

***You Say you Want a Revolution?  
Transforming Education and Capacity  
Building in Response to Global Change***

**RESCUE Report**  
**Working Group — Towards a Revolution  
in Education and Capacity Building**

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## **Our Mandate**

- the mandate for the RESCUE working group **Towards a Revolution in Education and Capacity Building** was to promote integrative education and research that recognizes the challenges presented by a dualistic worldview that separates nature from human culture

## Questions posed

- How to intensify the discourse between natural and physical sciences and social and human sciences?
- Perspectives of research careers for young researchers?
- Barriers that deter the young researchers from interdisciplinary routes and the incentives to bring them on this route?
- How to create and nurture individual and institutional mechanisms to ensure transdisciplinary educative approaches?
- How to fill the gaps in trans-disciplinary education at the university level affecting the capacity in inter-disciplinary research in Europe?
- How could ESF and its partners add their voices to change the university's *mindset* and curricula in insuring proper interdisciplinary research and education?

## Criteria to deal with the questions

- Knowledge that fully integrates the social sciences, humanities and natural sciences, recognizing that questions posed and the research undertaken must be jointly framed ;
- Knowledge that is co-designed, co-produced; that draws in and engages a range of stakeholders and/or users;
- Knowledge that is inclusive of and integrates the full range of theoretical and methodological approaches, of multiple socio-geographic perspectives;
- Knowledge that embraces indigenous knowledge and other sources of expertise and know-how;
- Knowledge that brings together scholarship and practice.

## Reframing questions posed

- What exactly does a revolution in education and capacity building entail?
- Who is the target of the revolution?
- What actions need to be taken?
- Is there agreement on what the outcome of a revolution should be?
- Who designs and frames the curriculum and agendas for education and capacity building, and from what perspective?
- Whose visions of the future count?
- *In other words, what kind of capacity needs to be built?*

## This leads us to ask

- What kind of knowledge and knowledge production processes are needed to support appropriate interdisciplinary and transdisciplinary research and education?
- How to enable our findings to have an impact on policy makers and funders of research and education?

## Testing our own assumptions

- We, ourselves, have our own assumptions and beliefs that were limiting our ability to see what was needed in order to realize the kind of vision proposed by RESCUE
- One reason why so many initiatives (like those alluded to above) fail to make as great an impact as wished for or perceived as necessary could be the unrecognized presence of this diversity of perspectives, values and implicit frameworks.

- What is a revolution in education and capacity? The answer to this question depends on who is asking the question; from what paradigms these questions are made; and which visions of the future one holds.
- e.g., Environmental education (EE); Education for sustainable development (ESD); Education for a sustainable future (ESF)

## Q methodology

- To test our hypothesis we used a research method (Q-methodology) that enabled us to reveal the subjective perspectives of our working group members.
- For this study, a concourse of 32 statements was developed by drawing on examples from literature in the field, and responses from working group participants to questions related to the challenges of inter-disciplinarity and educational transformation.
- These statements represented a spectrum of attitudes towards the theme of a revolution in education and capacity building

## Four attitudes

1. **The reformist approach** argues that education can be changed by creating new arenas and methods for promoting multi- and inter-disciplinary interactions.
2. **The political approach** is a critique of mainstream education that calls for deep structural changes in the way that education is carried out.
3. **The social approach** focuses on education as a means for creating informed and educated citizens that can participate effectively in democracy and the creation of a fair society.
4. **The perspectival approach** draws attention to the importance of recognizing that there are different approaches and understandings of education.

## Experiment: How do we think about the revolution and about the future?

- We all have subjective attitudes towards revolutionary change in education and capacity building, each of which may prioritize different outcomes.
- **Self reflexing exercise among group members using Futures Literacy (FL);** Futures Literacy represents a field of research known as —futures research,|| which focuses on real or imagined changes or differences from the status quo or present.

## **Futures Literacy uses a state-of-the-art foresight approach called the Hybrid Strategic Scenario (HSS) method**

- This approach involves a process of —rigorous imagining – a learning-by-doing, practical way to influence attitudes towards the future and link them to current decisions.
- The HSS strategic conversation is divided into 3 phases:
  - Level 1 – Understanding Time, Expectations, Aspirations and the Subject
  - Level 2 – Rigorous Imagining: Building a Descriptive Model of the Subject and Constructing Scenarios
  - Level 3 – Making Strategic Choices: Taking a New Look at Anticipatory Systems and Assumptions

- Awareness of internal as well as external factors is then key: (emotional as well as epistemic or political drivers) are the point of departure to build the bridges towards revolution, **towards transformation**
- Changes in education and capacity building that are needed in response to contemporary and future environmental and social challenges will require more than adjustments in current educational systems, research funding strategies, and interdisciplinary collaborations.
- While such interventions may be important and necessary, they represent 'first order changes,' or 'doing more of the same', but better.
- Instead, we argue, there is a need to promote second- or third-order changes that involve re-thinking systems by seeing things differently

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## Earlier revolutions

- Revolutions in education In relation to bridging humans and nature have been tried before (ESF Forward Look on Global Change Research 2002)
- there is a history of activities and attempts to create and promote interdisciplinary that have not had impact, they all have in common a kind of circularity:
  - Attempts are centered around technical solutions aimed at readjusting current practices in education, curricula and capacity building

## From circular to transformative revolution

- revolution in education and capacity building is not simply a technical problem (one that has known solutions that can be implemented through current know-how)
- but also an **adaptive challenge**: we must change the epistemological assumptions on which traditional knowledge and its institutions are built
- An **adaptive challenge** that can only be addressed through epistemological, political and emotional/value change: it calls for changes in people's mindsets, priorities, beliefs, habits and loyalties

## Potential foci of the revolution

- 1. Building capacity to do the interdisciplinary and systems research required to understand and manage Earth System Challenges.*
- 2. Transforming the university education system that trains potential researchers and educates citizens about resilience and sustainability*
- 3. Address the primary and secondary education systems to create awareness of sustainability*



## Potential foci for the revolution (cont.)

4. *Capacity building and education of researchers in developing countries (e.g., the Global Change System for Analysis, Research and Training (START))*
5. *Educate the public at large and the politicians on those topics*

## Our key conclusion

The “Revolution” working group concludes that:

*creating conditions for transformation requires non-conventional tools and approaches that allows individuals (including scientists and decision-makers) to question current assumptions and beliefs, whether about the future of education or the future of the planet.*

## Two core recommendations

1. Initiate a series of “think tank” events for policy makers, funders etc. that would enable them to reflect adequately on the big questions facing them.
2. Convene a research project to explore the nature of epistemological frameworks necessary for and related to integrated transdisciplinary research.