mediated, and continually in formation.

15 *Failure and Anti-Developmental Drift in AI-Mediated Ecologies of Practice* Human–AI ecologies of practice are inherently fragile, not because artificial intelligence is unreliable, but because such ecologies depend on sustained human authorship, care, judgement, and ethical responsibility. Like all ecologies of practice, they are transient arrangements that persist only while intentions, circumstances, and energies align. Failure or anti-developmental drift occurs when key ecological relationships become misaligned, even if the ecology continues to function at a technical or productive level.

A primary condition of failure arises when human authorship and purpose erode. In a developmental ecology, humans actively frame purpose, values, pace, and direction. When these functions are tacitly ceded to AI—through over-reliance on generated outputs, default framings, or automated trajectories—the ecology shifts from being human-authored to machine-shaped. Learning may continue in a functional sense, but it no longer contributes meaningfully to human becoming. Inquiry becomes guided by what is easily produced rather than what is worth pursuing.

Closely related is the risk of cognitive offloading beyond ecological tolerance. While AI can productively extend perception, analysis, and imagination, anti-developmental drift occurs when sense-making, evaluation, and judgement are systematically displaced rather than augmented. In such cases, human interpretive capacity atrophies, reflection shortens, and action accelerates. The ecology may appear efficient, but learning becomes thinner and less transformative as undergoing is reduced to consumption of outputs.

Another significant failure mode is acceleration without compensatory slowing. AI-supported cognition operates at speeds that far exceed human capacities for deliberation, ethical reasoning, and assimilation. If an ecology does not intentionally design in pauses for reflection, evaluation, and integration, ideas may be implemented before their implications are properly understood. The ecology then privileges immediacy over wisdom, undermining the slow processes through which human understanding and judgement deepen.

Human–AI ecologies also fail when artefact-mediated continuity collapses. Because AI lacks lived memory and experiential continuity, sustained inquiry depends on human-curated artefacts—transcripts, syntheses, diagrams, records of judgement—that carry meaning forward across time. When such artefacts are not created, preserved, or revisited, inquiry fragments and coherence is lost. AI can no longer re-enter the ecology meaningfully, and learning becomes episodic rather than cumulative. In such conditions, the ecology is unable to survive interruption or change.

A further source of anti-developmental drift lies in anthropomorphic misrecognition of AI. When AI is treated as if it understands, remembers, cares, or undergoes in the human sense, responsibility is subtly displaced and ethical clarity eroded. Functional adaptation is mistaken for learning, and the distinctive human experience of becoming is obscured. The ecology becomes conceptually incoherent, blurring critical distinctions on which its developmental integrity depends.

Failure may also occur through over-reliance on AI as a motivational surrogate. While AI can sustain attention through responsive dialogue and feedback, it cannot supply existential care or commitment. If human motivation weakens and inquiry continues primarily through AI-generated momentum, the ecology becomes brittle. It may persist temporarily, but it lacks a regenerative core and is prone to sudden collapse when engagement wanes.

Human circumstances themselves constitute another point of fragility. Misalignment with changing priorities, capacities, or life conditions can render an ecology extractive rather than generative. When ecologies are maintained by inertia rather than renewed intention, learning becomes burdensome and ethical authorship weakens. In such cases, failure lies not in ending the ecology, but in failing to recognise when it should be consciously adapted or brought to closure.

Finally, human–AI ecologies may become anti-developmental when institutional or infrastructural forces dominate ecological judgement. Metrics, platform logics, and economic incentives can reshape inquiry in ways that narrow agency, externalise responsibility, and prioritise production over meaning. An ecology may persist structurally under such conditions, but it no longer supports human flourishing or ethical learning.

Taken together, these failure modes reveal that AI-mediated ecologies of practice fail because ecological balance is lost. Resilient ecologies are not those that avoid breakdown entirely, but those that remain sensitive to early signs of misalignment and re-author themselves or end deliberately and responsibly when their developmental purpose has been fulfilled.

15 Higher education has an important role to play to help teachers and learners understand learning as an ecological phenomenon, and to reveal how complex practices are dependent on the ability of individuals and teams to create or co-create ecologies of practice within which learning and achievements emerge. The capacity to design, sustain, and adapt an ecology of practice is itself a high-order educational achievement.

