



# Introduction to the Framework: *Ecology of Design in Human Systems*

Michael Keller and Jean Singer (2011)

[www.ecologyofdesigninhumansystems.com](http://www.ecologyofdesigninhumansystems.com)

**Overview:** The *Ecology of Design in Human Systems* (EoD) framework offers a way to ‘assess the conditions’ occurring in any situation, revealing ‘readiness’ and ‘high-leverage points’ from which to make better choices and decisions for your next best steps...towards creating conditions for change. Simply put, the diagram represents the *dynamic interplay* that occurs whenever we, as human beings, make decisions or consider taking action. This ‘dynamic’ readily shows up whenever we attempt to understand a situation, make sense of a problem, or want to make a change. While simple in design – it is not simplistic. The dynamic relationships across the domains (Holding, Carrying and Designing Capacities) reveal complex, adaptive response-abilities operating *by default* or *by design* – each having the potential for promoting integrated, healthy human systems...or not.

**Holding Capacity:** refers to the inherent mindsets and worldviews held by an individual or a collective that in itself defines the primary conceptual and perceptual parameters (extremes and limitations) to understanding/making meaning of life conditions. It is the capacity to effect the incorporation/ application of theoretical constructs and behavioral modalities/ methodologies 'to take action' towards integrated learning and desired results/outcomes.

- The ways to make meaning...values, beliefs, thinking patterns, culture – to interpret experience
- The ways to take in experience through the 5 senses: sight, sound, touch, taste, smell
- The ways that history, the past, influences interpretation and behaviour choices; motivation; stress

**Carrying Capacity:** reflects the multiple resources required to carry out, to take action, to meet needs and demands on the system, at whatever scale, from individual to communities and beyond. It is the "scaffolding" to support both the development towards and the sustainability of "adaptive response-abilities". Without a corresponding investment in the appropriate infrastructure most design efforts are doomed to short-term benefits (at best) with inherent long-term, sustainability short falls.

- The existing ‘structures’ that effect operations and interactions; measure performance
- The types of ‘technology’ available to conduct affairs – communication, information and exchanges
- The various ‘resources’ available to support engagement – time, energy, finances, agreements

**Designing Capacity:** refers to the concepts, theories, approaches, practices, methodologies and all the interdependent blending of resources appropriate to any given set of conditions.

- Ability to choose amongst tools, methods, approaches, strategies and to sequence accordingly
- Ability to align self with others and current conditions, culture, appropriateness; evaluate progress/success
- Ability to recognize/discern alternative perspectives and influences affecting choice-making and decision processes as well as learning-how-to-learn from what happens; responsibility and accountability practices

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**Engaging Adaptive Response - Abilities**

**Holding** – mindsets, data & worldviews to make meaning of life conditions  
**Carrying** – multiple resources required to support & take scalable action  
**Designing** – theories, approaches, methodologies to engage & innovate

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**Inherent dynamic tensions when building capacity for Adaptive Response - Abilities**

**Why**... meaning & relevance – to balance & align holding/carrying  
**How**... structures, methods, processes – to meet demand  
**What**... intentional design & choice-making – to maximize effectiveness

**NOTE:** The *context* for the bullet points and questions below is in relation to 'learning how to drive.'

**HOLDING: What am I already 'bringing' to this situation?**

- Mindsets and Worldview – What shapes meaning for me, my interpretations, my biases?"
- Assumptions/Expectations – "I can do this; lots of people have learned, so can I; practice makes perfect"
- Values/Motivation – "freedom...go where "I" want, whenever "I" want"
- Thoughts & Feelings (Emotions) – "So many things to remember; anxiety/tension (white knuckle grip on steering wheel) = 'visualize' driving like a movie"
- Gender & History (Past experiences); "habits – driving riding lawn mower"
- Perceptions (5 Senses - active and receptive) – "I observed parents and others driving while growing up; mostly visual focus + peripheral; listening"
- Intention/Energetic state (excited, stressed) 'as I enter this situation/moment' – "WHO am I bringing to the party?"
- Learning Style(s) – visual-kinesthetic...

**CARRYING: What 'demands' are being made on me/others/system?**

- Physical, body capabilities (5 Senses, awareness/reception); strength/weakness, immobilities/limitation – too short/tall, etc
- Structural – working vehicle, roadways, traffic signals, dashboard, seat belts
- Technology – eye glasses, GPS or roadmap, radio/music, rear & side mirrors
- Resources:
- Who is a resource to me? -- instructor/parent
- What is/are resources to me?
  - books studied
  - classes taken
  - videos/simulations
  - car owner's manual
  - maintenance/servicing demands (wash, wax, oil changes, tune-ups, etc) AND repairs

**DESIGNING: What am I drawing upon/practicing (to make a best choice)?**

- Culture/Ethics/Norms:
  - Personal culture/habits/norms – sense of self and self-control
  - Rules of the Road/etiquette + 'understanding' of Driving Laws
  - Gender roles and expectations
- Skills and abilities (practices):
  - Synchronized shifting/efficiency
  - Parking
  - Changing a tire, oil, fluids
  - Practice driving on familiar roads/terrain
- Documentation: Service Protocols and Mileage Record
- Decision-making strategies:
  - Methods to:
    - Calibrate speed, braking distance, steering, horizons, turning radius
    - Understand Dashboard indicators/lights

