NCUE Global Learning Keynote 1

The Innovation Imperative
Global education and changing schools in the learning revolution

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A time of questions?

- What is really going on in our world?
- What will an uncertain future bring?
- Where does digital end?
- Where does human begin?
- What are we learning?
- How are we learning it?
- Why are we learning it?

- What do we value……..?

Overview

- Globalized realities
- Contours of pervasive change
- Crisis, challenge and the impact of inequality
- Education and learning in a transformed world
- Innovation and technology
- Emancipatory directions – the path to UDL
- European dimensions
- Case studies and sustainable projects
- Embedding excellence through global learning

Change and Globalization

- Globalization – accelerating and pervasive
- Crisis and re-structuring since 2008
- Devaluation of the public sphere
- Stratification and inequity – issue of social justice
- Labor market transformation
- Mobile capital and global investment linkage
- Issues on inclusion – token or real?
- Access, quality and innovation in education
- Generational demographics

Globalized realities

- Patterns of constant change
- Permanent migration mobility
- Outsourcing
- Obsolescence of job norms: flexibility and adaptability
- Knowledge economy
- Ecological pressures
- Diversity as the norm
- Impact of pervasive ICT and instantaneous communications

A Transformed World

- End of old certainties
- No return to ‘normal’
- Pervasive instant media

- *Planet of Slums* (Mike Davis): hypercities of the future
- Informal economies
- Constant connectedness and information explosion

Change dynamics

- Sustained and systemic
- Accelerating
- Multidimensional and simultaneous
- Structural incapacity to incorporate required modifications and adjustments
- Deep uncertainty in terms of future options
- Unprecedented levels of challenge

Global education: threat or opportunity?

- Defining policy goals and aims – shaping strategy
- Schooling without borders
- Robust probing of social realities required
- Standards, quality and assessment
- Moving from curriculum to learning competence
- Learning to learn – the challenge of adaptability and curiosity
- Learners immersed in and emerging into this changed constellation – of which teachers often know little

Global and Open Learning

- Understanding the concept of Open is critical for future educational policy
- Open is however deeply contradictory
- Open exists in a changing and conflicted world
- It is not enough to be passive observers of this change – we must engage

OECD *Report on ICT* 2015

- Various interpretations
- Seized on by vested interests
- Linkage to PISA results
- Confuses technology and computers
- Integrating technology with education is the imperative
- Integrating education with a globalized world is the aim

Question is about role of school in 21st century in addressing systemic challenges

Refugee realities

Crisis since 2008

- Seismic shift in human relationships
- Competitive pressures
- New forms of work organization
- New diversities
- Structural imbalances accelerating
- Identity and threat of difference
- End of welfare: demographic time-bombs
- Knowledge, innovation and democratic deficits

Reality on our doorstep

Learning in Age of Uncertainty

- End of linear models of learning
- Cognitive dissonance: what is needed is not being provided
- Alienation in a changing world
- Labor market flux and the loss of autonomy
- Adaptability and innovation as norm, not exception
- Globalized paradigms/fractured community
- Elephants in the room: power and ownership

The Innovation Mantra

- Innovation supporting learning
- Innovation supporting work
- Re-evaluation of traditional methods and structures
- Changing needs and creativity
- Responding to impact of globalization
- Change without changing – 'innovation with precedents'
- Facing new realities – using evidence, connecting issues, thinking outside the box

Innovation imperatives

- Transformational learning and the sociology of innovation
- Educational systems: networks of actors who reinforce each other in configurations based on learning needs
- Vested interest acts against innovation and inclusion – both seen as threat
- It is possible to have incremental change
- Systems react to change even if they do not initiate it
- The promising path is through disruptive innovation which produces irreversible change (Christensen, *Disrupting Class*, 2008)

Global Innovation Index 2015 Edition

- Understanding human aspects behind innovation essential for design of policies to promote economic development and richer innovation-prone environments locally.
- Key role of innovation as driver of economic growth and prosperity, and a broad horizontal vision of innovation applicable to emerging economies: GII includes indicators that go beyond the traditional measures of innovation (e.g. R&D)
- Rankings:

Switzerland	1
USA	5
Finland	6
Ireland	8
Hong Kong	11
Korea	14
China	29

Innovation: critical factors

* Entrepreneurship
* Education standards – critical reflection
* Venture capital
* Alternative thinking – autonomous acting
* Risk-taking
* Global reach
* Confidence and authenticity
* Evaluative capacity and self-correction

