

Note:

This slideshow is not meant to stand alone. It is a prompt for presentation and dialogue and a leave behind to prompt recall.

The obstacles to “ethical interface” as outlined here are not technological or even economical. We could have created more ethical learning supporting interfaces decades ago.

The main obstacle has been a lack of appreciation for the need to systematically prioritize the design of interface around *how well they can learn*, rather than *what we think they should learn*.

Therefore, this presentation is not meant as a technical specification of ethical interface, rather a case for how to think about the organizing principles of ethical interface.

This then is a rough draft, on-ramp into the conversation we should be having about the ethics of interface.



The Ethics of Interface

[1-Ethical Education](#) [2-Universal Learning Skills](#) [3-The Ethics of Interface](#)

Stewarding how *well* children *can* learn is more important than what we think they should learn. It's also the best way to facilitate what we think they should learn.

Nothing is more important to how well children can learn than their faith that they can learn and their abilities to recognize and respond to their own learning needs.

Every interaction with a resource that provokes learning needs, that doesn't provide support for the needs it provokes, contributes to tacitly teaching learners to ignore their learning needs.

Ethical Interfaces are designed to serve how well learners can learn in general by providing them ways to act on any learning needs the content flowing through them provokes.



Part 1 - Ethical Education

Continuing to function as if what we think children should learn in particular is more important than how well children can learn in general is presumptuous, negligent, and unethical

1 - The vast majority of today's children will become adults in a world beyond the imaginations of their parents and teachers.

- Parents and educators have always had to make uncertain assumptions about what would best serve children's futures. Today, the rate of change, complexity of change, and future implications of change, make such assumptions radically more uncertain and profoundly more important.
- There is unprecedented uncertainty surrounding how known planetary/species level challenges (climate change, AI, war, social media, predatory economics, pandemics, terrorism, culture wars, human rights...) will affect children's futures.
- AI and robotics will radically-unpredictably alter the value of knowledge, skills, labor and, in turn, occupations, vocations, trades, arts, and professions. AI will redefine what it means to be educated.



Part 1 - Ethical Education

2 - Given our unprecedented uncertainty about the future, what should parents and educators insist children learn?

- What should today's children learn in order to be ready for a world in which virtually everything known about everything known will be instantly available through inexpensive mobile devices?
- What facts should they remember? What mental skills must they have when these same AI enabled devices will be able to coach them, in real-time, through learning to perform virtually any task they feel challenged by?
- What should today's children learn in order to be ready to compete for jobs with tomorrow's computers and robots?
- What should children be learning today in order to be ready, mentally and emotionally, for the great challenges that await them (climate, war, politics, pandemics, economics...)?



Part 1 - Ethical Education

3 - Given our unprecedented uncertainty about the future, what could be more important to our children's futures than how well they can learn* when they get there?

*Within their autonomous agency (circumstantial and inherited advantages and disadvantages aside)

- Preparing for unpredictability = preparing to learn. The most minimally presumptuous, maximally relevant, thing we can do for children's futures is to help prepare them to learn in ways and about things we can't imagine.
- Not just how well they learn academically. How well includes how well they learn to be physically, emotionally, socially, economically healthy adult human beings able to learn whatever they want or need to learn.
- What could be of greater universal relevance to a child's future as an adult than how well they can learn in every way relevant to their lives (academic, vocational, occupational, economic, health, social, psychological, political...)?
- Since how well they can ongoingly learn is universally relevant, what will most enable how well they can ongoingly learn?



Part 1 - Ethical Education

- In the face of such unprecedented uncertainty, nothing can be more universally relevant to a child's future than how well they can learn when they get there.
- Continuing to function as if what we think children should learn in particular is more important than how well children can learn in general is presumptuous, negligent, and unethical.
- Ethical Education flips the organizing orientation of parenting and educating from “teaching them what we think they should learn” to “stewarding how well they can learn”. The later includes the former.
- What does stewarding “how well they can learn” involve?



