Recommendations

Key recommendations to Open Schooling networks and instruction designers

1. Setting up a safe and emotionally positive trading zone

2. Designing a methodology to facilitate embracing the ambiguity of interdisciplinarity

3. Developing the skills needed to accept the risk and manage the equilibrium between sense-making and strange-making skills in a common coined language

4. Relating interdisciplinary experiences with value to society

Key recommendations to policymakers and institutions

1. Fostering the creation of locations and institutional contexts that can act as spaces that do not belong to any disciplinary context

2. Promoting a cultural change in educational institutions aimed to overcome a "binary perspective" (disciplinarity vs interdisciplinarity)

3. Merging new professional identities that are based on interdisciplinarity

4. Auditing organisational processes, in particular, human resource management practices to detect the gaps that create paradoxes and discourage interdisciplinarity

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Get inspired, learn more, and expand your views!

IDENTITIES PROJECT www.identitiesproject.eu
VIDEO https://www.youtube.com/watch?v=qDiGoRpfxuk

Akkerman, S. F., & Bakker, A. (2011). Boundary crossing and boundary objects. *Review of educational research*, 81(2), 132-169.

Erduran, S. & Dagher, Z. (2014). *Reconceptualizing the nature of science for science education: scientific knowledge, practices and other family categories.* Dordrecht: Springer

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FEDORA LEARNING BRIEF
on new inter-multi-trans-disciplinary forms of knowledge organization for co-teaching and open-schooling

FEDORA

Educational systems, with their tradition of vertical and hyper-specialized organization in disciplines, are challenged by the need to equip the young with competencies to deal with inter-multi-transdisciplinary issues.

Artificial intelligence, quantum technologies, climatology, and data science are examples of emerging interdisciplinary fields of crucial societal relevance that question disciplinary-based teaching.

How to address this misalignment is one of FEDORA's objectives.

How can we model inter-multi-transdisciplinarity and design "boundary spaces" in formal and informal educational contexts?

What institutional, epistemological, cultural, and emotional barriers can interdisciplinarity encounter?

These questions have been investigated through a literature review, cross-national interviews with STEM professionals, interdisciplinary study groups and cross-national surveys with students.

The dominance of disciplinarity in schools and universities curricula creates science identity, deep knowledge of a subject and technical expertise, which is essential for team working in a professional field.

Yet, to meet the challenges of the future and deal with growing social diversity at work and uncertainty, we need transferable skills such as applying conceptual knowledge to practical problem-solving, self-confidence and efficacy, leadership, life-long learning, futures thinking skills etc., which the disciplinary approach fails to develop.

Throughout the studies we used the metaphor of the boundary (Akkerman & Bakker, 2011) to model interdisciplinarity and its "paradoxical" nature: boundary both separates and connects.

Analogously, interdisciplinarity both blurs and redefines disciplinary identities and requires managing the equilibrium between "sense-making skills" - systems, critical and analytical thinking- and "strange-making skills" - creative, imaginative and anticipatory thinking.

On boundary crossing in interdisciplinarity
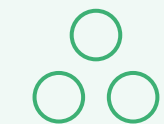
What do we mean by "DISCIPLINE" ?
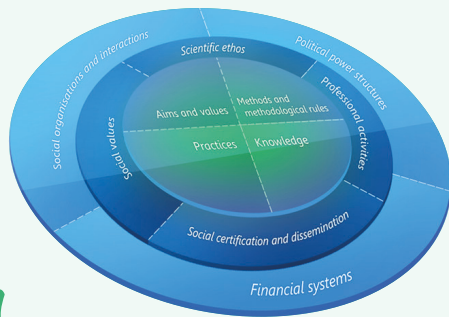
"FRA"* WHEEL

* Family Resemblance Approach
Erduran, S. & Dagher, Z. (2014)

MULTI · **INTER** · **TRANS**
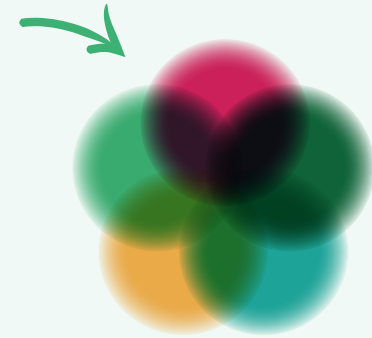
DISCIPLINARY

JUXTAPOSITION   INTEGRATION   TRANSCENDENCY

We don't need any walls,
but the will and the capacity to inhabit boundary zones

Disciplines are LENSES through which we look at the world

"What we define by "disciplines" progress and changes over time"

SENSE STRANGE