Making innovation work

- Identification of what is unique
- Fostering critical reflection competence
- Democratic accountability and transparency
- Identification of real best practice
- Playing to identified strengths: food, agriculture, technology, community, services, arts
- Letting go - the stranglehold of bureaucratic thinking: innovation by diktat

Resourcing Innovation

- Talent management initiatives
- Accurate forecasting of future skill needs
- Linkage with leading universities
- Human Capital
- Organizational Capital
- Network Capital

Transfers of economically useful scientific knowledge from universities to industry generates substantial economic growth as the experiences of classical high technology regions (e.g. Silicon Valley) and emerging new technology centers around the world demonstrate

- ***Listening***
- ***Linkage***
- ***Leading***

Innovative sustainable education

- Learner centered
- Competence driven
- Community focused
- Pervasive technological presence
- International cooperation
- Learning process (application modes)
- Individual value (humanistic approach)
- Curiosity

Open Classroom –internal focus

- Role of teacher critical
- Resourcing teachers critical
- Managerial models inhibit
- Disruptive behavior and student alienation
- Cost, cutbacks and resources
- Impact of examination and assessment systems
- Technology without meaning

Open Classroom – external focus

- Schools are a subsystem of a bigger educational polity that includes laws, policies, strategies
- Strong traditions of control – curriculum domination
- Contradictory demands and expectations on education system
- Intrinsic relationship to labor market unexamined
- Segregation, hierarchy, results: legacies of an earlier model

EU thematic Objectives (2014-20)

- Research and innovation
- Competitiveness for SMEs
- Employment and labour mobility support
- Social inclusion and combating poverty
- Education, skills and lifelong learning
- Institutional capacity building.

The bottom line…

An assumption of stable work patterns and linear economic development is no longer possible

Learning systems must innovate and respond accordingly

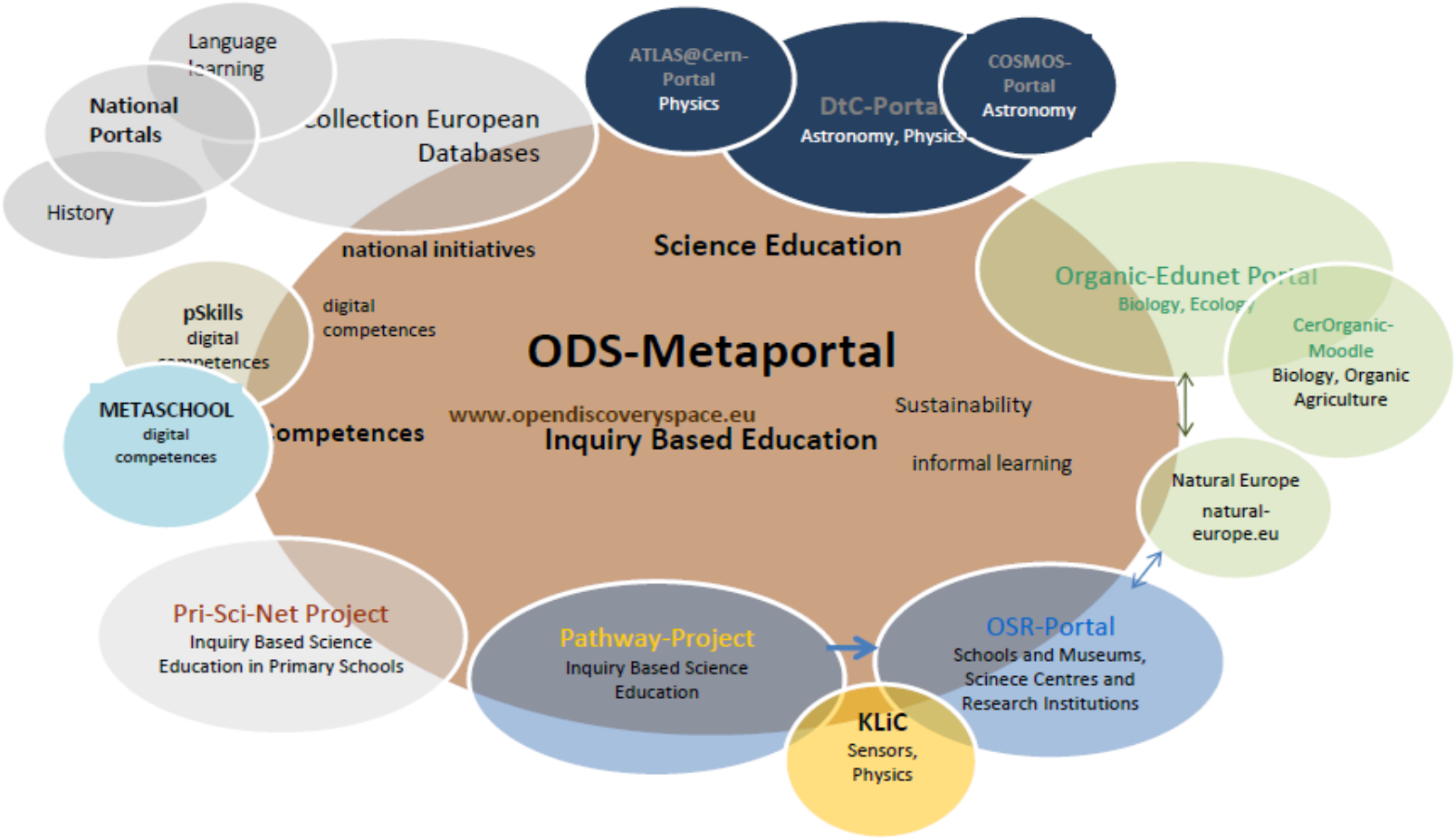
What about schools?

