

ODL programmes: risk and complexity

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About me

- Master of Public Health (MPH):
 - ODL programme launched in 2015
 - Usher Institute, Deanery for Molecular, Genetic and Population Health Sciences
- Worked in online distance learning since 2012 – my role has changed over the years
- Cognitive linguist (psychology/cognitive science)
- Student on PG Cert Digital Education



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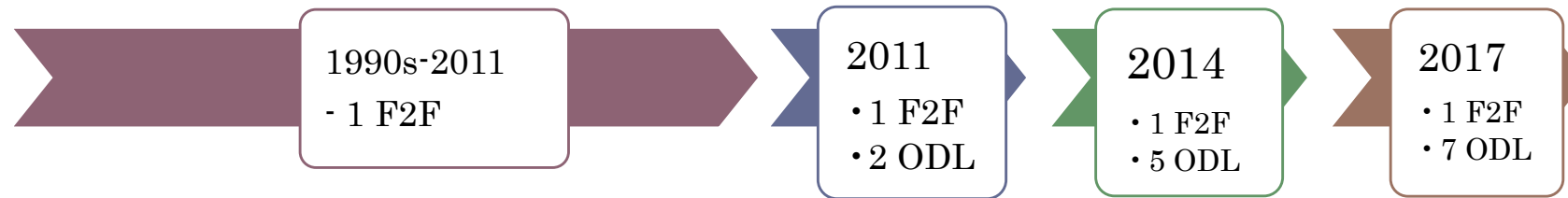
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Overview

- Local context and my early experiences of working in ODL
- Cynefin framework and complexity theory
- Risk, adaptation and change – a choice?

Local context: School of Molecular, Genetic and Population Health Sciences



Long stasis and stability

Short period of rapid growth

Early years of ODL

Institutional context

- ODL teaching considered peripheral activity
- Little central oversight and monitoring
- University systems not set up for ODL
- Programme directors manage own budgets and staffing
- ‘Sink or swim’ approach