Part 2 - Universal Learning Skills and Dispositions

Stewarding how *well* children *can* learn as the central dynamic of facilitating what we think they should learn.

- How do we educate children to become ever-better autonomous learners?
- What foundational knowledge most enables and empowers how well children learn?
- What are the least subject/challenge specific and most universal (conscious and unconscious) skills, involved in learning?
- What are the skills and dispositions required for healthy autonomous inside-out participation in learning?

Not like moving the limbs of coma patients. Stewarding how well children learn necessitates stewarding how well they participate in learning.



Part 2 - Universal Learning Skills and Dispositions

1 Disposition: Faith in Learning

- Ever met a toddler who gave up on learning to walk because falling was a pain in the butt? Children have innate faith in their learning until they learn they can't trust their learning.
- They don't need to believe that they will learn a particular objective *but they can't believe they can't*.
- Learning to believe their learning efforts are futile erodes their stamina, their attention span, frustration tolerance, resilience, anti-fragility, and *hope* for success.
- Often recurring and chronic difficulties in learning reduce the threshold of "shaming out" (especially for children who have learned to blame themselves for "not being good enough").
- Learning shame can be motivating or disabling. Learning to believe they can't learn reduces the experience of shame but at the expense of short circuiting learning. Chronic learning shame erodes faith in learning.



Part 2 - Universal Learning Skills and Dispositions

1 Skill: Differentiating and Acting on Learning Needs

- Grabbing and manipulating objects, crawling, walking, talking, potty training, self-feeding – and everything young children learn to do with their bodies – involves differentially extending the coordination of their movements in relation to differentiating the concurring sensory-motor sensations flowing (feeding back) from those movements. Learning to extend their body-agency depends on learning to differentiate their own internal sensations and learning to differentially act on them.
- In order to learn to walk children **need** to learn to sense they are falling. If they didn't learn to differentiate the sensations of falling they couldn't learn to move so as to minimize those sensations and walk. The sensations of falling are **learning needs** to the process of learning to walk. The sensations call and focus attention where it needs to be in order to extend learning. Note: If the sensations of falling arrived even a fraction of a second late, the complexly timing precarious coordination involved in walking would break down.
- Just like in learning to extend their body-agency, children's most universally applicable inner resource for learning to extend their learning-agency (for learning into the world) is their ability to differentiate their learning needs (while in the flow of their learning) and use them to inform and extend their participation in learning.



Part 2 - Universal Learning Skills and Dispositions

What are Learning Needs:

- Learning needs emerge in the flow of learning. They are a response to resources (words, terms, phrases, concepts, ideas, sounds, representations, languages, pictures, styles, densities, frames of reference, etc) that “miss”, or cause stutters or dropouts in the flow of learning.
- Learning needs are internal feedback signals that indicate that something is missing, needed or incomplete. They represent, when reflected on and distilled (disambiguated), the best possible source of internal information with which to understand what is missing or needed and, given the available options, how to best proceed.
- Learning needs are the essential seeds of a learner’s ability to formulate a "good question", to "learn and use critical thinking skills", to "construct knowledge", to "abstract coherently", to avoid "premature closure", to avoid "tendencies toward self-deception", to live with "ambiguity" and to discover his or her own "creativity".



Part 2 - Universal Learning Skills and Dispositions

The Bidirectional Opportunities of Learning Needs:

Learning needs are great opportunities for both individual learners and for all those involved in providing learning resources.

- For learners, learning needs are the best possible source of internal information from which to understand what is missing or needed and, given the available options, how to best proceed.
- For the people and organizations that benefit, profit or are responsible for providing learning resources, the best possible source of information from which to intelligently evolve and cost-optimally improve their resources, flows from understanding learners learning needs in relation to the anatomy of what they are providing.