- Creativity and ICEAC Study (IPTS 2011)
- Teachers: 91% agree ICT enhances creativity
- Theory stronger than practice:
  - Only 46% of teachers use play
  - Only 41% use multidisciplinary work
  - Only 50% believe creativity can be assessed
  - Only 58% had training in ICT classroom use
  - Only 25% claim ICT quality in their schools is excellent
- Institutional resistance to change: ethos of control, discipline and hierarchy
- Innovation only exists in pockets – not generalized

Open Discovery Space

Largest single project ever funded by the European Union
Creation of a vast digital repository of OERs

Project relationships and synergies



Themes of UDL

1. **Inclusive learning environments** (assistive technologies/interventions, mobile environments, access, ergonomics)
2. **Resources** (educational resources, development of inclusive school, accessible educational resources, Universal Design of Online Courses)
3. Teachers' and school leaders' **competences** (curriculum design, applying UDL to Lesson Design, inclusive teaching strategies - game based approaches, independent living principles)
4. Examination of **barriers** and identification of **opportunities** (learning difficulties/needs of students - learning styles, barriers/challenges in classrooms of all types, UD policy and legislation, raising awareness)

Dimensions of Open Global Learning

- Opportunities
  - Networked innovation
  - Dynamic pedagogies
  - Accelerated learning
- Risks
  - Restricted access
  - Avoiding critical analysis
  - Unquestioned assumptions about neutrality of materials
- Mythologies
  - Not a panacea
  - How open is open?

Inclusion and diversity

- Recognizing difference
- Accepting difference
- Responding to difference
- Difference is permanent
- Creating opportunity through learning
- Managing diversity
- The contribution of disability

Authentically global….

- Creating shared meaning in uncertain times
- Providing support and inclusion
- Valuing difference as a critical advantage
- Maintaining creative evidence
- Demonstrating research capacity
- Breaking out of boundaries
- Learning: emancipatory not a supply chain
- Shaping futures not reacting to them

Critical reflection

- The imperative of excellence
- The paramount role of the teacher
- Engaging with the real world not yesterday's
- Developing sustainable research capacity
- Re-affirming early childhood
- Citizenship and responsibility

No point having open classrooms but closed minds

Anticipating the future

- Excellence goes beyond mechanical quality measurement systems
- Critical role of diversity and equality approaches
- Gender and inclusion – the centrality of women
- Demographics and youth intervention
- Competitiveness and sustainability
- Education as business or a place apart?
- Offering critical space and alternative perspectives

Future directions

- Training of trainers
- Multilingualism
- Developing skills – competence transmission
- Developing attitudes – securing motivation
- Developing buy-in – loyalty and commitment
- Autonomous learning
- Risk taking
- Review, evaluation and research

Responding to change

- Flexibility
- Diverse learners/digital immigrants
- Learning outcomes
- Pedagogical design - integrated learning

Transformative learning

* Planning for constant change
* Learning to learn and un-learn (Toffler)
* Fostering innovation and creativity
* Moving beyond purely econometric targets
* Three Cs:
  * Critical reflection
  * Courage
  * Curiosity

Conclusions

- Education at a crossroads: both structure and process
- Labor market and education increasingly connected
- Planetary focus is on mobility, skills and innovation
- Impact of increasing inequality: access and resources
- Crisis as the norm
- Performance, standards, quality, reproducibility and added value at the heart of competence
- Sugata Mitra: Comprehension/Communication/Computation
- Innovative learning demands imagination and vision

Architectures of learning

謝謝

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