Riel Miller
Towards a Learning Intensive Society: The Role of Futures Literacy
Tuag at Gymdeithas Ddysg Ddwys: Rôl Llythrennedd Dyfodolion

XperidoX: Futures Consulting
Towards a Learning Intensive Society: The Role of Futures Literacy

Riel Miller

XperidoX: Futures Consulting

Wales Futures Network
Cardiff, February 7, 2007
Motivating questions
How can we:

• reconcile greater freedom with collective choices?
• embrace greater diversity without inviting fragmentation & chaos?
• foster greater creativity without increasing burn-out & stress?
• inspire responsibility?
• motivate change without resorting to fear?
• manage risk without hierarchy?
• combine respect for complexity while still gaining depth of understanding?
Mankind is at a turning point, the beginning of a new rationality in which science is no longer identified with certitude and probability with ignorance. ... science is no longer limited to idealized and simplified situations but reflects the complexity of the real world, a science that views us and our creativity as part of a fundamental trend present at all levels of nature.


... we are now able to include probabilities in the formulation of the basic laws of physics. Once this is done, Newtonian determinism fails; the future is no longer determined by the present....
Why does the future matter?

Two basic reasons:

• Because we want to make the right (ethical, profitable, safe, etc.) decision now

• Because anticipation, in its various conscious, unconscious, action and non-action inducing attributes, changes the present
Images of the future matter: imagining a learning intensive society.
In the eighty years or so after 1780 the population of Britain nearly tripled, ... the average income of the population more than doubled, the share of farming fell from just under half to just under one-fifth of the nations output, and the making of textiles and iron moved into steam-driven factories. 

So strange were these events that before they happened they were not anticipated, and while they were happening they were not comprehended.

D. N. McCloskey, "The Industrial Revolution in Britain 1780-1860"
A – Industry is no longer primary source of value added. Compositional Transformation
Share of total wealth creation by source
Defining a more “learning intensive society”

• Learning in every day life:
  – Acquisition and use of know-how
  – Acquisition and use of know-who
  – Acquisition and use of know-what
  – Acquisition and use of know-why

• Cumulative over an entire population and over an entire lifetime
Average Learning Intensity of Daily Life

Agricultural society | Industrial society | Learning society

Average intensity of know-how
Average intensity of know-what
Average intensity of know-who
Average intensity of know-why (decision making capacity)
Scale of the transition: towards a learning intensive society

- **Wealth, rules, governance, values**
  - Physical/financial vs human capital
  - Simple vs complex property rights
  - Ex-ante vs real-time allocation of power
  - Shared values as basis for transaction trust (Universal Declaration of Human Rights)

- **Quality of life**
  - Mass production vs production for self/community
  - Life organized for work vs work organized for life
  - Hierarchy vs autonomy
  - Imposed identity vs self-generated identity
  - Sen’s definition of “freedom”
1 – More university graduates does not increase wealth nor lead to “greater competitive” advantage

Why? Three changes:

A. The preponderant source of wealth is no longer industrial (tangible or intangible).

B. The primary source of productivity increases is learning by doing, i.e. experience that allows for refinement of taste (self-knowledge).

C. Unique creation is local, ideas are global and tangibles are cheap.
If the world continues to be successful in being more innovative and more productive in how and what we produce. And if the supply side constraints – oil, fish, fertile parts of the earth, water – drive new efficiencies and diversification (mobility of resources and jobs). And quality of life concerns inspire changes in lifestyle. Then it means less of our income and time will be spent on acquiring the basics as well as the luxuries of life. But where will our wealth come from if not from industrial productivity?
Unique creation as source of value added

Predictable tasks - repetition

Imposed Authority

Mass-era worker and consumer

Empowered team-worker, informed shopper

Future consumer/producer - cyber creator

Unpredictable tasks - creativity

Fusing of supply & demand
Changing Composition of Output

- Industrial products
- Innovation (S&T/R&D)
- Personal products
- Creativity (Refinement of taste)
The cornerstone of the Physiocratic doctrine was François Quesnay's (1759, 1766) axiom that only agriculture yielded a surplus -- what he called a *produit net* (net product). Manufacturing, the Physiocrats argued, took up as much value as inputs into production as it created in output, and consequently created no net product.

http://cepa.newschool.edu/het/schools/physioc.htm
2 – Product market competition is minimal - most products are unique

US Army mobile rapid parts replacement pilot project
3 – Nations are not firms and do not “compete” but reallocate to increase wealth (learning)

The end of propinquity

...users are capable of developing complex products in a coordinated way without geographic proximity. ... only in the case of physical products where the interaction between the product and production methods are not clear will geography continue to matter deeply in the age of the internet.

Eric von Hippel, Democratizing Innovation, MIT 2005
4 – The corporate form of organization is marginal

Why organise into production units?

Theory of the firm: Lower costs than constantly negotiating the transaction.

Practice: ownership of capital and division of labour.

Why firms are unnecessary in an economy dominated by networked unique creation: transaction costs are low, capital is your capacity to create (i.e. what you have learned), and the division of labour is intricate and spontaneous.
5 – Reducing classroom schooling helps to avoid fundamentalism

Functions of Industrial School

- **Custody:**
  keeping pupils safe and secure (99%)

- **Behavioural rules:**
  instilling punctuality, obedience, respect for hierarchy (95%)

- **Cognitive development:**
  literacy, numeracy, test scores (?)

- **Socialisation:**
  internalisation of specific values towards civic life (?)