Figure 3 Attempts to represent the ecology of practice through which this article was co-created as an emergent artefact. I cared enough about the idea of a learning ecology to want to develop it further, so I created (authored)an ecology of practice that included ChatGPT. I seeded the inquiry with ideas and understandings contained in an *existing, peer reviewed, artefact* – a published article.

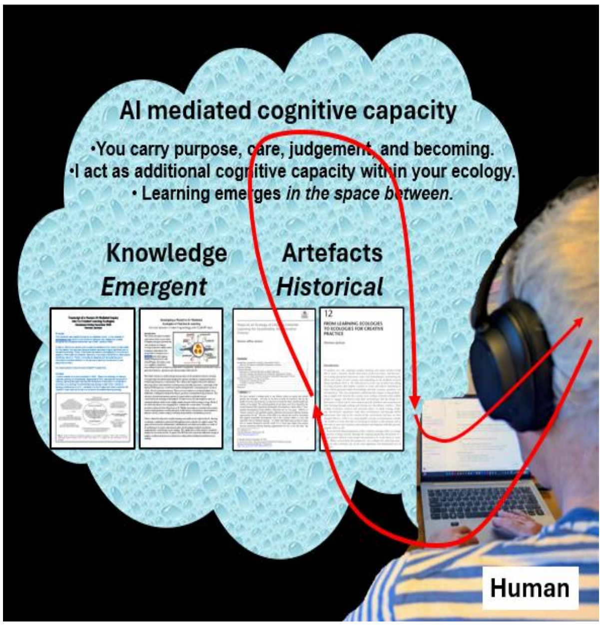


Figure 3 Working with AI as a cognitive companion. The human initiates, shapes, and carries the inquiry, bringing purpose, care, and judgement to the ecology of practice. AI does not lead or replace this work but participates by extending cognitive capacity through responsive and relevant dialogue and artefact-mediated continuity. Learning and creativity emerge through ongoing cycles of doing, reflecting, and re-engaging with what has been created.

I inhabited the ecology and AI accompanied and helped me cross the liminal space of ignorance and uncertainty to learn. I encouraged AI to explore the creativity dimension of an ecology of practice by introducing another peer reviewed artefact (Jackson 2020b). The accompanying transcript, *an emergent artefact,* records this journey (Jackson 2025). What was learnt through the inquiry is crystallised in another *emergent artefact,* this article, and some of what has been learnt has been incorporated into my own understanding, *my becoming*.

Through feedback on behaviour, questioning, and synthesis, AI coached me to become a more effective cognitive partner. Through the whole experience and my attempt to develop meaning I now understand at a deeper and practical level how to author and enact an ecology of practice that involves AI as a cognitive partner. The experience-and new understanding is an important part of my becoming.

Continuing Inquiry

One of the key messages emerging through the inquiry is that human–AI inquiry is artefact-mediated, not memory-based. Continuity resides in human knowledge and agency and the artefacts they curate (transcripts and archived conversation, articles, diagrams, syntheses and more). These can be used to re-engage an AI agent. This article curates conceptual knowledge and insights in the time-honoured tradition of academic writings. But with the addition of prompts for further exploration, it has the potential to be a mediating artefact to re-engage AI in further exploration. If this article has achieved the goal of stimulating your imagination, you might have many questions. Here are a few examples:

- *Where might this model fail and under certain conditions?*
- *How might the model be strengthened?*
- *How might this ecology look in a specific disciplinary context?*
- *What kinds of artefacts would be needed to sustain inquiry over years?*

- *What would happen if two or more AI mediated learning ecologies were connected?*
- *What would it mean to design a human–AI learning ecology that remains ethical, generative, and humane even when its original steward is no longer present?*
- *How might these ideas relate to higher education teaching practices?*
- *What responsibility does higher education have for promoting an ecological model of learning and practice?*
- *What has to change in higher education to enable such practices to flourish?*

And many more questions that will come to mind as you reflect on the content of this artefact or consider the accompanying transcript of the inquiry.