**OVERALL CONTEXT: What is the overall context? What are 'the givens' – that can or cannot be changed/influenced?**

- Weather/road conditions (seasonally changing)
- City, freeway or rural environment?
- Radio/music levels – headphones (volume)
- Passenger behaviour
- Time of day
- Density of traffic
- Driving behaviour of others
- Condition of your car – or you don't have a car and must borrow one
- Driving laws

The 'tensions' involved in choice-making and decision-making are often overlooked because the implicit dynamics occurring are 'behind-the-scene' influencing significantly – and at lightning speed – how we respond to changing conditions. Developing the ability to zoom-out-and-zoom-in – from the balcony and the dance floor – is essential for improving perspective-taking. By revealing the domain aspects and their dynamic conditions, it becomes possible – when considering any change – to increase perspective on **where the highest leverage point(s) for change might exist and, then, also to improve the choice-making abilities for determining the next best actions to undertake**. These are the dynamics -- simply the Why, How, and What -- occurring in any situation where human motivation and action occurs for the purpose of revealing options and opportunities.

**Why** – the inquiry into 'the tension' arising from the interplay between **Holding** & **Carrying**:

- Why bother – what difference will it make? What is 'my motivation' – *to learn to drive*?
- Why pay attention to the "assumptions" I am making -- about myself, others, and the situation?
- Assuming that there may be historic "patterns" operating in the way I am "thinking" about *learning to drive*, what influence does this have to supporting or inhibiting my learning how to drive?

**How** – the inquiry into 'the tension' arising from the interplay between **Holding** & **Designing**:

- How can I "avoid failure", humiliation, appearing "stupid" while *learning how to drive*?
- How am I "applying" what I've learned from my "successes" and "failures" to be able to become *a better driver*?
- How do "I know" when to make the choice to 'take a risk' or to ask for help or get more information?

**What** – the inquiry into 'the tension' arising from the interplay between **Designing** & **Carrying**:

- What "patterns" and relationships are operating which may influence the decisions I make?
- What "decisions" need to be made AND how "best" to decide?
- What is the "best/most appropriate" response to get the "desired results"?
- What "approach/tools/methods" are the best to use here AND what "criteria" supports that choice AND how do I know that?

**In Summary...**

Given the various challenges emerging in our social and ecological arenas, becoming able to comprehend and embrace *complexity* is critical to enhancing our future prospects for health, well-being and, possibly, even our very survival on this planet.

We assume that becoming aware of *the conditions* influencing how we *choose* to respond will begin to alleviate our often knee-jerk tendency to *react* to whatever happens as if it was the only and best way – but often falls short of the results desired. **As these three domains are continuously interacting dynamically together, the overlapping areas of the circles become particularly relevant – as these reveal the opportunity for more aware choice-making prospects to become recognized.**

This framework can be useful in revealing the *underlying factors* and aspects that influence the intentions and outcomes, both positive and negative, when human beings engage together – **making the implicit – what's going on 'behind the scenes' -- more explicit**. By revealing the domain aspects and their dynamic conditions, it becomes possible – when considering any change – to increase perspective on **where the highest leverage point(s) for change might exist and, then, also to improve the choice-making abilities for determining the next best actions to undertake**. These are the dynamics -- simply the Why, How, and What -- occurring in any situation where human motivation and action occurs for the purpose of revealing options and opportunities. These *dynamics* can only be revealed 'in relation to' the interplay going on between each domain...they are 'emergent' to each unique situation/context/place/time – which means they are shifting all the time. Gaining facility in working with these dynamics can support individuals in any role where they are responsible for the success of others, especially those involved with intentional change initiatives and processes...and, thereby, *the artistry of adaptive response-abilities*.

**What this dynamic interplay makes possible...**

The EoD framework is intended for increasing the ability to take a *perspective* on complexity and interdependent relationships—a more *ecological* dimensionality on the “conditions” that contribute to human health and human becoming. We suggest that such a framework contributes significantly to revealing strengths, shortfalls, and gaps informing how we keep getting the results we’ve already gotten AND how we might make decisions to create more of what we say we want. It is not intended to represent a *theory of everything*. Instead, we offer this as an ‘evolving framework’ that allows for generalization and transportability of results, which is what we consider reasonable to aim for.

It is our experience (and premise) that all existing models and approaches for enhancing human development and organization culture actually include, or are included in, this simple framework. The utility of this framework can be recognized readily at all scopes and scales of human interaction – internal, external, individual, collective. While applicable to any human endeavor, we are particularly emphasizing how these dynamics influence a “designer’s” unique evolution towards *artistry* within and across these primary domains. Consequently, we consider this model as a “foundational technology” and practice for *designing for designers of health in human systems*.