Part 2 - Universal Learning Skills and Dispositions

Learning Environments and Learning Needs:

- Recognizing and responding to learning needs requires environments that allow learners to express and get support for them (request and choose among resources that address their needs).
- Every interaction with a resource that provokes learning needs that it doesn't provide support for tacitly teaches learners to ignore their learning needs. Because the materials and strategies used in traditional classrooms, such as lectures, text books, most software, and online resources, are unable to respond to the 'learning needs' they provoke, they insidiously teach learners to ignore their learning needs.
- When learners learn to ignore their learning needs they become prone to guessing, following poor inferences and tangents, their 'attention span' is unnecessarily dissipated by the "holes" left (blown off) in the flow of meaning - they become more susceptible to "falling out" of learning."
- Recognizing and responding to learning needs requires environments that allow learners to express and get support for them *rapidly enough to sustain their interest and attention in the flow of what they were learning.*



Part 3 - The Ethics of Interface

The #1 goal of ethical interface should be responding so rapidly and resourcefully to learning needs that it enables learners to learn to better recognize and use them.

In order to shift the evolution of the web towards becoming more supportive of learning needs we need a framework that can be used to identify learner locations and the kind of learning needs possible at any indicated location.

Between reference library APIs and AI APIs it is possible to retrieve or have generated learning support resources for virtually any learning need anyone might have while learning online.

We can establish an interaction location coordinate system (analogous to GPS locations in the physical world) and an ontology of learning needs that, along with owner ascribed or dynamically derived attributes, can be used to order the dynamic gathering and providing of learning need support resources which can be overlaid on, without otherwise affecting, any open online content.



Part 3 - The Ethics of Interface

The Learning Positioning System (LPS):

- Learning needs occur in the flow of learning from the elements or representational constructs of online resources.
- Every word is composed of elements (letters) and is itself an element in the larger construct within which it is being used (sentence). Every sentence is an element in a larger construct within which it is being used. Every distinct component of a picture or frame of a video or link in an interactive system can similarly be considered a coordinate.
- Every possible learning need location within an online resource can be represented as the LPS coordinates of a virtual constellation of resources relevant to resourcing the learning needs that can occur in that location. (Every letter in every word in html already has an implicit LPS coordinate. Every clickable location in an online image has one as well.)
- Every online coordinate can act as the center of a virtual bubble which can be dynamically populated with resources relevant to the learning needs that have or can occur at that location (like “nearby” resources in online maps).



Part 3 - The Ethics of Interface

Mapping the Ontology of Learning Needs:

Every kind of LPS location, element or representational construct, delineates a list of the kinds of needs that can occur.

- All locations may have share, ask, or feedback needs.
- Elements have different kinds of reference needs.
- Larger constructs have different kinds of representational needs.



ELEMENTAL REFERENTIAL

Reading: Letters >
Orthographic >
Pronunciation >
Identification > Recognition

Understanding:

- General Meaning
- Specific Use Meaning
- Image
- Sound
- Translations
- Encyclopedic Elaborations
- Synonyms
- Etymology
- Biography
- Citations
- Etc.

INTERACTION LOCATIONS and possible LEARNING NEEDS

Word

- Sentence
- Paragraph
- Section
- Page
- Chapter
- ...

Share - Ask

FEEDBACK

ALTERNATIVE REPRESENTATIONAL

- Language / Translation
- Density / Pace
 - Complexity / Simplicity
- Style
 - Abstract / Concrete
 - Summary / Key Points
 - Central Idea
 - Metaphoric / Dramatic
 - History
 - Epistemology
 - Scientific
 - Proof / Measurement
 - Structure / Laws
 - Dialogical / Argument
 - Coach
 - Game / Comic
 - Etc.



Part 3 - The Ethics of Interface

Learning Interfacing:

- Provide means to indicate the location of a need.
- Provide means to present and for learner to review and choose among available learning need support options (which provides them the opportunity to further differentiate their needs).

Next Steps: Discussion of Our Learning Needs

Dialogue and sync up about foundation elements of the “case”. Collaborate to further express the case and draft the framework.

AI can be used to generate situational and learner relevant learning need resources. It can also be used to anticipate and provide for resource *before* learners are aware of or ask for them. The latter would short-circuit the kind of learning-need awareness and differentiation most critical to healthy learning.