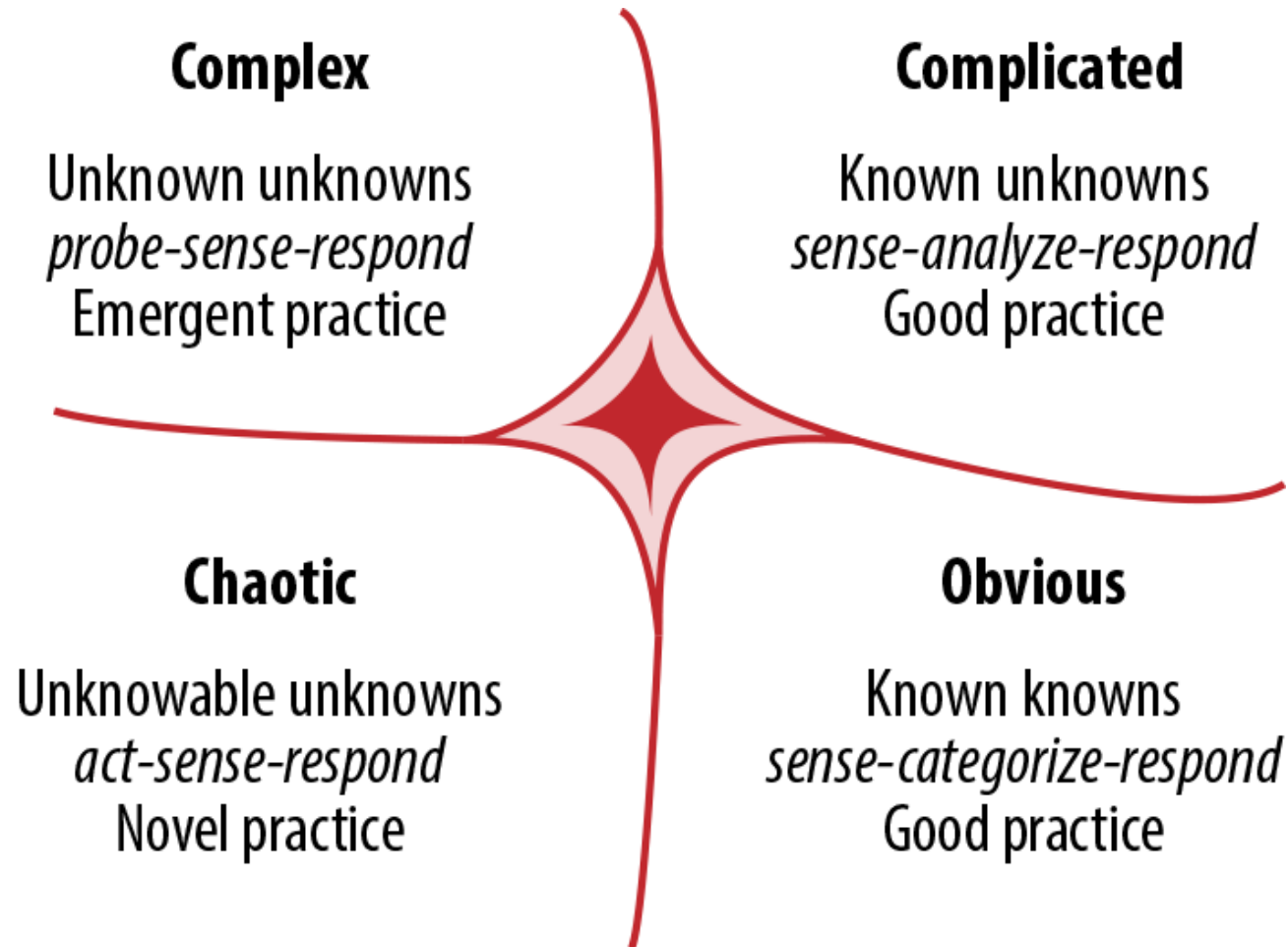
Wider environment

- Programmes were under pressure to adapt to the wider environment – not just the Institution
- Pressure to adapt to:
 - online and distance as new approaches and new environments
 - student demographics
 - ‘the market’

‘Going boldly into the dark’

Cynefin framework

Cynefin (Welsh): n.
haunt, habitat.



Complexity theory

- *Plexus* (Latin): braided or entwined
- *Complexus* is entwined together.
- Complexity is the intertwining and interconnectivity of elements within a system, and between a system and its environment.



Complex adaptive systems

Natural and artificial systems

“characterized by apparently complex behaviors that emerge as a result of often nonlinear spatio-temporal interactions among a large number of component systems at different levels of organization” (Chan, 2001)

Organisations and institutions can be seen as complex adaptive systems (Grobman, 2005)

My proposal: individuals, programmes, strategies, teaching methods are all elements of this complex adaptive system



economic markets,
ecosystems, human
embryos, brains, ant
colonies

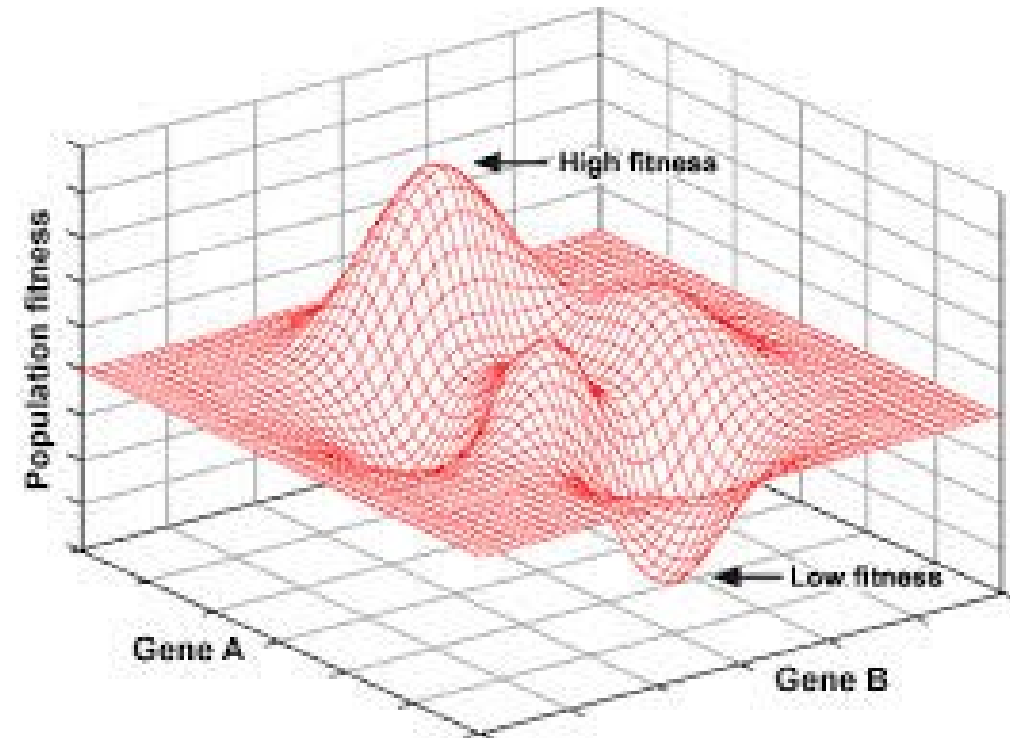
Institutional environment

- *'Let a thousand flowers bloom'* approach
- New programmes flourish, survive or fail
- Pressure to be self-sustaining:
 - applicants and conversion rates
 - student numbers
 - student retention
 - staffing
 - budget
- How do ODL programmes co-evolve with the University institution and its wider environment?