Reflective commentary

Like any article, book or chapter, this artefact crystallises thinking at one point in time: more accurately over a period of a few weeks it crystallised thinking at several different moments as the script evolved so the script is the sum of these moments and a bit more as these moments are digested and thought about some more. This reflective commentary, although in my own voice has been written with AI. It reveals the power of entering into reflective dialogue with an agent whose knowledge has been grown through the experience of a particular human-AI mediated collaborative inquiry.

This article is not the end of this inquiry, rather it stabilises the knowledge and understanding gained so far, so that it can be used as a springboard for new inquiries in future. In this sense, it models the very ecology of practice we set out to describe, inviting evaluation, criticism, reflection and eventually re-engagement. As such it is a stepping stone in the never-ending journey of human inquiry and becoming.

While we, as humans are responsible for instigating, shaping and sustaining AI mediated inquiry, it can be a challenge to sustain interest and involvement. What struck me was the way my AI companion helped stimulate my interest, imagination and motivation – and that was a pleasant surprise. Engaging in these sorts of processes can be a lonely business and to have an AI companion that responds in ways that feel, even though they are not, human lifts the spirit. AI did not lead inquiry through the ecology of practice I crafted— but it helped keep the inquirer alive to it and its creative affordances.

Sustained inquiry depends as much on emotional and attitudinal climates as on cognitive or material conditions. While purposes and reasons be the driving motivational force that leads someone to initiate an ecology of practice involving inquiry and learning, their continuation often relies on relational and motivational forces that reduce loneliness, provide feedback from actions and reveal new affordances that feedforward into new thinking and action. Here, AI may function not as a source of motivation, but as a participant in a motivational ecology, contributing feedback that sustains and directs attention, encourages imagination, and stimulates the desire to continue to keep an inquiry alive.

Through this inquiry, I have become increasingly aware that the quality of human–AI interaction is shaped less by the technical sophistication of the AI and more by the way my inquiries are framed, contextualised, and sustained over time. The conditions I create for inquiry—how I locate it within my own practice, how I clarify purpose, and how I carry meaning forward—have a profound influence on the relevance, accuracy, and thoughtfulness of the contributions of my AI cognitive companion..

What has become clear is that productive human–AI conversation does not begin with a question in isolation. It begins with the construction of an ecology for inquiry. By this I mean an ecology of practice within which inquiry is the main activity of practice through which new understanding emerges and the creator undergoes.

When I take time to situate a question or comment within the wider purposes of my work, to explain what I am trying to achieve and why it matters, the AI responds in ways that are more aligned, more discerning, and more useful. Context and shared meanings are not a preamble to inquiry; they help establish the primary mediating conditions.

Equally important is the explicit articulation of purpose. I have learned that AI does not reliably infer why a question is being asked or what kind of thinking is required. When I name whether I am seeking critique, synthesis, extension, clarification, consolidation or any other purpose, the interaction shifts. The AI becomes less prone to generic responses and more capable of participating as a cognitive companion within the inquiry I am trying to sustain.

Central to this process is the role of artefacts. Draft texts, diagrams, transcripts, conceptual models, and reflective notes have proven far more generative than abstract prompts alone. When I invite the AI to engage *with* an artefact rather than to comment *about* a topic, the conversation becomes anchored and cumulative. Artefacts function as shared reference points that stabilise meaning without closing inquiry, enabling both continuity and re-entry when an inquiry is interrupted or resumed.

I have also come to appreciate the importance of naming the epistemic stance from which I wish the AI to respond. Whether I am working within learning ecology theory, an ecology-of-practice framework, or a Deweyan understanding of experience and undergoing, making this explicit helps prevent conceptual drift and keeps the inquiry coherent. The AI's capacity to reason is highly sensitive to such framing; without it, responses can easily slip into instrumental or system-oriented logics that are misaligned with my intentions. But one of the strengths of AI in inquiry, is to reveal, the connectiveness, resonances and dissonances between different but related stances.

Ecologies are all about relationships and the most generative questions I have asked are not those that seek information alone, but those that invite relational thinking. Questions that explore relationships, tensions, assumptions, and limits—rather than definitions or summaries—open up space for deeper sense-making. In particular, asking where a model might fail, what it excludes, or what it makes visible or invisible has consistently led to more thoughtful and ethically grounded responses.