- **Screening and sorting:**
  reproduces (legitimately) socio-economic differences (95%)
6 – Adherence to basic common values becomes more stringent

The diversity, density and fluidity (birth, death, entry, exit) of networks depends on common languages – strict codes (TCP/IP), trust and transparency – hence key shared values become even more central.
Community networks & network communities

Building transparency & trust

- Interdependency
- Limited
- Unlimited

- Time/space flexibility of daily life
- Limited
- Unlimited

Learning society

Mass-era
7 – Internalization not socialization

- In hierarchical society identity is defined by the “other” – individual versus the collective
- In heterarchical society identity is immediately social – it is the subjective in context
- Confronted by the inadequacy of old identity formation do we have the capacities needed to invent the multiplicity of new stories?
Identity & choice

Scale of social affiliation /identity

Heterogeneous /small

Homogeneous /large

Less choice

Decisions - what, where, when, with whom, how

More choice

Mass-era

Learning society

Beyond the dualism of individual vs collective
8 – Planning causes failure & fails to reduce risk

- Decisions made at the last possible moment will always have more information available than decisions made earlier than necessary.
- Planning can, and often does, reduce the capacity to imagine options outside the planning parameters.
- The premise of planning is to reduce rather than use complexity.
- Diversification is central to risk reduction, the simplification required for planning often reduces diversification.
- Heterogeneity depends on experimentation and learning depends on experimentation – hence failure is necessary – planning opposes failure.
Decision making in the face of complexity, learning by doing, self-organising systems, evolutionary emergence are all processes that entail “error”, administration in both public and private sectors punishes error.
Towards spontaneous & fluid networking

Collective choices to lay the foundations to use diversity & density
10 – The wealthiest societies have the highest average age

The productivity of unique creation and the quality of decision making capacity both increase, all other things being equal, with experience and better information.
Capacity to make & implement decisions

 Transparency & access to information

 Limited & fragmented

 Limited

 Experimentation & learning

 Continuous

 Extensive & unified

 Learning society

 Mass-era

 Futures literacy matters
Don't build a bridge to nowhere. Instead of planning greater complexity, heterogeneity, network density and an enhanced capacity for spontaneity.
A Perilous Transition?

Certainly, if we do it this way Changing societal capacity – developing futures literacy
Thinking about the future?

Distinguish three types of future:

- **Contingency** – catastrophe, wildcard, win the lottery, simple systems
  - Response: simulation and practice, learning by doing, early warning, transparency

- **Optimisation** – chess, simple systems
  - Response: Better calculation, clarity and familiarity of rules

- **Exploration** – open ended, “hyper complex”
  - Response: ??
What is futures literacy?
What is "futures literacy"?

• Futures literacy is the capacity to question the assumptions used to make decisions today.
• FL is a "rigorous imagining" technique.
• FL is about inventing and telling new stories about what is possible now.
• FL is about discovering the potential of the present.
Futures Literacy

• Level 1 futures literacy
  – Temporal awareness, values, expectations
• Level 2 futures literacy
  – Rigorous imagining
• Level 3 futures literacy
  – Strategic scenarios
Future Contexts: From Simple and Closed to Complex and Open

Degree of complexity

Complex

Simple

Degree of Openness

Closed

Open

Optimization (chess game)

Exploration
Thinking about the future: How to select which stories to tell

Conceivable Futures

Possible Futures
The Challenge for Policy

• Dual disruption:
  – Socio-economic transformation
  – Changes to the nature of decision making (risk management)

• Provokes contradictory responses:
  – Caution, return to the past
  – Search for new solutions

• Critical role for tools that assist with discovery of both:
  – “new solutions” (institutions, rules, etc) outside existing systems
  – “new decision making” that uses rigorous imagining, learning intensity and the richness of spontaneity to manage risk and empower experimentalism
Facilitating transition scale change

**Virtuous circle**

Encourage technological, economic & social dynamism

Encourage the capacity to make & implement decisions
21st Century Transitions: Synergy Conditions and the Policy Challenge

Ease of use

Range of uses

Autonomy

Extent of choices

Transparency & access to information

Experimentation & reflection

Task unpredictability & predictability

Technological dynamism

Economic dynamism

Social dynamism

Dynamic governance

Heterogeneity & smaller scale of affiliation

Mass-era Learning society
Old Public Policy and Transition

- **Goals - beyond the transition**
  - Creativity & greater capacity to govern
  - Common values & heterogeneity of expression

- **Roles - re-composition**
  - Proliferation of sources
  - Diffusion of the peripheral

- **Methods - linking form & function**
  - Experimentalism
  - Learning by doing (means as ends, process as product)
Making it happen

• Cyber-citizenship
  - Identity rights, owning privacy

• Competency banks
  - Validating what people know (keyword search - not credentials nor pre-defined categories), mapping community assets

• New property rights & contracts
  - Transaction infrastructure for copy-left banal creativity and freelance
Making it happen

• Cashless society
  – Virtual legal tender, new business models

• Governance of the net
  – Preserve & extend the virtual commons: end-to-end, interoperability standards, community-ware, indexing all human knowledge

• Network dynamism
  – Governing standards to ensure fluidity and spontaneity of entry, exit, birth, death - accountability, transparency
Why futures literacy matters

• Hope matters for motivation – what makes change worth the candle

• Capacity to understand and manage risk – making freedom and heterogeneity liveable

• Grasping the potential of a non-ergodic conjunctur: change in the conditions of change
A time for method and methods for our time

Why futures literacy now? Because a futures literate society can use:

- diversification, imagination and inter-dependency

    to

- embrace spontaneity, experimentation & complexity
- without being overwhelmed by
  - fear of the risks (perception)
  - failure (reality of risk)
- in order to inspire aspirations consistent with a world where means are ends (values in practice)
“The human condition can almost be summed up in the observation that, whereas all experiences are of the past, all decisions are about the future. The image of the future, therefore, is the key to all choice-oriented behavior. The character and quality of the images of the future which prevail in a society are therefore the most important clue to its overall dynamics.”

Kenneth Boulding