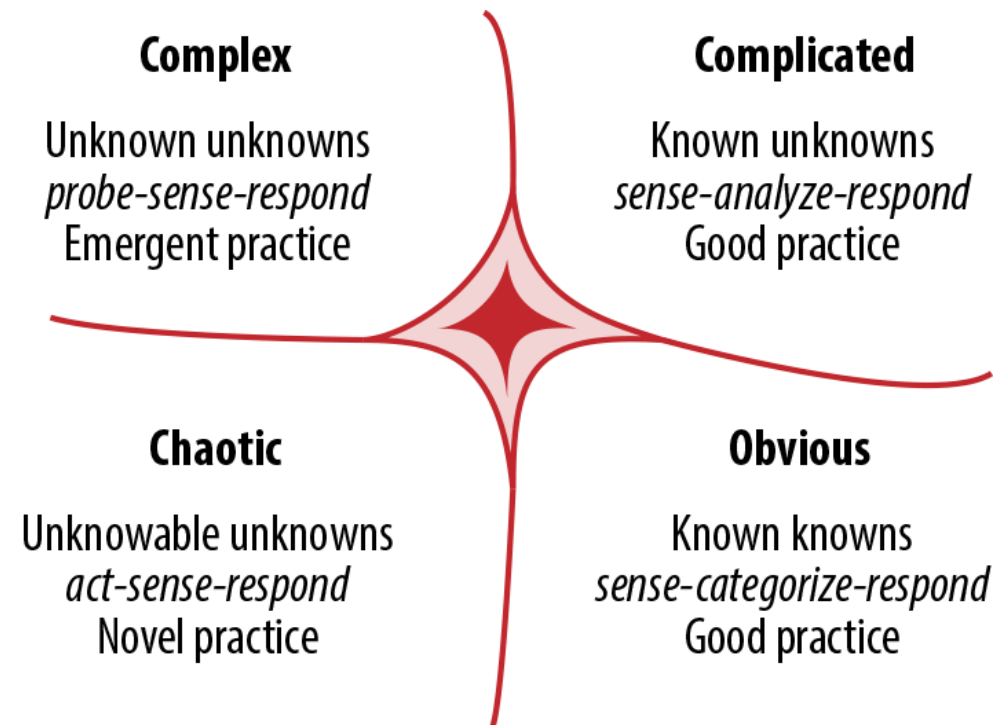
Characteristics of complex adaptive systems

- So what does a complex adaptive system look like?
 - **Distributed control:** no single centralised control of the system
 - **Connectivity:** a decision or action by one part within a system may influence any or all other related parts but not in any uniform manner
 - **Sensitivity to initial conditions:** small variations in the initial landscapes can have profound consequences and unpredictable outcomes
 - **Self-organisation:** a spontaneous process where some form of overall order arises from local interactions between parts of an initially disordered system



Adapting is risky business (but so is not adapting)

- In complex and complicated environments we face novel issues and challenges
- New problems require new solutions: innovation or enforced risk? (Or both?)
- Creation and emergence of new practices suited to these new environments
- Staff roles (including my own role) have changed and adapted to the needs of our programmes.



A way forward?

- The University landscape is changing: keen to promote online learning and teaching
- As an Institution we have a need to think about:
 - connectivity, self-organisation and distributed control, and the implications of these
 - procedures and regulations that obstruct, or are damaging to, ODL programmes
 - cultures of monitoring and surveillance (of both staff and students)
- Adaptation, change, and inhabiting complex environments ('edge of chaos')



A way forward?

“This balance point – often called the edge of chaos – is where the components of a system never quite lock into place, and yet never quite dissolve into turbulence. [...]

The edge of chaos is the constantly shifting battle zone between stagnation and anarchy, the one place where a complex system can be spontaneous, adaptive and alive.”

(Waldrop, 1993: 12)



References

Grobman, G.M. (2005). ["Complexity Theory: a new way to look at organizational change"](#). *Public Administration Quarterly*. **29** (3).

Waldrop, M. (1993) *Complexity: The Emerging Science at the Edge of Order and Chaos*. Simon and Schuster, New York.