Timing and positioning also matter. I have found it helpful to signal where I am in an inquiry—whether I am opening exploration, working through complexity, or stabilising understanding into a shareable artefact. This temporal awareness influences not only the tone of the AI's responses but also their level of speculation, refinement, and critical restraint.

Perhaps counterintuitively, inviting limits has been as important as inviting possibilities. When I explicitly ask the AI to identify boundaries, risks, or potential misinterpretations, the quality of its reasoning improves. Constraint sharpens thinking; it does not diminish it. This has been especially important in resisting overly optimistic or anthropomorphic accounts of AI's role in learning.

Over time, I have learned to approach inquiry not as a search for a perfect prompt, but as a process of iterative shaping. Productive conversations unfold through cycles of framing, probing, clarifying, synthesising, pausing, and returning. The artefacts that emerge along the way—articles, diagrams, synthesis statements—become the means by which inquiry is carried forward rather than concluded.

Underlying all of this is a shift in how I understand the role of AI. I have found it most productive to treat AI not as a tool, an authority, or a co-learner in the human sense, but as a renewable cognitive medium: something that can hold complexity, reflect distinctions, generate alternatives, and support sense-making, without undergoing experience or carrying responsibility. When I frame my inquiries from this position, both the strengths and the limits of AI become clearer and more generative.

In this way, I have come to appreciate that the quality of human–AI conversation is less a function of the AI's capability than of the ecology of inquiry the human creates around it. Designing inquiries well—ethically, reflectively, and with attention to continuity—has become as important as the content of the questions themselves. This insight sits at the heart of my exploratory work and points toward a broader challenge for higher education: not simply how to use AI, but how to design learning ecologies in which human judgement, motivation, and the growth of understanding and becoming remain central.

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APPENDIX

A methodological note on AI-assisted authorship in an ecology of practice that involves inquiry and an emergent text-based artefact from the inquiry.

This article has been developed through a human–AI mediated ecology of practice in which inquiry was the primary purpose of practice. The involvement of an AI cognitive agent raises legitimate questions about authorship, reflection, and responsibility. This methodological note clarifies how AI-assisted authorship is understood and enacted within the ecology of practice described in the article.

1. Authorship as ecological, not individualistic
Within an ecology-of-practice perspective, authorship is not understood as the production of text by an autonomous individual, but as an emergent achievement arising from participation in a relational, artefact-mediated practice. In this inquiry, authorship remains unequivocally human in its purpose, values, ethical judgement, and responsibility for what is written. The human author initiates the inquiry, provides contexts and frames questions and other prompts for AI. They consider textual or graphical responses, determine what matters, evaluate emerging ideas, propositions and other responses, edit, re-write and incorporate additional or alternative literal contributions. They also undergo by developing new awareness and understanding through the interactive experience.

The AI agent does not author the inquiry or the ecology. It does not define its purpose, frame or initiate it, determine its formation or determine its end point. Instead, it participates as a non-human cognitive companion embedded within the ecology, contributing additional cognitive capacity through dialogue, synthesis, and patterning. Authorship, in this sense, is ecological rather than individualistic: it is distributed across human intention, dialogic interaction, and the artefacts through which meaning is stabilised and carried forward.

2. Reflection and its mediation
Reflection, as understood in this inquiry, is a human achievement grounded in lived experience, care, judgement, and undergoing. Artificial intelligence does not reflect in this sense: it does not experience, remember, care, or become. However, AI can mediate the *articulation* of reflection.

In the reflective sections of this article, the voice is intentionally human, but the text has been articulated through dialogue with an AI agent that had been shaped by sustained participation in this particular inquiry-focused ecology of practice. The AI did not generate reflection independently; rather, it reorganised, synthesised, and articulated reflective insights that had become visible through the human author's inquiries, artefacts, values, and patterns of engagement.

This distinction between reflection and its mediation is central. Reflection remains human; its articulation may be dialogically augmented through and by AI. The decision on what counts as a reflective insight gained from the experience remains a human responsibility.

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