Thank you!

Manifesto for teaching online 2016 * Online can be the privileged mode. Distance is a positive principle, not a deficit. * Place is differently, not less, important online. * Text has been troubled: many modes matter in representing academic knowledge. * We should attend to the materialities of digital education. The social isn't the whole story. * Openness is neither neutral nor natural: it creates and depends on closures. * Can we stop talking about digital natives? * Digital education reshapes its subjects. The possibility of the 'online version' is overstated. * There are many ways to get it right online. 'Best practice' neglects context. * Distance is temporal, affective, political: not simply spatial. * Aesthetics matter: interface design shapes learning. * Massiveness is more than learning at scale: it also brings complexity and diversity. * Online teaching need not be complicit with the instrumentalisation of education. * A digital assignment can live on. It can be iterative, public, risky, and multi-voiced. * Remixing digital content redefines authorship. * Contact works in multiple ways. Face-time is over-valued. * Online teaching should not be downgraded into 'facilitation'. * Assessment is an act of interpretation, not just measurement. * Algorithms and analytics re-code education: pay attention! * A routine of plagiarism detection structures-in distrust. * Online courses are prone to cultures of surveillance. Visibility is a pedagogical and ethical issue. * Automation need not impoverish education: we welcome our new robot colleagues. * Don't succumb to campus envy: we are the campus.

* Written by teachers and researchers in Digital Education. University of Edinburgh - www.de.ed.ac.uk



ODL as innovation, disruption?

- Maybe. But is this intentional?
- Are we choosing online because...
 - - it is innovative? (Goal is disruption)
 - - it offers opportunities for teaching in different (and better?) ways? (Goal is enhanced teaching)
 - - of other reasons...

ODL as innovation, disruption?

- Online is often seen as a disruption to ‘usual ways of working’ for staff and students
- Much has been said about the discourse of disruption (Selwyn, 2013) [Discourses of digital “Disruption” in education: A critical analysis](#) - I think this paragraph sort of sums it up:
- “ ‘Digital education’ is therefore best understood as a site of struggle and intense conflict. These struggles take place across a number of fronts – from the allocation of resources and maximization of profit, to concerns with epistemology or equality of educational opportunities. As such, many of the key issues underpinning education and digital technology would appear to be the fundamentally political questions that are asked continually of education and society – i.e. questions of what education is, and questions of what education should be. Developing a fuller sense of the educational application of digital technology could therefore be said to come from a recognition of broader issues of power, control, conflict and resistance. Put bluntly, any account of digital technology use in education needs to be framed in explicit terms of societal conflict over the distribution of power. “

- - Technology-enhanced learning: sustained innovation
- - Online learning: disruptive innovation

- Bower and Christensen 1995.

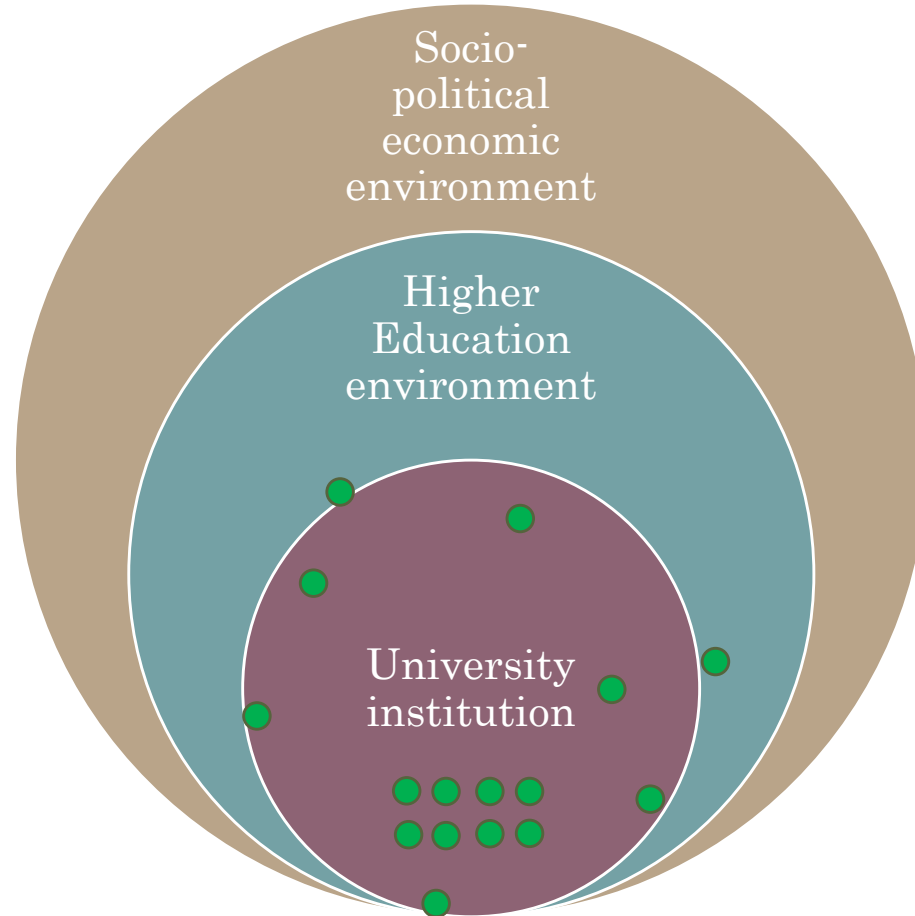
- **DISRUPTIVE INNOVATION THEORY**

- In the context of technology and business literature, Christensen (2003) identified two types of innovations that affect organisations and businesses; sustaining and disruptive. According to Christensen, a sustaining innovation is about improving the existing system while a disruptive innovation creates an entirely new market, typically by lowering price or designing for a different set of consumers or different needs of existing customers.

Sensitivity to initial conditions

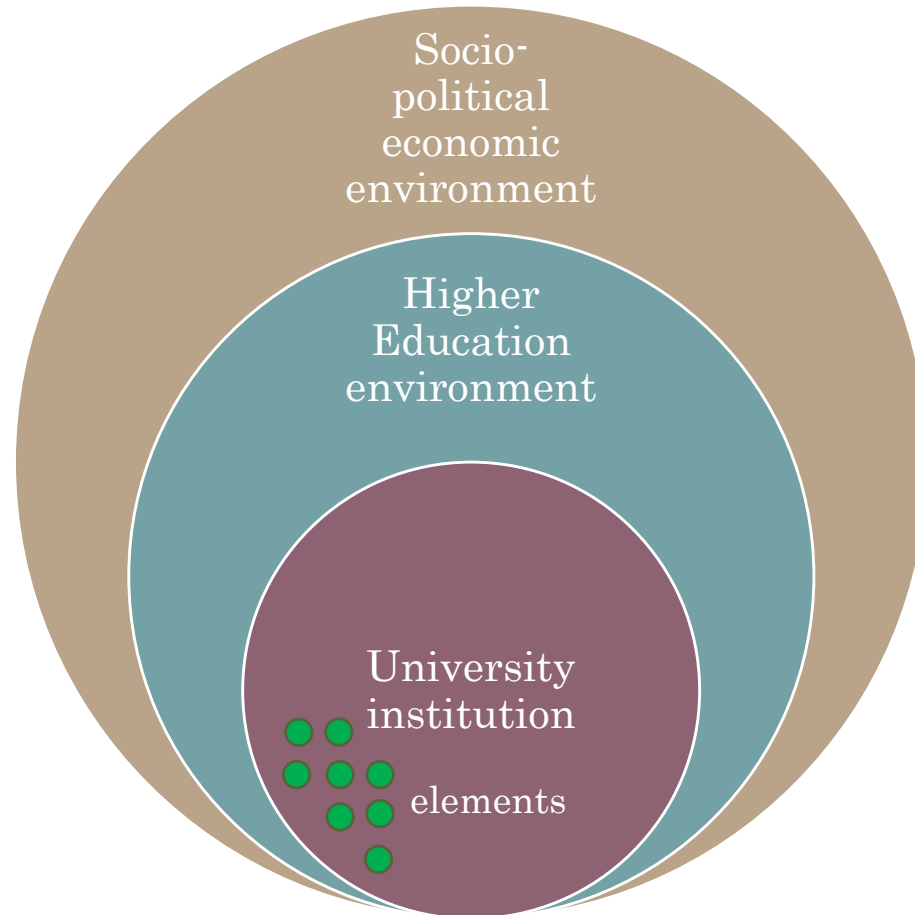
- Since 2010-11 a number of small ODL programmes started to crop up in MVM
- University systems not set up for ODL needs
- Programmes adapted to their own particular local environments, very driven by the person initiating or managing the programme

Complex adaptive systems



- Not sure how far the analogy goes – not my intention to argue for this
- Framework for looking at emergence, adaptation and risk/innovation in ODL

The institution as a complex adaptive system



- Elements co-evolve with the system
- Elements co-evolve with the wider environment
- System co-evolves with the wider environment